

# Technical Memorandum

**To:** Sunny Becker and Bonnie Brooks, Washington State Department of Ecology  
**Copies:** Scott Adamek and Ryan Roberts, City of Bothell  
**From:** Gabe Cisneros and Danielle Gallaher, Floyd|Snider  
**Date:** January 5, 2026  
**Project No:** COB-OnCall 2717  
**Re: Vapor Intrusion Assessment**

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This technical memorandum presents a summary and additional comments related to the vapor intrusion (VI) assessment completed at the City of Bothell’s Bothell Service Center (BSC) Simon & Son Site (Site; Cleanup Site ID No. 427) located at 9911 Main Street, formerly identified as 18107 Bothell Way NE in Bothell, Washington (Figure 1). The VI assessment was conducted in accordance with Consent Decree No. 18-2-02852-3 SEA. Indoor air and soil gas sampling was conducted by Terracon Consultants, Inc. (Terracon) on behalf of the building owner, Trammell Crow Residential, and completed in accordance with a Washington State Department of Ecology (Ecology)-approved VI Work Plan (2024 Work Plan; Terracon 2024). The indoor air and soil gas sampling was performed at the Alexan Main Street Apartments (Alexan Multi-Use) in July 2025, approximately 8 months after the first sampling event. Sampling details and results are included in Terracon’s Indoor Air and Soil Gas Sampling Report, which is included as Attachment 1. The following sections provide additional comments on VI risk evaluation, conclusions, and next steps.

## BACKGROUND

The property containing the source of contamination was previously owned by Bothell Service Center Associates. The Site was once three separate parcels that included the following:

- A former dry cleaning facility, BSC, located in the northwestern portion of the Site
- A former gasoline station and automotive repair facility, Al’s Auto Bothell Wexler, in the northeastern portion of the Site
- A former automotive repair facility, Bothell Former Hertz/AARenco/AA Rentals of Bothell Inc., in the southern portion of the Site

All three former parcels are currently located within one city block (Bothell Lot D) that consists of one parcel (King County Tax Parcel No. 945720-0050) totaling approximately 2.6 acres.

Prior to 2016, several environmental investigations were completed and interim actions were taken to address high tetrachloroethene concentrations at the Site.

Since 2016, several remedial actions have been implemented, including a thermal and soil vapor extraction system installed in 2018 and a groundwater bioremediation and recirculation system that commenced in 2020. Although soil above the water table has been remediated, the Site contaminants of concern, including total petroleum hydrocarbons (TPH); benzene, toluene, ethylbenzene, total xylenes, and naphthalene (BTEXN); chlorinated volatile organic compounds (CVOCs); and arsenic remain in groundwater at concentrations exceeding cleanup levels (CULs).

### **New Alexan Multi-Use Building Construction and Vapor Barrier**

The redevelopment of the Site into Alexan Multi-Use began in 2022 and was substantially completed in 2024. Alexan Multi-Use is a six-story apartment building with currently occupied residential and commercial spaces. The first level of the building consists of an interior parking garage, residential apartments along 98<sup>th</sup> Avenue and Main Street, and commercial space along Bothell Way NE and State Route 522. During the construction of the foundation and vapor barrier of the building, groundwater bioremediation treatment system operation was briefly paused to bury all treatment system piping between the injection and extraction wells and the treatment system. The bioremediation treatment system shed is now located in the northwest corner of the garage level contained within a fenced-off area consisting of three parking spaces. Figure 2 is a Site map that shows the building footprint and the monitoring, injection, and extraction wells.

In accordance with the restrictions and requirements outlined in the environmental covenant (EC) implemented for the property, and as part of the redevelopment of the Site, Terracon oversaw the installation of a VI mitigation system that includes subgrade vent piping and two vapor membranes rated to mitigate VI of CVOCs in either passive or active modes.

### **2025 VAPOR INTRUSION ASSESSMENT SAMPLING**

To assess VI risk during the dry season, Terracon conducted an indoor air building survey, indoor air/ambient air sampling, and subslab soil vapor sampling within the Alexan Multi-Use building in July 2025. The building was occupied by tenants and residents at the time of the July 2025 sampling event. Attachment 1 is Terracon's report that describes the sampling protocols and data interpretation in detail. The following sections summarize Terracon's findings.

#### **Indoor Air Building Survey**

On July 15, 2025, Terracon field personnel visited the Alexan Multi-Use building to assess potential sources of indoor air that can be detected in the samples as chemicals of concern. The following potential sources were identified: adhesives, cleaning chemicals, and deodorizers. Terracon personnel noted that some of these materials, such as paint from recent painting and cleaners, were actively in use during the Site visit and sampling event (Appendix D of Attachment 1).

### **Indoor Air Sampling**

On July 15, 2025, six 24-hour indoor air samplers (Summa<sup>®</sup> canisters) were placed by Terracon at locations IA1 through IA6. Samplers were retrieved the following day after a 24-hour period. To maintain consistency, Terracon personnel collected indoor and background air samples at or near the same locations sampled during the November 2024 sampling event. Indoor air sampling was conducted concurrently with ambient air background sampling. A Site map with the sample locations relative to the VI mitigation system is included in Attachment 1 as Exhibits 1 and 2, and a photographic log of the sample locations is included in Appendix C of Attachment 1. Refer to Attachment 1 for further details.

### **Ambient Air Background Sampling**

Five ambient air background samples were collected by Terracon concurrently with the indoor air samples for the same 24-hour period. Summa samplers were deployed at background locations BA1 through BA5. Four background samplers, BA1 through BA4, were placed on the roof within the immediate vicinity to the heating, ventilating, and air-conditioning intake system, and a fifth background sampler was placed along the property boundary at an appropriate upwind location. Attachment 1 includes a Site map with the background air sample locations included as Exhibits 2 and 3 of Appendix A, and a photographic log of the sample locations is included in Appendix C of Attachment 1. Refer to the Terracon report for further details (Attachment 1).

### **Subslab Soil Vapor Sampling**

Subslab soil vapor samples were collected by Terracon on July 16, 2025, immediately after the indoor air and ambient background sampling. Subslab soil vapor samples were collected from six of the permanent soil-gas vapor monitoring points (VMPs): VMP3, VMP5, VMP7, VMP8, VMP10, and VMP11. VMP10 was not collected during the November 2024 event but is located within a commercial tenant space that was under construction during the July 2025 sampling event. Refer to the Terracon report for further details (Attachment 1).

## **SUMMARY OF RESULTS**

Field observations of weather during the sampling period and laboratory analytical results are presented in the Terracon report (Appendix D of Attachment 1), which briefly states that the weather was sunny with wind from the north to the south.

### **Weather Conditions**

The atmospheric barometric pressure data collected by the National Weather Service (Everett Paine Field, Washington Station SainLogic WS0310/Station ID KWAEVERE321) are presented in Attachment 2. These data tables and plots present the pressure differential (in inches of water) and barometric pressure during the monitoring period of July 15 to 16, 2025.

During the sampling event, there were 0 inches of rain and atmospheric pressure slightly decreased from approximately 30.12 to 29.85 inches of water.

### **Analytical Data**

Samples were analyzed by Friedman & Bruya Inc. for Terracon for the targeted list of CVOCs specified in the 2024 Work Plan, volatile compounds by Method MA air-phase hydrocarbons and BTEXN. Results for analytes in indoor and background ambient air samples are presented in Table 1 of Attachment 1; results for analytes in subslab soil vapor are presented in Table 2 of Attachment 1; and the VI individual chemical and additive hazard risk calculations are presented in Table 3 of Attachment 1. The laboratory analytical reports are provided in Attachment 1.

In the original analytical laboratory report, TPH detections in the indoor air samples were flagged by the analytical laboratory and qualified as not indicative of a common petroleum product. Specifically, the chromatograms were reviewed by a laboratory technician and the observed TPH patterns were determined to be not consistent with TPH chromatogram standards. As a result, the laboratory recommended reprocessing the data for indoor air samples IA5 and IA6. Based on this recommendation, Terracon had the laboratory reprocess the data. Refer to Attachment 1 for details. Table 1 of Attachment 1 presents both the original and reprocessed results for IA5 and IA6. The chromatograms are included in Appendix E of Attachment 1.

The average background concentration for total TPH<sup>1</sup> was subtracted from the total TPH concentrations for IA1 through IA4. Results show that total TPH concentrations for indoor air samples IA1 through IA4 were less than the CUL for indoor air after subtracting the average background concentration. Note that the average background concentration for total TPH was not subtracted from the reprocessed indoor air samples IA5 and IA6 because the background samples were not reprocessed. The reprocessed laboratory results for the indoor air samples, IA5 and IA6, indicate that total TPH concentrations were greater than the CUL.

Of most importance to the ongoing cleanup of the Site, all CVOC concentrations for the indoor air results were less than their respective laboratory reporting limits (Table 1 of Attachment 1), and all CVOC results for subslab soil gas were either less than their respective screening levels (SLs) or less than their respective laboratory reporting limits (Table 2 of Attachment 1), which indicate that CVOCs present in groundwater and soil beneath the property are not an indoor air risk to occupants.

However, the laboratory detection limits for subslab soil gas samples VMP10 and VMP11 were greater than the respective SLs for all compounds. The laboratory indicated that elevated concentrations of non-target analytes tetrahydrofuran (THF) and cyclohexanone were detected in samples VMP10 and VMP11; therefore, the lab needed to dilute the samples, which raised the detection limits for all analytes. THF and cyclohexanone are the primary compounds in Polyvinyl Chloride (PVC) pipe adhesives and primers, which are used extensively in plumbing/electrical

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<sup>1</sup> Total TPH is the sum of three petroleum fractions: Aliphatics EC5-8, Aliphatics EC9-12, and Aromatics EC9-10

components. In Terracon's report, they state that they were informed that the slab was opened and significant plumbing was added in the vicinity of sampling points VMP10 and VMP11. The vapor intrusion mitigation system was subsequently replaced and repaired with Terracon's oversight and the slab was replaced in these locations. Given these plumbing additions and the presence of glue and epoxy products, compounds associated with PVC primers, the source of elevated THF and cyclohexanone are a result of the recent under-slab tenant improvements in the areas of VMP10 and VMP11, and not representative of subslab soil gas beneath the building at these locations.

Laboratory results from the July 2025 sampling event show the following petroleum hydrocarbon detections in the indoor air samples (Table 1 of Attachment 1):

- Naphthalene was detected at indoor air sample IA2 at a concentration greater than the indoor air CUL.
- Benzene was detected at indoor air sample IA3 at a concentration greater than the indoor air CUL.
- Total TPH was detected at indoor air samples IA5 and IA6 at concentrations greater than the CUL.

The background ambient air results for all locations show detections of benzene at concentrations greater than the indoor air CUL, and two of the five background locations show detections of naphthalene at concentrations greater than the indoor air CUL. These results, in addition to benzene and naphthalene not being detected in the subslab samples at concentrations greater than the laboratory detection limit or greater than their respective SL (as detailed in the next paragraph), indicate that the benzene and naphthalene concentrations detected in the indoor air samples are likely from background sources, not from subsurface soil gas related to the Site.

The subslab soil gas results indicate that the only location with total TPH detections was at VMP8, but at a concentration of 760 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ), which is less than the SL of 1,500  $\mu\text{g}/\text{m}^3$ . All volatile organic compound (VOC) and CVOC detections were less than their respective SLs. Only one location, VMP3, contained a CVOC detection of trichloroethene (TCE), but less than both the residential SL and short-term VI SL for TCE, indicating that there is no VI risk to occupants or people of childbearing age. VMP3 is the same location that had a TCE detection, less than the SL, during the November 2024 sampling event. As stated above, there were no detections of benzene in any of the subslab vapor points. In addition, the two subslab samples with naphthalene detections, VMP5 and VMP8, were collocated with indoor air samples IA5 and IA1, respectively. Naphthalene concentrations at these collocated indoor air samples were less than the CUL.

### **Vapor Intrusion Individual Chemical and Additive Hazard Risk Evaluation**

This section summarizes the results of a risk evaluation following the protocol detailed in the draft Ecology guidance Vapor Intrusion: Individual Chemical and Additive Hazard and Risk (Ecology 2025a), provided as Attachment 3.

The Ecology protocol uses indoor air results to calculate cancer and noncancer risk ratios for each key VI analyte at each sampling location. The results of each evaluation are summarized in the following sections and presented in Table 3 of Attachment 1.

### ***Background Correction***

The average background concentrations from the sampling event are shown in Table 1 of Attachment 1. As described in the draft Ecology guidance, it is acceptable to subtract ambient background concentrations from sample results if subslab vapor results are nondetect and the background readings were gathered contemporaneously with the other ambient air samples. Therefore, the ambient air analytical results at each monitoring location are presented in Table 4 of Attachment 1, with both the actual detections and the background-adjusted values.

### ***Individual Chemical Noncancer Hazard and Additive Chemical Hazard***

The noncancer hazard posed by individual chemicals is evaluated by calculating hazard quotients (HQs) for each chemical. HQs are calculated by comparing the background-corrected analytical results to the applicable Model Toxics Control Act (MTCA) Method B Indoor Air CUL protective of noncancer risk. The total TPH results for indoor air sample locations IA5 and IA6 were not corrected for background contributions because the TPH results were reprocessed; however, the VOC results for IA5 and IA6 were corrected for background because those results were not reprocessed. Each HQ is compared to the acceptable noncancer human risk level of 1. If the HQ exceeds 1, the chemical may cause adverse effects to humans. The additive noncancer risk is calculated by evaluating the risk posed by each chemical to individual human organ/system (Ecology 2025b). The HQ ratios impacting each system/organ are summed to calculate a hazard index (HI) for that system/organ, which is then compared to a risk level of 1.

Table 3 of Attachment 1 contains a summary of the HQs and HIs for each chemical and impacted human system/organ. The VI chemicals analyzed at the Site do not pose individual or cumulative noncancer risks to humans.

### ***Excess Lifetime Cancer Risk and Additive Excess Lifetime Cancer Risk***

Ecology's draft guidance (Attachment 3) provides two different cancer risks: one for individual chemicals, which is the more stringent of the two, and one for accumulative risk of all chemicals. The more stringent risk, excess lifetime cancer risk (ELCR) ratios, is calculated by comparing the background-corrected analytical results to the applicable MTCA Method B Indoor Air CUL protective of cancer risk. The resulting ELCR ratios are compared individually to a human risk level of 1E-06 (or a 1 in 1 million probability). If the ELCR ratio exceeds the acceptable risk level, the chemical poses an unacceptable cancer risk at that location. To calculate the less-stringent cumulative risk posed by VI chemicals at each location, the ELCR ratios are summed to generate an additive ELCR (AELCR) ratio. AELCR ratios are compared to a risk level of 1E-05 (or a 1 in 100,000 probability). If the AELCR ratio exceeds the risk level, the cumulative impacts from detected VI chemicals pose an unacceptable cancer risk at that location. An ELCR ratio for an

individual chemical may exceed the acceptable risk threshold individually, but not cumulatively, due to the higher risk threshold for AELCR ratios.

Table 3 of Attachment 1 contains a summary of the ELCR ratios for the average background concentrations and each VI sampling location. The average background concentration ELCR ratios exceed the acceptable cancer risk level of  $1E-06$  for benzene and naphthalene. Additionally, the ELCR ratio for naphthalene at IA2 exceeds the acceptable risk level, and the ELCR ratio for benzene at IA3 exceeds the acceptable risk level. However, the cumulative AELCR ratios do not exceed the acceptable cancer risk level at any location, including the average background samples.

The ELCR ratio is the more conservative approach and is the estimated excess lifetime cancer risk associated with exposure to a single specific chemical through a single exposure pathway. If there are any exceedances of the ELCR ratio, the guidance also provides steps to calculate the AELCR ratio. The AELCR ratio is the estimated total/accumulative excess lifetime cancer risk from exposure to multiple chemicals and/or multiple exposure pathways, calculated by summing individual risks based on the assumption that their carcinogenic effects are additive. The naphthalene and benzene ELCR ratios for IA2 and IA3, respectively, were slightly greater than the risk level; however, the less stringent but still protective AELCR ratios for both locations were less than the risk level. These data and the non-detections for naphthalene and benzene in the subslab indicate that there is not a VI risk to indoor air from soil gas present beneath the building.

## CONCLUSIONS AND RECOMMENDATIONS

In accordance with the requirements outlined in the EC implemented for the property and in accordance with the Cleanup Action Plan, a total of two rounds of indoor air sampling have been conducted at the Site. The first was conducted in November 2024 immediately after construction and prior to occupancy, and the second was conducted in July 2025 after occupancy. The first round was collected during the wetter winter season and the second round was conducted during the drier summer season, as per Ecology's VI guidance. The following are conclusions based on both sampling events.

**Indoor Air:** The indoor air results from the 2024 and July 2025 sampling events show that CVOC concentrations are less than MTCA Method B CULs for residential exposure. The total TPH, naphthalene, and benzene at indoor air locations IA1, IA2, IA3, IA5, and IA6 were at concentrations that exceed the indoor air CUL for residents during one or both of the events. However, this is not a concern because as summarized below, ambient background samples were higher than the CULs, the individual chemical noncancer hazard and additive hazards were below the risk ratios, and these compounds were not detected at or greater than the laboratory reporting limits or SLs in the subslab soil gas samples.

**Ambient Air Background Samples:** Results from both events show that the average background concentrations for total TPH, benzene, and naphthalene exceeded the indoor air MTCA Method B CULs during one or both events.

**Subslab Soil Gas:** During both sampling events, there were no total TPH, VOC, or CVOC SL exceedances in the subslab soil gas samples. Furthermore, there were no benzene detections in the subslab samples, and naphthalene detections were generally non-detect or at low levels. Therefore, these data indicate that benzene and naphthalene detections in the indoor air and ambient air background samples were not from subsurface soil gas. Both sampling events show total TPH at concentrations less than the SL, and the elevated reporting limits at VMP10 and VMP11 are likely not representative of subslab soil gas but are a result of the construction activities associated with PVC pipe repairs.

**Individual Chemical Noncancer Hazard and Additive Chemical Hazard:** The individual chemical and additive hazard and risk were evaluated using the results from each indoor air sampling location. Using the indoor air data collected during both sampling events, the HI and HQ calculations for noncancer risk show that there is unlikely to be a risk posed by VI chemicals to human organs/systems.

The July 2025 sampling results indicate that the ELCR calculations for naphthalene and benzene detections at indoor air sample locations IA2 and IA3 show there is a potential cancer risk to residential human receptors. These July 2025 results were similar to the November 2024 sampling event, where the ELCR calculations for indoor air samples IA1 and IA6 show there is a potential cancer risk for residential occupants. However, the AELCR results for both sampling events show there is unlikely to be cumulative risk for residential lifetime exposure to cancer-causing contaminants at these locations.

The average background concentrations during both November 2024 and July 2025 sampling events yielded ELCR ratios for naphthalene and benzene greater than the acceptable risk threshold for cancer risks; however, the AELCR for the average background location did not exceed the risk threshold during either event. As stated earlier, the ELCR ratio is the more conservative approach, but the draft guidance allows you to calculate the AELCR ratio to see if a sample exceeds the accumulative risk. There were no exceedances of the AELCR ratios for any sample during both events.

There were no benzene detections in the subsurface soil gas and subslab naphthalene detection were at low-level concentrations, less than the SLs. The elevated benzene and naphthalene concentrations detected at indoor air locations during both events are likely a result of background ambient air and the remaining building construction that was being performed at the time of the sampling events. The building construction activities included applying adhesives, painting, and spackling.

Based on the installation of the vapor barrier and the passive vapor venting system, and data collected from two rounds of subslab, indoor air, and ambient air sampling, there is unlikely to be a VI risk to residential human receptors in the building from subsurface soil gas, and the pathway can be considered incomplete. No further indoor air and subslab sampling is needed.

## REFERENCES

Terracon Consultants, Inc. (Terracon). 2024. Indoor Air and Soil Gas Sampling Work Plan, Bothell Lot D, 9911 Main Street, Bothell, King County, Washington. Prepared for Maple Multi-Family Land TX L.P. 26 August.

Washington State Department of Ecology (Ecology). 2022. Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action. March.

\_\_\_\_\_. 2025a. *Draft Vapor Intrusion: Individual Chemical and Additive Hazard and Risk Guidance*. Email Draft Guidance from Bonnie Brooks, Washington State Department of Ecology. 10 February.

\_\_\_\_\_. 2025b. *Cleanup Levels and Risk Calculation (CLARC) Tables*. February.

## LIST OF ATTACHMENTS

Figure 1 Vicinity Map

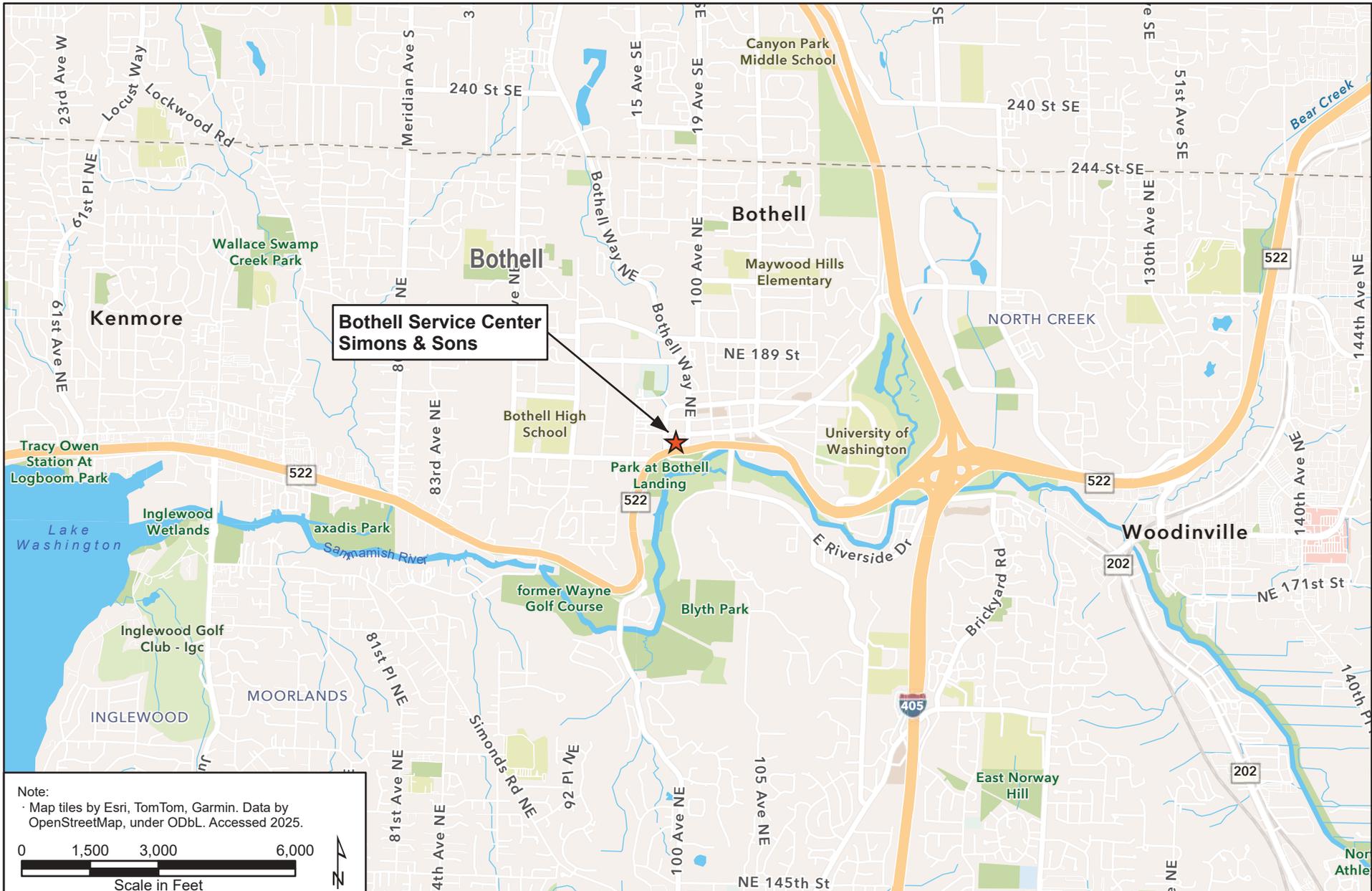
Figure 2 Site Map

Attachment 1 Terracon's Indoor Air and Soil Gas Sampling Report, November 2025

Attachment 2 Weather Plots and Data Tables

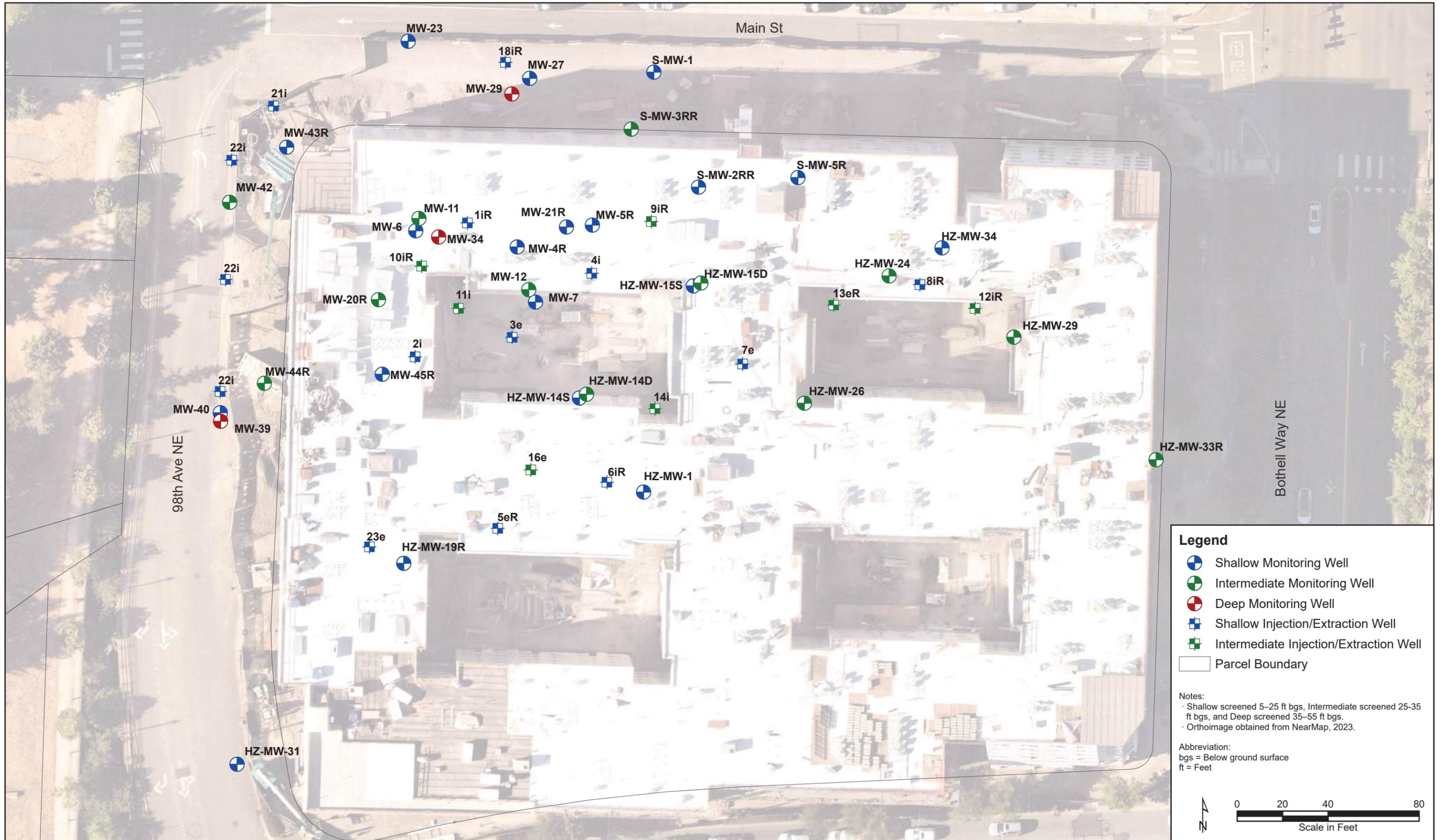
Attachment 3 Draft: Vapor Intrusion: Individual Chemical and Additive Hazard and Risk

## Figures



Note:  
 · Map tiles by Esri, TomTom, Garmin. Data by OpenStreetMap, under ODbL. Accessed 2025.

0 1,500 3,000 6,000  
 Scale in Feet



**Attachment 1  
Terracon's Indoor Air and  
Soil Gas Sampling Report,  
November 2025**

# Indoor Air and Soil Gas Sampling Report

**Bothell Lot D**

**9911 Main Street**

**Bothell, King County, Washington**

**December 8, 2025 | Terracon Project No. 81207336**

## **Prepared for:**

Maple Multi-Family Land TX L.P.  
C/O Ms. Annemargaret Connolly  
Weil, Gotshal & Manges, LLP  
Washington DC

## **Prepared by:**

Terracon Consultants, Inc.  
Mountlake Terrace, Washington



Nationwide  
[Terracon.com](https://www.terracon.com)

- Facilities
- Environmental
- Geotechnical
- Materials



21905 64th Ave W, Ste 100  
Mountlake Terrace, WA 98043-2251  
P 425-771-3304  
F 425-771-3549  
[Terracon.com](http://Terracon.com)

December 8, 2025

Maple Multi-Family Land TX L.P.  
C/O Ms. Annemargaret Connolly  
Weil, Gotshal & Manges, LLP  
2001 M Street NW, Ste 600  
Washington DC, 20036

Re: Indoor Air and Soil Gas Sampling Report  
Bothell Lot D  
9911 Main Street  
Bothell, King County, Washington  
Terracon Project No. 81207336

Dear Ms. Connolly:

Terracon Consultants, Inc. (Terracon) is pleased to submit this Indoor Air and Soil Gas Sampling Report (Report) for the above-referenced site. Terracon completed the activities detailed in this Report in accordance with Terracon's Indoor Air and Soil Gas Sampling Work Plan, dated August 26, 2024, Terracon's Proposal No. P81207336D, dated April 17, 2023, and Terracon's Change Order dated February 3, 2025.

Terracon appreciates this opportunity to provide environmental consulting services to Maple Multi-Family Land TX L.P. c/o Weil, Gotshal & Manges, LLP (our Client). Should you have any questions or require additional information, please do not hesitate to contact our office.

Sincerely,

**Terracon Consultants, Inc.**

A handwritten signature in blue ink, appearing to read "Melody Ryback".

Melody Ryback, L.G.  
Senior Staff Geologist

A handwritten signature in blue ink, appearing to read "Kyle Bennett".

Kyle Bennett, L.G.  
Group Manager

A handwritten signature in blue ink, appearing to read "Matt Wheaton".

Matt Wheaton, L.G., P.E.  
Senior Principal

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## Appendices

### APPENDIX A – EXHIBITS

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Exhibit 2 – Sampling Locations Relative to Site Features – Level 1

Exhibit 3 – Background Air Sampling Locations – Roof

### APPENDIX B – TABLES

Table 1 – Summary of Indoor/Outdoor Air Analytical Results

Table 2 – Summary of Sub Slab Soil Gas Analytical Results

Table 3 – Summary of Individual Chemical and Additive Hazards and Risks

### APPENDIX C – PHOTO LOG

### APPENDIX D – INDOOR AIR BUILDING SURVEY

### APPENDIX E – LABORATORY ANALYTICAL REPORT AND CHAIN-OF-CUSTODY

### APPENDIX F – SUPPORTING DOCUMENTATION

## 1.0 Site Description and Background Information

The approximate 2.6-acre site is located at 9911 Main Street, formerly identified as 18107 Bothell Way Northeast, in Bothell, Washington (King County Tax Parcel No. 945720-0050). The site is developed with an approximate 105,000-square foot mixed-use, six-story multi-family apartment building, with construction completed in late 2024. The ground floor consists of a partial open-air parking garage, residential apartments to the north and west, and commercial tenant spaces to the east (along Bothell Way Northeast). The second floor consists of an open-air parking garage and residential apartments, and the third through sixth floors consist of residential apartments. The site building was unoccupied at the time of Terracon's field activities.

The site was formerly occupied by a dry cleaner known as Bothell Service Center Simon & Sons (BSCSS) in the northwestern portion of the site, a former gasoline station and automotive repair known as Al's Auto Bothell Wexler (Wexler) in the northeastern portion of the site, and a former automotive repair on the southern portion of the site known as Bothell Former Hertz/AARenco/AA Rentals of Bothel Inc (Hertz). The BSCSS and Wexler properties have been combined and are collectively referred to as the BSCSS. All three former facilities have been merged to form the current site, referred to as the Bothell Lot D.

From the 1990s to present, numerous subsurface investigations and remedial actions have been performed on-site. As a part of these remedial actions, all historical documented underground storage tanks and associated piping have been removed from the site. Furthermore, soil above the groundwater table previously impacted with total petroleum hydrocarbons (TPH), metals, and volatile organic compounds (VOCs) at concentrations exceeding cleanup levels have been remediated via excavation and/or by soil vapor extraction. Although soil above the water table has been remediated, the site contaminants of concern (COCs), including TPH, benzene, toluene, ethylbenzene, total xylenes, and naphthalene (BTEXN), chlorinated VOCs (cVOCs) and arsenic, remain in groundwater at concentrations exceeding cleanup levels. Impacted groundwater has been documented at numerous locations across the site.

The site is currently being managed under a Consent Decree (CD) between the Washington State Department of Ecology (Ecology) and the City of Bothell (City). As a part of the CD, the City has characterized impacts and conducted remedial actions at the site associated with the BSCSS under the oversight of Ecology.

An environmental covenant (EC) was executed on April 26, 2020, for the site, which encompasses all three sites (i.e., BSCSS, Wexler, and Hertz). The Client purchased the site from the City in 2020, following the filing of the EC, at which time Terracon was contracted as the Client's consultant.

In accordance with the requirements outlined in the EC implemented for the property, and as a part of the redevelopment of the site, Terracon oversaw the installation of a Vapor

Intrusion Mitigation System (VIMS) that consists of subgrade vent piping and a vapor membrane rated to impede cVOCs and other COCs associated with the site (e.g. TPH).

Terracon prepared and submitted a Work Plan, at the request of the City, dated August 26, 2024, to perform indoor air and sub-slab soil vapor sampling via existing sampling ports prior to occupancy of the site building. The Work Plan was subsequently approved by Ecology in general accordance with the CD.

The November 2024 Indoor Air and Soil Gas Sampling Report, submitted to Ecology on April 30, 2025, summarized the results collected during the first winter vapor sampling event that occurred in November 2024. Based on the analytical results, Terracon concluded that since sub-slab soil vapor concentrations were below MTCA Screening Levels, indoor ambient air sources from the newly constructed building were likely contributing to the detections of COCs in indoor air samples. Based on the inclusion of a vapor mitigation membrane and passive vapor venting system below the occupied spaces (commercial, residential, communal spaces, elevator shafts and stairwells), the two levels of ventilated parking garage, and the findings from Terracon's indoor air sampling event, the combination of the VIMS and parking structure have closed the vapor intrusion pathway. Therefore, Terracon concluded that the soil gas to indoor air pathway is incomplete and will likely remain incomplete.

At the request of the Client, Terracon has prepared this Indoor Air and Soil Gas Sampling report in general accordance with Terracon's 2024 Work Plan and the CD, for the summer season indoor air and soil gas sampling event. A summary of the indoor air and soil gas assessment activities is provided in the following sections.

## 2.0 Indoor Air and Soil Gas Sampling

This section summarizes the indoor air quality sampling from the first floor of the site building and the sub-slab soil vapor monitoring results at existing soil vapor points completed at the site during the summer season.

### 2.1 Site Visit and Reconnaissance

On July 15, 2025, Terracon field representatives mobilized to the site to inspect potential indoor air sampling locations on the first floor of the site building, and to assess the feasibility of sampling at these locations. In addition, Terracon conducted an Indoor Air Building Survey, included as Appendix D, which included assessing for potential indoor sources of the chemicals of concern. Several additional potential sources were identified, including but not limited to the following: adhesives, cleaning chemicals, and deodorizers. The identified products were not able to be removed from public spaces of the building prior to sampling and were in use while sampling was ongoing. It should be noted that the

building is newly constructed, and painting, flooring, adhesives, caulking, and other processes associated with building construction have been ongoing over the last 18 months, including a crew painting the hallways between IA5 and IA6 during the July 15 sampling event. Furthermore, the parking garage for the site building is connected to commercial tenant spaces and communal spaces, which includes hallways, main entrances, and the leasing office spaces where the indoor air samples (IA1 through IA6) were located.

The number of indoor air samples were selected based on the first-floor square-footage area using the New Jersey Department of Environmental Protection *Vapor Intrusion Technical Guidance, Recommended Minimum Number of Indoor Air Samples Table 3-3*, dated May 2021, in accordance with Ecology's *Guidance for Evaluating Vapor Intrusion in Washington State: Investigation and Remedial Action*, dated March 2022.

To maintain consistency, Terracon personnel collected indoor and background air samples at or near the same locations sampled during the November 2024 sampling event. The indoor air sample locations were selected in publicly accessible areas most representative of indoor occupied spaces with the highest probability of vapor intrusion issues. Occupied spaces included residential tenant spaces, commercial tenant spaces, and communal spaces (i.e. leasing office, mail room, stairwells and elevator lobbies, and tenant amenity rooms).

IA1 was sampled in the leasing office near the elevator in the northeast portion of the site building; IA2 was sampled in the stairwell west adjacent to the commercial tenant spaces in the southeast portion of the site building; IA3 was sampled in the stairwell/elevator lobby in the southwest portion of the site building; IA4 and IA5 were sampled in the hallway next to the residential tenant spaces, and are representative of the residentially occupied spaces, on the northwest portion of the site building; and IA6 was sampled in the entranceway/lobby along the northern portion of the site building. A general floor plan of the residential, commercial, communal, and garage space and sample locations are depicted on Exhibit 1.

## 2.2 Indoor Air Sampling

Following the site reconnaissance, on July 15, 2025, Terracon deployed six 24-hour Summa® canisters for indoor air samples (IA1 through IA6), and five 24-hour Summar canisters for background air samples, identified as BA1 through BA5. As noted above, the indoor air samples were placed throughout the site building either in communal spaces or in spaces representative of residential tenants. Background air samples BA1 through BA4 were collected on the roof, in the vicinity of the HVAC intake system in an upwind direction, and sample BA5 was collected on the ground floor, in the vicinity of the entrance to the lobby in an upwind direction. Terracon researched prevailing wind patterns in the vicinity of the Site and checked the wind direction immediately prior to sampling. The indoor air sample canister intakes were set at breathing height, approximately 3 to 5 feet above ground surface. A site map with the sample locations relative to the VIMS is included as Exhibit 2

and a site map with the background air sample locations is included as Exhibit 3 of Appendix A. A photo log of the sample locations is included in Appendix C.

The six-liter Summa® canisters used for the air sampling during this sampling event were pre-tested and individually-certified as free of COCs by the analytical laboratory. The canisters were equipped with laboratory-supplied 24-hour Time Weighted Average (TWA) flow regulators, allowing for sample collection at a low flow rate over the 24-hour period. An “in line” vacuum gauge was installed at the sample controller to verify initial vacuum levels within the canister and as an indicator of the final vacuum level at the end of the sampling period. The Summa canister gauge was monitored closely to ensure that a minimum negative pressure of 6 inches of mercury (in Hg) was remaining on the dedicated gauge at the time the Summa canister was closed.

After the 24-hour collection period, Terracon returned to the site to finalize sample collection and retrieve the samples. The canisters were closed, secured, and appropriately labeled with pertinent sample information. Canister pressures were recorded upon initiating sample collection, after sample collection, and after receipt at the laboratory. All air samples were labeled accordingly and submitted under standard chain-of-custody procedures to Friedman & Bruya, Inc. (FBI), a Washington-certified laboratory, and analyzed for COCs. The air samples requested for analysis are presented in Table 1 of Appendix B.

## 2.3 Soil Vapor Sampling

Following the indoor air sampling, Terracon proposed to collect soil vapor samples from seven permanent sub-slab soil vapor monitoring points (VMP), identified as VMP2, VMP3, VMP5, VMP7, VMP8, VMP10, and VMP11. The VMPs were installed during the construction of the building in the aggregate soils below the floor slab and VMS membrane, as a part of the VIMS. Sample locations relative to site features are depicted on Exhibit 2 of Appendix A.

The VMPs were accessed via panels that conceal and protect the locations of the ball valves with barbed hose fittings. During sampling activities, VMP2 was unable to be sampled due to moisture within the line. The moisture within the line was corrected, however VMP2 was not sampled as a part of this sampling event.

Prior to sampling, dedicated Teflon® sample tubing with a dedicated quick-connect valve was connected to the VMP valves to allow for purging and collection of the soil gas samples. Approximately three air volumes or greater were purged from the sub-slab VMP piping and sampling tubing. During the purge process, Terracon field-screened for organic vapors using a calibrated photoionization detector (PID). This device provides a direct reading in parts per million (ppm). PID readings were reported below 1.0 ppm within VMP3, and PID readings were reported at 3.1 ppm, 6.0 ppm, 6.6 ppm, 40.9ppm, and 137 ppm from VMP8, VMP7, VMP5, VMP11, and VMP10, respectively. The presence of elevated vapor concentrations reported for VMP10 and VMP11 were unanticipated and did not appear to be associated with residual petroleum hydrocarbons or VOCs in the subsurface near these

locations. As such, and as described in Section 2.4, Terracon requested the analytical laboratory to further evaluate the vapor samples collected from these locations.

Once the VMP and tubing were purged, the inline quick-connect valve was closed to begin the equilibration process. The completely assembled sampling train was leak tested by using the low flow purge pump [ $\sim 200$  milliliter per minute (mL/min)] to generate a vacuum on the system, then allowing the sealed sampling train to sit with an approximate 10 in Hg negative pressure vacuum during the 10-minute shut-in test period. Once the sampling train had been confirmed to be leak-free based on the vacuum test, each soil gas sample was collected.

The 1-liter Summa canisters used for this sampling event were pre-tested and individually-certified as free of COCs by the analytical laboratory. All canisters were equipped with laboratory-supplied flow regulators, allowing for sample collection at a low-flow rate (i.e., 150-200 mL/min). An "in line" vacuum gauge was installed at the sample controller to verify initial vacuum levels within the canister and as an indicator of the final vacuum level at the end of the sampling period. The flow regulator valve was opened to start sub-slab soil vapor collection for approximately five to six minutes. In addition, as a leak check to the valve connected to the tubing connection at the sampling point, a rag soaked in isopropyl alcohol (tracer gas) was placed near the valve and sample train connections at the time of sample collection.

Upon completion of sample collection, the Summa canisters were closed with at least 6 in Hg remaining within the Summa canister, secured, and appropriately labeled with pertinent sample information. Canister pressures were recorded upon initiating sample collection, after sample collection, and after receipt at the laboratory. All soil gas samples were submitted to FBI under standard chain-of-custody procedures for chemical analysis. The sub-slab soil vapor samples requested for analysis are presented on Table 2 of Appendix B.

## 2.4 Analytical Results

The indoor air (IA1 through IA6), background air (BA1 through BA5), and sub-slab soil vapor samples (VMP3, VMP5, VMP7, VMP8, VMP10, and VMP11) collected were analyzed for TPH by Method MA-APH. The indoor air (IA1 through IA6), background air (BA1 through BA5), and soil gas samples (VMP3, VMP5, VMP7, VMP8, VMP10, and VMP11) collected were analyzed for VOCs and cVOCs by Method TO-15. The soil gas samples were additionally analyzed for 2-propanol (isopropyl alcohol) by EPA Method TO-15. Reported indoor air and soil gas concentrations were compared with Ecology's Cleanup Levels and Risk Calculation (CLARC) MTCA Indoor Air Cleanup Levels and Soil Gas Screening Levels, updated January 2025.

To better understand the TPH concentrations in IA5 and IA6, Terracon requested the laboratory, FBI, reprocess the air phase hydrocarbons (APH) analytical data through Method TO-15 Modified to allow for assessment and quantification of the petroleum constituents,

discussed further in Section 2.4.3 of this report. Data reprocessing performed by FBI determined the total TPH concentrations in the samples, through the summation of APHS EC5-8 aliphatics, EC9-12 aliphatics, and EC9-10 aromatics.

Indoor air concentrations processed through Method MA-APH were adjusted by subtracting the average background air concentration for each detected compound in accordance with Ecology's March 2022 vapor guidance. It should be noted that the average background air TPH concentrations were not subtracted from the indoor air samples IA5 and IA6 reprocessed through Method TO-15 Modified, discussed further in Section 2.4.3.

Data packages were checked for completeness immediately upon receipt from the laboratory to ensure that data and QA/QC information requested were present. Data quality was assessed by considering holding times, surrogate recovery, method blanks, matrix spike and matrix spike duplicate recovery, and detection limits. Based upon our interpretation of quality control information provided by the laboratories, it is our opinion that the overall dataset is useable as qualified for the purposes of this report, with the exception of soil gas samples VMP10 and VMP11, further discussed below.

To address the elevated soil gas reporting limits in soil gas samples VPM10 and VPM11, Terracon requested the lab, FBI, speciate which compounds contributed to the elevated reporting limits through the Method TO-15 library search. Analysis of VMP10 and VMP11 indicated that elevated concentrations of non-target analytes tetrahydrofuran and cyclohexanone were detected in samples VMP10 and VMP11. Tetrahydrofuran and cyclohexanone are the primary compounds in Polyvinyl Chloride (PVC) pipe adhesives and primers, and are used extensively in plumbing/electrical. Following the installation of the VIMS and subsequent to Terracon's 2024 November sampling event, Terracon was informed that the slab was opened and significant plumbing in the vicinity of sampling points VMP10 and VMP11 was added. The VIMS was subsequently replaced and repaired with Terracon's oversight and the slab was replaced in these locations. Given these plumbing additions and the presence of compounds associated with PVC primers, glue and epoxy products, it is Terracon's opinion that the recent under-slab tenant improvements in the areas of VMP10 and VMP11 are the source of elevated THF and cyclohexanone. As such, it is Terracon's opinion that samples VMP10 and VMP11 are not representative of actual sub-slab soil gas conditions originating from site COCs. Based on Terracon's review of the method TO-15 indoor air analytical results, concentrations of THF were not detected in indoor air. Therefore, it does not appear that these compounds associated with PVC repairs have impacted indoor air and the soil gas to indoor air pathway is incomplete.

It should be noted that 2-propanol (isopropyl alcohol) was detected in VMP3 at a concentration of 140 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ), which is below the industry-accepted threshold concentration of 100,000  $\mu\text{g}/\text{m}^3$  for tracer gas concentrations in soil gas samples, in accordance with the 2021 New Jersey guidance document. Therefore, it is our opinion that the data is representative and usable.

The laboratory analytical report and chain-of-custody record are attached in Appendix E.

### 2.4.1 Indoor and Background Air Analytical Results

When processed through Method MA-APH, TPH was detected at concentrations of 80  $\mu\text{g}/\text{m}^3$ , 121  $\mu\text{g}/\text{m}^3$ , and 152  $\mu\text{g}/\text{m}^3$ , in indoor air samples IA4, IA5, and IA6, respectively which is above the MTCA Method B Cleanup Level of 46  $\mu\text{g}/\text{m}^3$ . Indoor air samples IA1 through IA3 did not report concentrations of TPH above the laboratory method reporting limits.

Benzene was corrected to a concentration of 0.48  $\mu\text{g}/\text{m}^3$  in indoor air sample IA3, which is above the MTCA B Cleanup Level of 0.32  $\mu\text{g}/\text{m}^3$ . After background corrections the remaining indoor air samples IA1, IA2, and IA4 through IA6 did not report concentrations of benzene above the MTCA Method B Cleanup Level.

Naphthalene was corrected to a concentration of 0.10  $\mu\text{g}/\text{m}^3$  in indoor air sample IA2, which is above the MTCA Cleanup Level of 0.074  $\mu\text{g}/\text{m}^3$ . After background corrections the remaining indoor air samples IA1, and IA3 through IA6 did not report concentrations of naphthalene above the MTCA Method B Cleanup Level.

The remaining analytes were not reported above their respective MTCA Cleanup Levels and/or laboratory method reporting limits in indoor air samples IA1 through IA6.

Benzene was detected in all five background air samples at concentrations ranging from 0.34  $\mu\text{g}/\text{m}^3$  to 0.45  $\mu\text{g}/\text{m}^3$ , exceeding the MTCA Method B Cleanup Level. Naphthalene was also detected in all five background air samples, exceeding the MTCA Method B Cleanup Level in samples BA5 and BA2 at 0.085  $\mu\text{g}/\text{m}^3$  and 0.097  $\mu\text{g}/\text{m}^3$ , respectively. Naphthalene was present below MTCA Method B Cleanup Level but above laboratory method reporting limits in BA1, BA3, and BA4.

Air analytical results are summarized in Table 1 of Appendix B.

### 2.4.2 Soil Gas Analytical Results

Concentrations of COCs were not detected above MTCA B Sub-Slab Screening Levels and/or laboratory reporting limit in sub-slab soil gas samples.

Naphthalene was detected at concentrations of 1.9  $\mu\text{g}/\text{m}^3$  and 1.8  $\mu\text{g}/\text{m}^3$  in sub-slab soil vapor samples VMP8 and VMP5, respectively. Naphthalene concentrations in VMP5 and VMP8 were identified below the MTCA B Sub-Slab Screening Level and below laboratory reporting limit in all other sub-slab soil gas samples. Total xylenes were identified at concentrations of 23  $\mu\text{g}/\text{m}^3$  and 9.6  $\mu\text{g}/\text{m}^3$  in VMP8 and VMP7, respectively. The concentration of total xylenes VMP7 and VMP8 were present at concentrations below the MTCA Method B Screening Level, the remaining sub-slab soil gas samples were below the laboratory screening limit. Additionally, VMP8 indicated concentrations of ethylbenzene at

3.8  $\mu\text{g}/\text{m}^3$  and TPH at 760  $\mu\text{g}/\text{m}^3$ , both below their respective MTCA B Screening Levels. No other samples indicated concentrations of ethylbenzene or TPH above laboratory screening limits.

VMP8 indicated concentrations of 1,1,1-Trichloroethane at 3.9  $\mu\text{g}/\text{m}^3$ , below MTCA Method B Screening Level, no other sub-slab soil vapor samples indicated the presence of 1,1,1-Trichloroethane. Tetrachloroethene (PCE) and trichloroethene (TCE) were identified in VMP3 at concentrations of 110  $\mu\text{g}/\text{m}^3$  and 5.5  $\mu\text{g}/\text{m}^3$ , respectively, below their respective MTCA Method B Screening Levels.

The remaining analytes were not reported above their respective laboratory method reporting limits in sub-slab soil vapor samples.

Sub-slab soil vapor analytical results are summarized in Table 2 of Appendix B.

### 2.4.3 Indoor Air Reprocessed APH Analysis and Interpretation

Consistent with the previous 2024 winter sampling event, Terracon requested indoor air samples IA5 and IA6 to be analyzed through Method TO-15 Modified by FBI, to evaluate if the TPH detections in the indoor air samples were petrogenic or indicative of a common petroleum product. Using methods consistent with reprocessing the data from the 2024 sampling event, the data was reprocessed by manually subtracting the non-petroleum related compounds and reporting additional analytes from the EPA Method TO-15 analysis not reported in the initial laboratory report.

To reprocess the data, FBI first quantified every peak present in the APH range, with an area greater than 0.1 percent, using the EPA Method TO-15 analysis. Each peak was then evaluated to assess if they resembled a petroleum compound and peaks which did not resemble petroleum related compounds were subtracted from the total. Following this methodology allowed for subtracting instrument background contribution, or "noise" from the chromatograms and high concentration analytes which are non-petroleum related compounds. It should be noted that the average background air TPH concentration was not subtracted from the reprocessed TPH indoor air results.

To understand the increase in TPH concentrations between November 2024 and July 2025 sampling events, the TPH data was reprocessed using Method TO-15 Modified in indoor air samples IA5 and IA6 to speciate the compounds that may be contributing to elevated EC5-8 fractions. The TPH detections using the Method TO-15 Modified resulted in concentrations of 180  $\mu\text{g}/\text{m}^3$  in both indoor air samples IA5 and IA6. The reprocessed indoor air analytical results are summarized in Table 1 of Appendix B. Based on our review of the results for both IA5 and IA6, the fractionation EC5-8 consisted almost entirely of isopentane and pentane.

#### 2.4.4 Chemical & Hazard Risk Evaluation

Although the sum of EC5-8 aliphatics, EC9-12 aliphatics, and EC9-10 aromatics in samples IA5 and IA6 remained above the TPH cleanup level, the reprocessed APH fractions consisted of EC5-8 only. As such, Terracon calculated the individual and additive chemical hazard as well as the Excess Lifetime Cancer Risk (ELCR) and Additive Excess Lifetime Cancer Risk (AELCR) in accordance with Ecology's Draft guidance for Calculating Individual Chemical and Additive Hazard and Risk for indoor air samples IA1 through IA6. Based on the calculated risk values for each indoor air sample location, the individual and additive chemical hazard and risks showed that there is unlikely to be a risk posed by vapor intrusion chemicals, and the chemicals that cause a cancer risk present an acceptable cancer risk.

To assess the health hazards with the elevated concentrations of benzene and naphthalene within the indoor air samples and the background air samples, Terracon calculated the ELCR. The ELCR calculations for benzene and naphthalene for all indoor air samples (IA1 through IA6) indicate that adverse health effects are unlikely.

Benzene and naphthalene concentrations were identified in all indoor air and background samples, however, within all sub-slab soil vapor samples, benzene was below laboratory reporting limits and naphthalene was below laboratory reporting limits in VMP3, VMP5, VMP7, and below MTCA Method B Cancer Screening Levels in VMP8. The sub-slab soil vapor samples do not correlate to the elevated concentrations of benzene and naphthalene found within the indoor air and background air samples. Based on the disconnection of benzene in indoor air, background air, and soil gas, it is Terracon's opinion that the TPH and benzene concentrations detected in indoor air are not associated with the sub-slab soil vapor concentrations and can be attributed to indoor ambient air sources from the newly constructed building and commercial tenant operations at IA2.

Individual Chemical and Additive Hazards and Risks are summarized on Table 3 of Appendix B.

### 3.0 Findings and Conclusions

Terracon performed this Indoor Air and Soil Gas Sampling in an effort to evaluate the efficacy of the VIMS following the completion of the site building during the warm season.

Terracon conducted a site reconnaissance prior to sampling activities. Based on observations during the reconnaissance, several potential indoor air sources of the chemicals of concern were identified, most of which were associated with the buildings new construction (e.g. paints, adhesives, spray on wall texture, etc.) and general commercial tenant operations. Additionally, the occupied spaces are connected to an open-air parking garage, which comprises over 70 percent of the building interior on the first floor.

Low concentrations of benzene were detected in indoor and background air samples but were not detected in the sub slab soil gas. Therefore, it is Terracon's opinion that the TPH and benzene concentrations detected in indoor air are not associated with the sub slab soil gas concentrations and can be attributed to indoor ambient air sources from materials associated with the building.

Similarly, naphthalene was detected above MTCA Cleanup Levels in indoor air sample IA2 but was also detected above reporting limits and/or cleanup levels in all five background air samples and only identified in sub-slab soil vapor sample VMP8 at concentrations below MTCA Method B Screening Limits. Naphthalene was found to have decreased concentration within indoor air sample IA1 from the November 2024 sampling event, the correlating indoor air sample for VMP8. The naphthalene concentration in indoor air sample IA2 increased from the November 2024 sampling event and is likely due to the completion of construction and the beginning of the restaurant operations at the commercial tenant space proximal to IA2. In addition, naphthalene has never been detected in the correlating sub-slab soil vapor sample VMP11. Although it is Terracon's opinion that the most recent samples from VMP10 and VMP11 are not representative of actual sub-slab soil gas conditions originating from site COCs, concentrations of THF and cyclohexanone were not detected in indoor air sample IA2. As such, it does not appear that these compounds associated with PVC repairs and site COCs, such as naphthalene, have impacted indoor air and the soil gas to indoor air pathway is incomplete. Rather it is Terracon's opinion that the naphthalene concentrations within the indoor air samples do not correlate to the sub-slab soil gas and can instead be attributed to ambient air sources associated with the new construction and commercial tenant space restaurant operations.

Terracon calculated the individual and additive chemical hazard as well as the ELCR and AELCR in accordance with Ecology's Draft guidance for Calculating Individual Chemical and Additive Hazard and Risk for indoor air samples IA1 through IA6. Based on the calculated risk values for each indoor air sample location, the individual and/or additive chemical hazard and risks showed that there is unlikely to be a risk posed by vapor intrusion chemicals.

Based on the inclusion of a vapor mitigation membrane and passive vapor venting system below the occupied spaces (commercial, residential, communal spaces, elevator shafts and stairwells) and parking garage, the two levels of ventilated parking garage, and the findings from Terracon's indoor air sampling event, the combination of the VIMS and parking structure have closed the vapor intrusion pathway. Therefore, it is Terracon's opinion that the soil gas to indoor air pathway is incomplete and will likely remain incomplete.

## 4.0 Standard of Care, Limitations, and Reliance

### 4.1 Standard of Care

Terracon's services were performed in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time. Terracon makes no warranties, express or implied, regarding the findings, conclusions, or recommendations. Terracon does not warrant the work of laboratories, regulatory agencies, or other third parties supplying information used in the preparation of the report. These services were performed in accordance with the scope of work agreed with you, our client, as reflected in our proposal and were not intended to be in strict conformance with ASTM E1903-19.

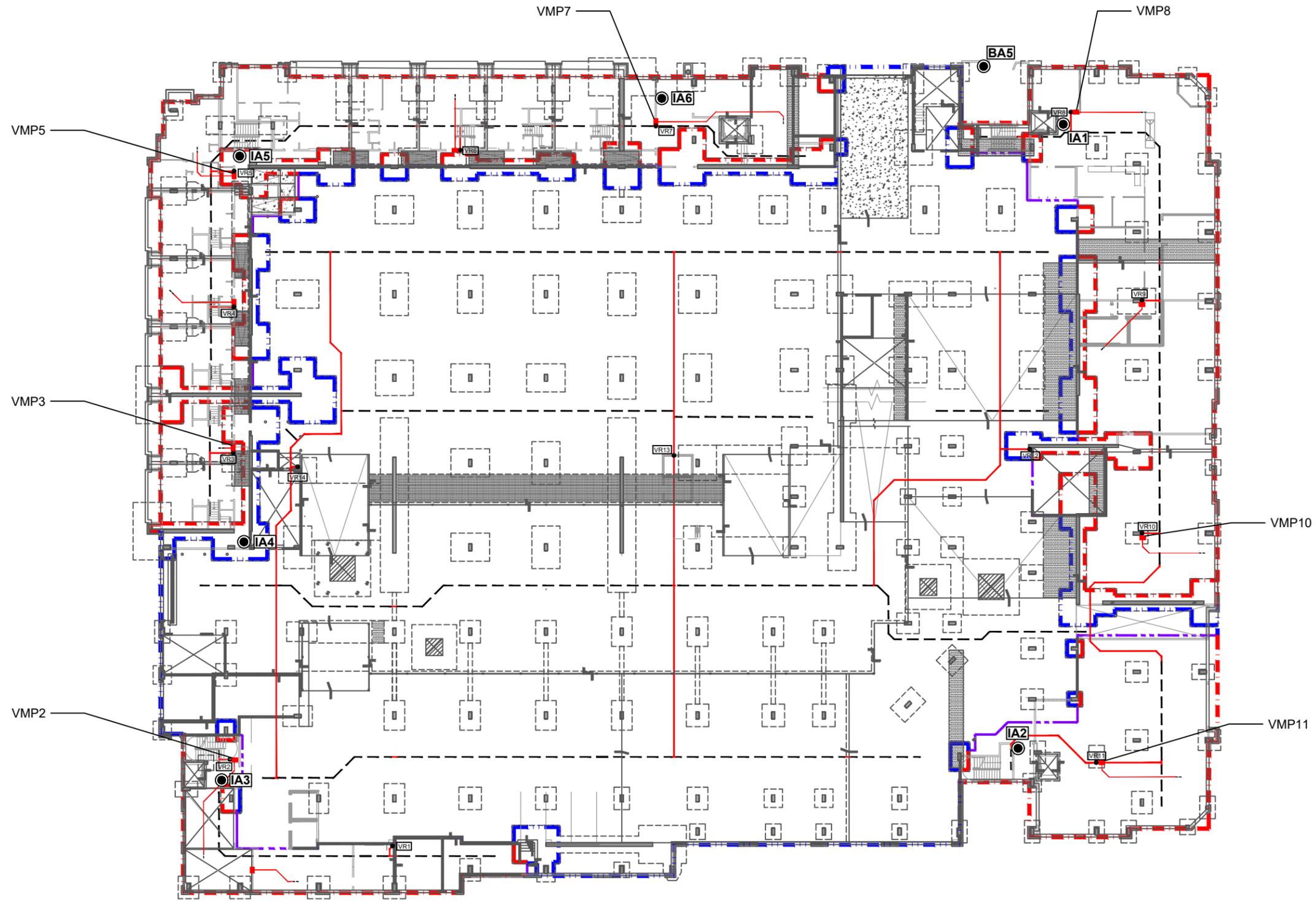
### 4.2 Additional Scope Limitations

Findings, conclusions, and recommendations resulting from these services are based upon information derived from the on-site activities and other services performed under this scope of work; such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, nondetectable, or not present during these services. We cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this Indoor Air and Soil Gas Sampling Report. Subsurface conditions may vary from those encountered at specific borings or wells or during other surveys, tests, assessments, investigations, or exploratory services. The data, interpretations, findings, and our recommendations are based solely upon data obtained at the time and within the scope of these services.

### 4.3 Reliance

This report has been prepared for the exclusive use of Maple Multi-Family Land TX L.P. and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the site) is prohibited without the express written authorization of Maple Multi-Family Land TX L.P. and Terracon. Any unauthorized distribution or reuse is at Maple Multi-Family Land TX L.P.'s sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions, and limitations stated in the proposal, this report, and Terracon's Agreement for Services. The limitation of liability defined in the terms and conditions is the aggregate limit of Terracon's liability to Mason's Resort Inc and all relying parties unless otherwise agreed in writing.

**APPENDIX A**  
**EXHIBITS**



**LEGEND**

- 4-INCH I.D. 0.020-INCH SLOTTED SCH 40 PVC VAPOR COLLECTION PIPING
- 4-INCH I.D. SOLID SCH 40 PVC BELOW SLAB CONVEYANCE PIPE
- EXTENT OF 60-MIL. MIN. SPRAY-APPLIED VAPOR INTRUSION MITIGATION SYSTEM MEMBRANE
- EXTENT OF 20-MIL. MIN. SHEET VAPOR INTRUSION MITIGATION SYSTEM MEMBRANE
- LOCATION WHERE 60-MIL. MIN. MEMBRANE AND 20-MIL. MIN. MEMBRANE JOIN
- IA1 ● APPROXIMATE LOCATION AND NUMBER OF INDOOR AIR SAMPLE LOCATION
- BA5 ● APPROXIMATE LOCATION AND NUMBER OF BACKGROUND AIR SAMPLE LOCATION
- VMP2 ■ APPROXIMATE LOCATION AND NUMBER OF SUB-SLAB VACUUM MONITORING PROBE WITH ACCESS PANEL
- VR1 ● VENT RISER TO LEVEL 1 LOCATION



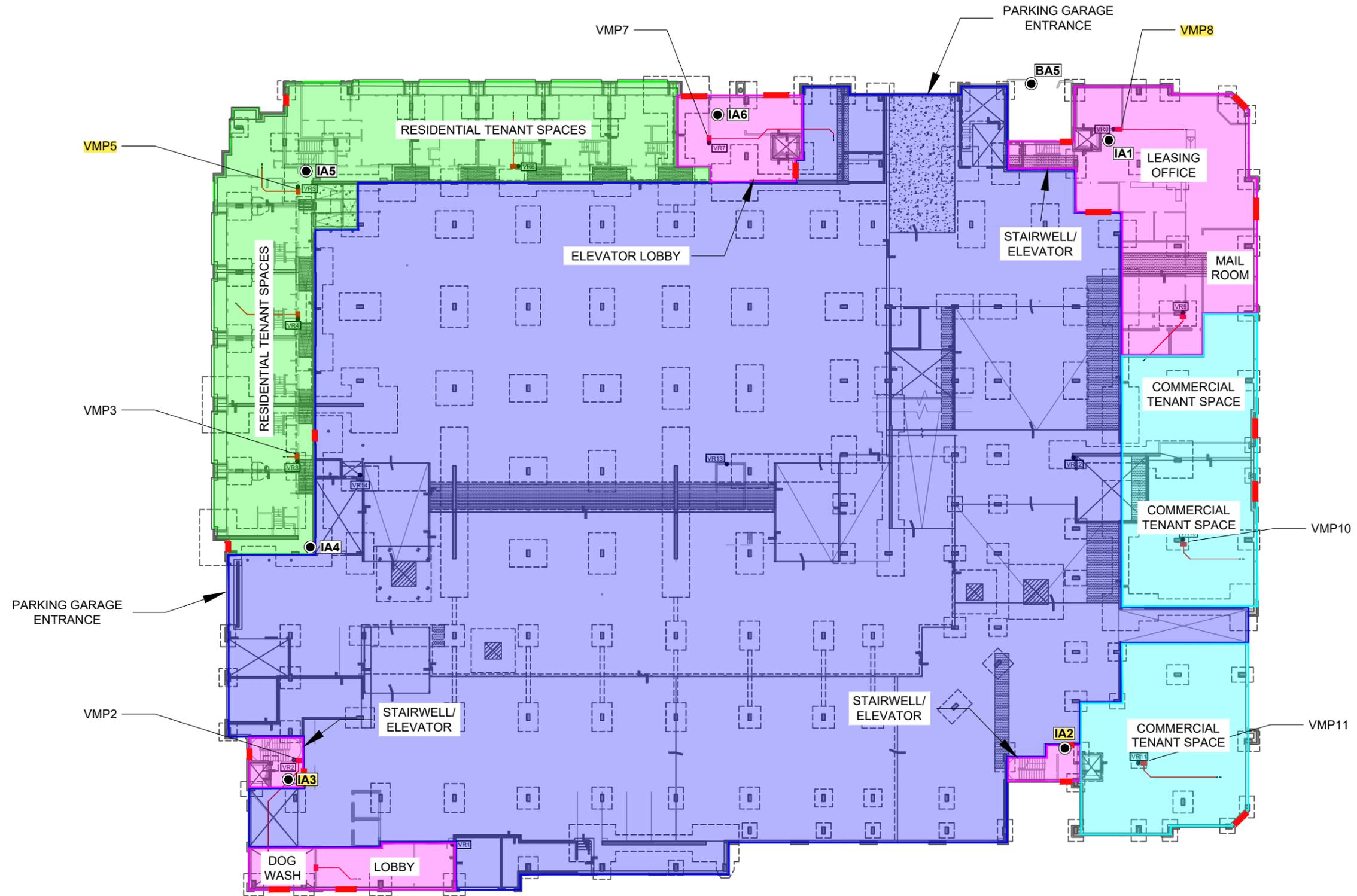
Project Mngr:	KSB	Project No.:	81207336
Drawn By:	SKP	Scale:	AS SHOWN
Checked By:	KSB	File No.:	Exhibit 1
Approved By:	MYW	Date:	February 2025

**Terracon**  
Explore with us

21905 64TH AVENUE W, STE 100 MOUNTLAKE TERRACE, WA 98043  
PH. (425) 771-3304 FAX. (425) 771-3549

**VAPOR INTRUSION MITIGATION SYSTEM - LEVEL 1**

Alexan Bothell  
9911 Main Street  
Bothell, Washington



**LEGEND**

- APPROXIMATE AREA OF RESIDENTIAL SPACES
- APPROXIMATE AREA OF COMMERCIAL SPACES
- APPROXIMATE AREA OF COMMUNAL SPACES
- APPROXIMATE AREA OF GARAGE AND OPEN AIR SPACES
- IA1 ● APPROXIMATE LOCATION AND NUMBER OF INDOOR AIR SAMPLE LOCATION
- BA5 ● APPROXIMATE LOCATION AND NUMBER OF BACKGROUND AIR SAMPLE LOCATION
- VMP2 — APPROXIMATE LOCATION AND NUMBER OF SUB-SLAB VACUUM MONITORING PROBE WITH ACCESS PANEL
- VMP7 — APPROXIMATE LOCATION OF EXTERIOR DOORS



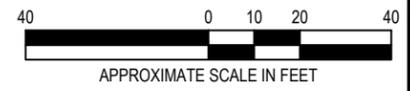
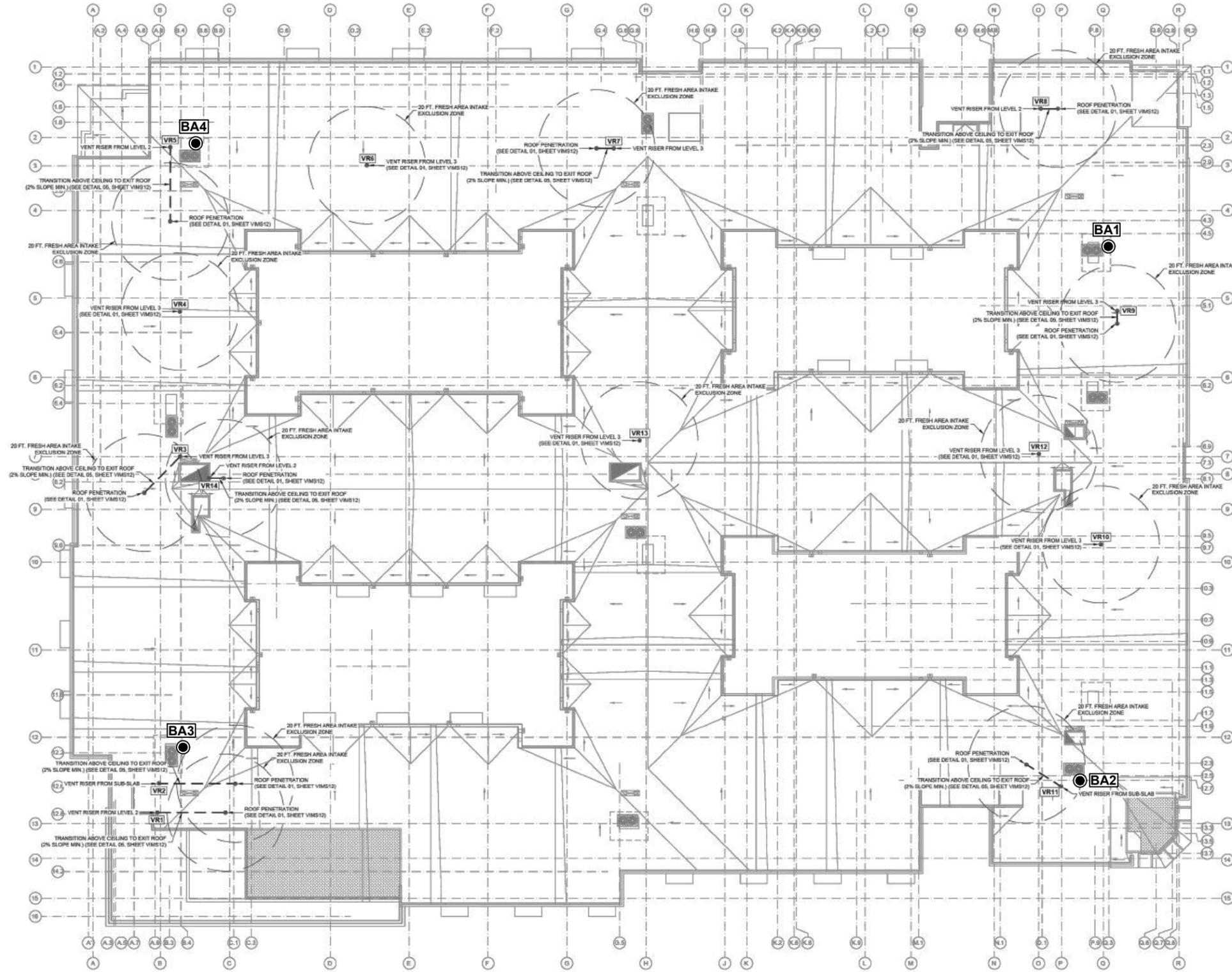
Project Mngr:	KSB	Project No.:	81207336
Drawn By:	SKP	Scale:	AS SHOWN
Checked By:	KSB	File No.:	Exhibit 2
Approved By:	MYW	Date:	October 2025

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PH. (425) 771-3304 FAX. (425) 771-3549

**SAMPLING RELATIVE TO SITE FEATURES - LEVEL 1**

Alexan Bothell  
9911 Main Street  
Bothell, Washington



**LEGEND**

**BA1** ● APPROXIMATE LOCATION AND NUMBER OF BACKGROUND AIR SAMPLE LOCATION

Project Mng:	KSB	Project No.	81207336
Drawn By:	SKP	Scale:	AS SHOWN
Checked By:	KSB	File No.	Exhibit 3
Approved By:	MYW	Date:	January 2025

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21905 64TH AVENUE W, STE 100 MOUNTLAKE TERRACE, WA 98043  
PH. (425) 771-3304 FAX. (425) 771-3549

**BACKGROUND AIR SAMPLING LOCATIONS - ROOF**

Alexan Bothell  
9911 Main Street  
Bothell, Washington

EXHIBIT

**APPENDIX B**  
**TABLES**

**TABLE 1**  
**SUMMARY OF INDOOR/OUTDOOR AIR ANALYTICAL RESULTS**  
 Bothell Lot D  
 9911 Main Street  
 Bothell, King County, Washington  
 Terracon Project No. 81207336

all concentrations are in micrograms per cubic meter (µg/m<sup>3</sup>)

Sample ID	Sample Date	TPH <sup>1</sup>												VOCs <sup>4</sup>																			
		Method MA-APH <sup>2</sup> Actual Detections				Method MA-APH <sup>2</sup> Background Adjusted Concentrations <sup>5</sup>				Method TO-15 Modified <sup>3</sup>				Actual Detections				Background Adjusted Concentrations <sup>5</sup>				cVOCs <sup>4</sup>											
		TPH <sup>1</sup>	APH EC5-8 aromatics	APH EC9-10 aromatics	APH EC9-12 aliphatics	TPH <sup>1</sup>	APH EC5-8 Aliphatics	APH EC9-10 aromatics	APH EC9-12 aliphatics	TPH <sup>1</sup>	APH EC5-8 Aliphatics	APH EC9-10 aromatics	APH EC9-12 aliphatics	Benzene	Toluene	Ethylbenzene	Xylenes <sup>†</sup>	Naphthalene	Benzene	Toluene	Ethylbenzene	Xylenes <sup>†</sup>	Naphthalene	Vinyl Chloride	Chloroethane	1,1-Dichloroethane	1,1-Dichloroethane	Cis-1,2-Dichloroethane	Trans-1,2-Dichloroethane	1,1,1-Trichloroethane	Trichloroethene (TCE)	1,1,2-Trichloroethane	Tetrachloroethene (PCE)
<b>2025 MTCA Method B Indoor Air Cancer Cleanup Level</b>		<b>46</b>	<b>2,740</b>	<b>182</b>	<b>46</b>	<b>46</b>	<b>2,740</b>	<b>182</b>	<b>46</b>	<b>46</b>	<b>2,740</b>	<b>182</b>	<b>46</b>	<b>0.32</b>	<b>2,300*</b>	<b>460*</b>	<b>46*</b>	<b>0.074</b>	<b>0.32</b>	<b>2,300*</b>	<b>460*</b>	<b>46*</b>	<b>0.074</b>	<b>0.28</b>	<b>4,600*</b>	<b>91*</b>	<b>1.6</b>	<b>18*</b>	<b>18*</b>	<b>2,300*</b>	<b>0.33</b>	<b>0.091*</b>	<b>9.6</b>
Average Background - November 25-26, 2024		129.6	87.6	12.5	29.5	129.6	87.6	12.5	29.5	--	--	--	--	0.5	ND	ND	1.38	0.15	0.5	ND	ND	1.38	0.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Background - July 15-16, 2025		71.6	34.3	11.4	25.9	71.6	34.3	11.4	25.9	--	--	--	--	0.37	ND	0.396	1.21	0.078	0.37	ND	0.396	1.21	0.078	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Indoor Air Samples</b>																																	
IA1	11/26/2024	<b>209</b>	<b>140</b>	ND (<25)	<b>69</b>	<b>79.4</b>	<b>52.4</b>	ND (<25)	<b>39.5</b>	<b>26</b>	ND (<75)	<b>26</b>	ND (<25)	<b>0.59</b>	ND (<7.5)	<b>0.67</b>	<b>3.23</b>	<b>0.24</b>	<b>0.09</b>	ND (<7.5)	<b>0.67</b>	<b>1.85</b>	<b>0.09</b>	ND (<0.26)	ND (<2.6)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.55)	ND (<0.11)	ND (<0.055)	ND (<6.8)
	7/15/2025	ND (<75)	ND (<75)	ND (<25)	ND (<25)	ND (<75)	ND (<75)	ND (<25)	ND (<25)	--	--	--	--	<b>0.5</b>	ND (<7.5)	<b>0.47</b>	<b>1.64</b>	<b>0.13</b>	<b>0.13</b>	ND (<7.5)	<b>0.074</b>	<b>0.43</b>	<b>0.052</b>	ND (<0.13)	ND (<2.6)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.55)	ND (<0.11)	ND (<0.055)	ND (<6.8)
IA2	11/26/2024	<b>109</b>	<b>83</b>	ND (<25)	<b>26</b>	<b>0.0+</b>	<b>0.0+</b>	ND (<25)	<b>0.0+</b>	--	--	--	--	<b>0.73</b>	ND (<7.5)	ND (<0.43)	<b>1.42</b>	<b>0.073</b>	<b>0.23</b>	ND (<7.5)	ND (<0.43)	<b>0.03</b>	<b>0.0+</b>	ND (<0.26)	ND (<2.6)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.55)	ND (<0.11)	ND (<0.055)	ND (<6.8)
	7/15/2025	ND (<75)	ND (<75)	ND (<25)	ND (<25)	ND (<75)	ND (<75)	ND (<25)	ND (<25)	--	--	--	--	<b>0.68</b>	ND (<7.5)	ND (<0.43)	<b>1.6</b>	<b>0.18</b>	<b>0.31</b>	ND (<7.5)	ND (<0.43)	<b>0.4</b>	<b>0.10</b>	ND (<0.13)	ND (<2.6)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.55)	ND (<0.11)	ND (<0.055)	ND (<6.8)
IA3	11/26/2024	<b>100</b>	<b>100</b>	ND (<25)	<b>0.0+</b>	<b>12.4</b>	ND (<25)	ND (<25)	--	--	--	--	--	<b>0.79</b>	ND (<7.5)	<b>0.44</b>	<b>2.13</b>	<b>0.15</b>	<b>0.29</b>	ND (<7.5)	<b>0.44</b>	<b>0.75</b>	<b>0</b>	ND (<0.26)	ND (<2.6)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.55)	ND (<0.11)	ND (<0.055)	ND (<6.8)
	7/15/2025	ND (<75)	ND (<75)	ND (<25)	ND (<25)	ND (<75)	ND (<75)	ND (<25)	ND (<25)	--	--	--	--	<b>0.85</b>	ND (<7.5)	<b>0.49</b>	<b>2.3</b>	<b>0.13</b>	<b>0.48</b>	ND (<7.5)	<b>0.094</b>	<b>1.1</b>	<b>0.052</b>	ND (<0.13)	ND (<2.6)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.55)	ND (<0.11)	ND (<0.055)	ND (<6.8)
IA4	11/26/2024	<b>26</b>	ND (<75)	<b>26</b>	ND (<25)	<b>0.0+</b>	ND (<75)	<b>13.5</b>	ND (<25)	--	--	--	--	<b>0.59</b>	ND (<7.5)	<b>0.55</b>	<b>3.23</b>	<b>0.21</b>	<b>0.09</b>	ND (<7.5)	<b>0.55</b>	<b>1.85</b>	<b>0.056</b>	ND (<0.26)	ND (<2.6)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.55)	ND (<0.11)	ND (<0.055)	ND (<6.8)
	7/15/2025	<b>110</b>	<b>110</b>	ND (<22)	<b>38.4</b>	<b>75.7</b>	ND (<22)	<b>10</b>	--	--	--	--	--	<b>0.53</b>	ND (<6.8)	<b>0.39</b>	<b>1.8</b>	<b>0.11</b>	<b>0.16</b>	ND (<6.8)	<b>0.0*</b>	<b>0.59</b>	<b>0.032</b>	ND (<0.12)	ND (<2.4)	ND (<0.36)	ND (<0.36)	ND (<0.36)	ND (<0.36)	ND (<0.49)	ND (<0.097)	ND (<0.049)	ND (<6.1)
IA5	11/26/2024	<b>139</b>	<b>100</b>	ND (<25)	<b>39</b>	<b>9.4</b>	<b>12.4</b>	ND (<25)	<b>10</b>	--	--	--	--	<b>0.57</b>	ND (<7.5)	ND (<0.43)	<b>2.06</b>	<b>0.2</b>	<b>0.07</b>	ND (<7.5)	ND (<0.43)	<b>0.68</b>	<b>0.046</b>	ND (<0.26)	ND (<2.6)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.55)	ND (<0.11)	ND (<0.055)	ND (<6.8)
	7/15/2025	<b>151</b>	<b>120</b>	ND (<23)	<b>31</b>	<b>79.4</b>	<b>85.7</b>	ND (<23)	<b>5.1</b>	<b>180</b>	<b>180</b>	ND (<23)	ND (<23)	<b>0.59</b>	ND (<6.9)	ND (<0.4)	<b>1.78</b>	<b>0.072</b>	<b>0.22</b>	ND (<6.9)	ND (<0.4)	<b>0.57</b>	<b>0.0+</b>	ND (<0.12)	ND (<2.4)	ND (<0.36)	ND (<0.37)	ND (<0.36)	ND (<0.36)	ND (<0.5)	ND (<0.098)	ND (<0.05)	ND (<6.2)
IA6	11/26/2024	<b>217</b>	<b>110</b>	<b>70</b>	<b>37</b>	<b>87.4</b>	<b>22.4</b>	<b>57.5</b>	<b>7.5</b>	<b>32</b>	ND (<75)	<b>32</b>	ND (<25)	<b>0.58</b>	ND (<7.5)	<b>0.64</b>	<b>3.6</b>	<b>0.42</b>	<b>0.08</b>	ND (<7.5)	<b>0.64</b>	<b>2.22</b>	<b>0.27</b>	ND (<0.26)	ND (<2.6)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.55)	ND (<0.11)	ND (<0.055)	ND (<6.8)
	7/15/2025	<b>182</b>	<b>150</b>	ND (<20)	<b>32</b>	<b>110.4</b>	<b>115.7</b>	ND (<20)	<b>6.1</b>	<b>180</b>	<b>180</b>	ND (<20)	ND (<20)	<b>0.44</b>	ND (<6.2)	ND (<0.36)	<b>1.67</b>	<b>0.11</b>	<b>0.07</b>	ND (<6.2)	ND (<0.36)	<b>0.46</b>	<b>0.032</b>	ND (<0.1)	ND (<2.2)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.33)	ND (<0.45)	ND (<0.088)	ND (<0.045)	ND (<5.6)
<b>Background Air Samples</b>																																	
BA1	11/25/2024	<b>110</b>	<b>110</b>	ND (<25)	ND (<25)	--	--	--	--	--	--	--	--	<b>0.61</b>	ND (<7.5)	ND (<0.43)	<b>0.94</b>	<b>0.10</b>	<b>0.61</b>	ND (<7.5)	ND (<0.43)	<b>0.94</b>	<b>0.10</b>	ND (<0.26)	ND (<2.6)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.55)	ND (<0.11)	ND (<0.055)	ND (<6.8)
	7/15/2025	ND (<75)	ND (<75)	ND (<25)	ND (<25)	--	--	--	--	--	--	--	--	<b>0.34</b>	ND (<7.5)	<b>0.43</b>	<b>1.3</b>	<b>0.073</b>	<b>0.34</b>	ND (<7.5)	<b>0.43</b>	<b>1.3</b>	<b>0.073</b>	ND (<0.13)	ND (<2.6)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.55)	ND (<0.11)	ND (<0.055)	ND (<6.8)
BA2	11/25/2024	<b>120</b>	<b>89</b>	ND (<25)	<b>31</b>	--	--	--	--	--	--	--	--	<b>0.51</b>	ND (<7.5)	ND (<0.43)	<b>2.33</b>	<b>0.29</b>	<b>0.51</b>	ND (<7.5)	ND (<0.43)	<b>2.33</b>	<b>0.29</b>	ND (<0.26)	ND (<2.6)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.55)	ND (<0.11)	ND (<0.055)	ND (<6.8)
	7/15/2025	<b>25</b>	ND (<63)	ND (<21)	<b>25</b>	--	--	--	--	--	--	--	--	<b>0.37</b>	ND (<6.3)	<b>0.36</b>	<b>1.1</b>	<b>0.097</b>	<b>0.37</b>	ND (<6.3)	<b>0.36</b>	<b>1.1</b>	<b>0.097</b>	ND (<0.11)	ND (<2.2)	ND (<0.33)	ND (<0.34)	ND (<0.33)	ND (<0.33)	ND (<0.46)	ND (<0.09)	ND (<0.046)	ND (<5.7)
BA3	11/25/2024	<b>104</b>	<b>76</b>	ND (<25)	<b>28</b>	--	--	--	--	--	--	--	--	<b>0.45</b>	ND (<7.5)	ND (<0.43)	ND (<0.87)	<b>0.11</b>	<b>0.45</b>	ND (<7.5)	ND (<0.43)	ND (<0.87)	<b>0.11</b>	ND (<0.26)	ND (<2.6)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.55)	ND (<0.11)	ND (<0.055)	ND (<6.8)
	7/15/2025	<b>35</b>	ND (<69)	ND (<23)	<b>35</b>	--	--	--	--	--	--	--	--	<b>0.34</b>	ND (<6.9)	<b>0.40</b>	<b>1.2</b>	<b>0.068</b>	<b>0.34</b>	ND (<6.9)	<b>0.40</b>	<b>1.2</b>	<b>0.068</b>	ND (<0.12)	ND (<2.4)	ND (<0.36)	ND (<0.37)	ND (<0.36)	ND (<0.36)	ND (<0.5)	ND (<0.099)	ND (<0.05)	ND (<6.2)
BA4	11/25/2024	<b>113</b>	<b>81</b>	ND (<25)	<b>32</b>	--	--	--	--	--	--	--	--	<b>0.44</b>	ND (<7.5)	ND (<0.43)	ND (<0.87)	<b>0.14</b>	<b>0.44</b>	ND (<7.5)	ND (<0.43)	ND (<0.87)	<b>0.14</b>	ND (<0.26)	ND (<2.6)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.55)	ND (<0.11)	ND (<0.055)	ND (<6.8)
	7/15/2025	ND (<69)	ND (<69)	ND (<23)	ND (<23)	--	--	--	--	--	--	--	--	<b>0.35</b>	ND (<6.9)	<b>0.40</b>	<b>1.2</b>	<b>0.068</b>	<b>0.35</b>	ND (<6.9)	<b>0.40</b>	<b>1.2</b>	<b>0.068</b>	ND (<0.12)	ND (<2.4)	ND (<0.36)	ND (<0.37)	ND (<0.36)	ND (<0.36)	ND (<0.5)	ND (<0.099)	ND (<0.05)	ND (<6.2)
BA5	11/25/2024	<b>126</b>	<b>82</b>	ND (<25)	<b>44</b>	--	--	--	--	--	--	--	--	<b>0.49</b>	ND (<7.5)	ND (<0.43)	<b>0.88</b>	<b>0.13</b>	<b>0.49</b>	ND (<7.5)	ND (<0.43)	<b>0.88</b>	<b>0.13</b>	ND (<0.26)	ND (<2.6)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.4)	ND (<0.55)	ND (<0.11)	ND (<0.055)	ND (<6.8)
	7/15/2025	ND (<67)	ND (<67)	ND (<22)	ND (<22)	--	--	--	--	--	--	--	--	<b>0.45</b>	ND (<6.8)	<b>0.39</b>	<b>1.3</b>	<b>0.085</b>	<b>0.45</b>	ND (<6.8)	<b>0.39</b>	<b>1.3</b>	<b>0.085</b>	ND (<0.12)	ND (<2.4)	ND (<0.36)	ND (<0.36)	ND (<0.36)	ND (<0.36)	ND (<0.49)	ND (<0.097)	ND (<0.049)	ND (<6.1)

Notes: Concentrations detected above laboratory reporting limits are in **BOLD** type. Concentrations above screening levels are in **BOLD RED** type and a shaded cell. Please refer to the laboratory report for a complete list of detections. The indoor air sample concentrations are calculated by subtracting the average outdoor/background air concentration from the indoor air concentration for each analyte, except for TPH processed through Method TO-15 Modified

TPH - Total petroleum hydrocarbons  
 1 - Determined by the sum of air-phase petroleum hydrocarbons (APHs) EC5-8 aliphatics, EC9-12 aliphatics, and EC9-10 aromatics.  
 2 - Analyzed through Method MA-APH  
 3 - Analyzed through Method TO-15 Modified  
 4 - VOCs and cVOCs analyzed through Method TO-15  
 5 - Background adjusted concentration calculated by subtracting actual detections from average background concentration from related sampling event

VOCs - Volatile organic compounds  
 cVOCs - Chlorinated VOCs  
 MTCA - Model Toxics Control Act

ND - Not detected above laboratory reporting limit  
 j - The analyte concentration is reported between the method detection limit and the lowest calibration point. The value reported is an estimate  
 NE - Not established  
 -- - Not analyzed  
 \* - Method B non-cancer level  
 † - Combined m-, o-, and p-xylenes  
 x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.  
 + - When background subtracted from indoor air sample analyte concentration fell below zero.

**TABLE 2**  
**SUMMARY OF SUB SLAB SOIL GAS ANALYTICAL RESULTS**

Bothell Lot D  
9911 Main Street  
Bothell, King County, Washington

Terracon Project No. 81207336

all concentrations are in micrograms per cubic meter (µg/m<sup>3</sup>)

Sample ID	Sample Date	PID (ppm)	TPH <sup>1</sup>	Reprocessed TPH	VOCs																
					Benzene	Toluene	Ethylbenzene	Xylenes <sup>‡</sup>	Naphthalene	2-Propanol	cVOCs										
											Vinyl Chloride	Chloroethane	1,1-Dichloroethane	1,1-Dichloroethane	1,2-Dichloroethane (EDC)	Cis-1,2-Dichloroethane	Trans-1,2-Dichloroethane	1,1,1-Trichloroethane	Trichloroethene (TCE)	1,1,2-Trichloroethane	Tetrachloroethene (PCE)
<b>2025 MTCA Method B Sub-Slab Cancer Screening Level</b>			<b>1,500*</b>	<b>1,500*</b>	<b>11</b>	<b>76,000*</b>	<b>15,000*</b>	<b>1,500*</b>	<b>2.5</b>	<b>N/E</b>	<b>9.5</b>	<b>150,000*</b>	<b>3,000*</b>	<b>52</b>	<b>3.2</b>	<b>610*</b>	<b>610*</b>	<b>76,000*</b>	<b>11</b>	<b>3*</b>	<b>320</b>
VMP3	11/26/24	0.2	<b>930 x</b>	--	ND (<2)	ND (<47)	<b>2.9</b>	<b>16.8</b>	ND (<1.6)	<b>140</b>	ND (<1.6)	ND (<16)	ND (<2.5)	ND (<2.5)	ND (<0.25)	ND (<2.5)	ND (<2.5)	ND (3.4)	<b>3.4</b>	ND (<0.34)	<b>68</b>
	7/16/25	0.3	ND (<440)	--	ND (<1.9)	ND (<44)	ND (<2.6)	ND (<5.1)	ND (<1.5)	ND (<51)	ND (<0.75)	ND (<16)	ND (<2.3)	ND (<2.4)	ND (<0.24)	ND (<2.3)	ND (<2.3)	ND (<3.2)	<b>5.5</b>	ND (<0.32)	<b>110</b>
VMP5	11/26/24	0.7	<b>500 x</b>	--	ND (<1.6)	ND (<38)	ND (<2.2)	ND (<4.4)	ND (<1.3)	ND (<44)	ND (<1.3)	ND (<13)	ND (<2)	ND (<2.1)	ND (<0.21)	ND (<2)	ND (<2)	ND (<2.8)	ND (<0.55)	ND (<0.28)	ND (<35)
	7/16/25	6.6	ND (<1,300)	--	ND (<5.8)	ND (<140)	ND (<7.8)	ND (<16)	<b>1.8</b>	ND (<150)	ND (<2.3)	ND (<47)	ND (<7.1)	ND (<7.3)	ND (<0.73)	ND (<7.1)	ND (<7.1)	ND (<9.8)	ND (<1.9)	ND (<0.98)	ND (<120)
VMP7	11/26/24	2.7	<b>2,900 x</b>	<b>240</b>	ND (<2.5)	ND (<60)	ND (<3.4)	<b>16.5</b>	ND (<2.1)	ND (<68)	ND (<2)	ND (<21)	ND (<3.1)	ND (<3.2)	ND (<0.32)	ND (<3.1)	ND (<3.1)	ND (<4.3)	ND (<0.85)	ND (<0.43)	ND (<54)
	7/16/25	6.0	ND (<1,300)	--	ND (<5.8)	ND (<140)	ND (<7.8)	<b>9.6</b>	ND (<1.4j)	ND (<150)	ND (<2.3)	ND (<47)	ND (<7.1)	ND (<7.3)	ND (<0.73)	ND (<7.1)	ND (<7.1)	ND (<9.8)	ND (<1.9)	ND (<0.98)	ND (<120)
VMP8	11/26/24	2.3	<b>1,390 x</b>	ND (<420)	ND (<1.8)	ND (<41)	<b>3.9</b>	<b>18.6</b>	ND (<1.4)	ND (<47)	ND (<1.4)	ND (<15)	ND (<2.2)	ND (<2.2)	ND (<0.22)	ND (<2.2)	ND (<2.2)	ND (<3)	ND (<0.59)	ND (<0.3)	ND (<37)
	7/16/25	3.1	<b>760</b>	--	ND (<1.9)	ND (<46)	<b>3.8</b>	<b>23</b>	<b>1.9</b>	ND (<52)	ND (<0.78)	ND (<16)	ND (<2.4)	ND (<2.5)	ND (<0.25)	ND (<2.4)	ND (<2.4)	<b>3.9</b>	ND (<0.66)	ND (<0.33)	ND (<41)
VMP10	7/16/25	137.0	ND (<13,000)	--	ND (<54)	ND (<1,300)	ND (<74)	ND (<150)	ND (<45)	ND (<1,500)	ND (<22)	ND (<450)	ND (<67)	ND (<69)	ND (<6.9)	ND (<67)	ND (<67)	ND (<93)	ND (<18)	ND (<9.3)	ND (<1,200)
VMP11	11/26/24	24.1	<b>2,070 x</b>	ND (<610)	ND (<2.6)	ND (<61)	ND (<3.5)	ND (<7)	ND (<2.1)	ND (<70)	ND (<2.1)	ND (<21)	ND (<3.2)	ND (<3.3)	ND (<0.33)	ND (<3.2)	ND (<3.2)	ND (<4.4)	ND (<0.87)	ND (<0.44)	ND (<55)
	7/16/25	40.9	ND (<9,700)	--	ND (<42)	ND (<980)	ND (<56)	ND (<110)	ND (<34)	ND (<1,100)	ND (<17)	ND (<340)	ND (<52)	ND (<53)	ND (<5.3)	ND (<52)	ND (<52)	ND (<71)	ND (<14)	ND (<7.1)	ND (<880)

Note: Concentrations detected above laboratory reporting limits are in **BOLD** type.  
Concentrations above screening levels are in **BOLD RED** type and a shaded cell.  
Please refer to the laboratory report for a complete list of detections.

TPH - Total petroleum hydrocarbons  
1 - Determined by the sum of air-phase petroleum hydrocarbons (APHs) EC5-8 aliphatics, EC9-12 aliphatics, and EC9-10 aromatics.

VOCs - Volatile organic compounds  
cVOCs - Chlorinated VOCs  
MTCA - Model Toxics Control Act  
EPA - Environmental Protection Agency  
PID - Photoionization detector  
ppm - Parts per million  
VMP - Vapor Monitoring Point  
ND - Not detected above laboratory reporting limit  
j - The analyte concentration is reported between the method detection limit and the lowest calibration point. The value reported is an estimate  
N/E - Not established  
-- - Not analyzed  
\* - Method B non-cancer level  
‡ - Combined m-, o-, and p-xylenes  
x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

**TABLE 3**  
**INDIVIDUAL CHEMICAL AND ADDITIVE HAZARDS AND RISK**  
**Bothell Lot D**  
**9911 Main Street**  
**Bothell, King County, Washington**  
**Terracon Project No. 81207336**  
all samples collected July 15, 2025  
all concentrations are in micrograms per cubic meter (µg/m<sup>3</sup>)

Chemical Name	TPH <sup>1</sup>						VOCs <sup>4</sup>					
	Method MA-APH <sup>2</sup>			Method TO-15 Modified <sup>3</sup>			Benzene	Toluene	Ethylbenzene		Total Xylenes†	Naphthalene
	APH EC5-8 Aliphatics	APH EC9-10 aromatics*	APH EC9-12 aliphatics	APH EC5-8 Aliphatics	APH EC9-10 aromatics*	APH EC9-12 aliphatics						
<b>2025 MTCA Method B Indoor Air Cancer Cleanup Level</b>	NA	NA	NA	NA	NA	NA	0.32	NA	NA		NA	0.074
<b>2025 MTCA Method B Indoor Air Noncancer Cleanup Level</b>	2740	182	46	2740	182	46	13.71	2,286	460		45.7	1.37
<b>Impacted Organ System<sup>5</sup></b>	NA	NA	NA	NA	NA	NA	Immune System	Urinary	Liver	Kidney	Other	Other
<b>Average Background</b>												
Average Concentrations	34.3	9.8	19	--	--	--	0.37	3	0.40		1.2	0.078
HQ (noncancer)	0.013	0.054	0.41	--	--	--	0.027	0.0013	0.00086		0.026	0.057
HI for Impacted Organ/System	NA	NA	NA	NA	NA	NA	0.027	0.0013	0.00086	0.00086	0.084	
ELCR	NA	NA	NA	NA	NA	NA	1.15E-06	NA	NA		NA	1.13E-06
AELCR							2.28E-06					
<b>IA1</b>												
Actual Detections	ND (< 75)	ND (< 25)	ND (< 25)	--	--	--	0.59	ND (<7.5)	0.47		1.64	0.13
Background Adjusted Concentration <sup>6</sup>	3.2	2.20	0+	--	--	--	0.13	0.75	0.074		0.43	0.052
HQ (noncancer)	0.0012	0.012	0+	--	--	--	0.0095	0.00033	0.00016		0.0094	0.038
HI for Impacted Organ/System	NA	NA	NA	NA	NA	NA	0.0095	0.00033	0.00016	0.00016	0.047	
ELCR	NA	NA	NA	NA	NA	NA	4.05E-07	NA	NA		NA	7.00E-07
AELCR							1.10E-06					
<b>IA2</b>												
Actual Detections	ND (< 75)	ND (< 25)	ND (< 25)	--	--	--	0.68	ND (<7.5)	ND (<0.43)		1.60	0.18
Background Adjusted Concentration <sup>6</sup>	3.2	2.31	0+	--	--	--	0.31	0.75	0+		0.40	0.102
HQ (noncancer)	0.0012	0.013	0+	--	--	--	0.023	0.00033	0+		0.0088	0.074
HI for Impacted Organ/System	NA	NA	NA	NA	NA	NA	0.023	0.00033	0+	0+	0.083	
ELCR	NA	NA	NA	NA	NA	NA	9.66E-07	NA	NA		NA	1.38E-06
AELCR							2.34E-06					
<b>IA3</b>												
Actual Detections	ND (< 75)	ND (< 25)	ND (< 25)	--	--	--	0.85	ND (<7.5)	0.49		2.30	0.13
Background Adjusted Concentration <sup>6</sup>	3.2	1.5	0+	--	--	--	0.48	0.75	0.094		1.10	0.052
HQ (noncancer)	0.0012	0.0083	0+	--	--	--	0.035	0.00033	0.00020		0.024	0.038
HI for Impacted Organ/System	NA	NA	NA	NA	NA	NA	0.035	0.00033	0.00020	0.00020	0.062	
ELCR	NA	NA	NA	NA	NA	NA	1.50E-06	NA	NA		NA	7.03E-07
AELCR							2.20E-06					
<b>IA4</b>												
Actual Detections	110	ND (< 22)	ND (< 22)	--	--	--	0.53	ND (<6.8)	0.39		1.80	0.11
Background Adjusted Concentration <sup>6</sup>	75.7	0.62	0+	--	--	--	0.16	0.4	0+		0.59	0.032
HQ (noncancer)	0.028	0.0034	0+	--	--	--	0.012	0.00017	0+		0.013	0.023
HI for Impacted Organ/System	NA	NA	NA	NA	NA	NA	0.012	0.00017	0+	0+	0.036	
ELCR	NA	NA	NA	NA	NA	NA	4.98E-07	NA	NA		NA	4.32E-07
AELCR							9.31E-07					
<b>IA5</b>												
Actual Detections	120	ND (< 23)	31	180	ND (< 23)	ND (< 23)	0.59	ND (<6.9)	ND (<0.4)		1.78	0.072
Background Adjusted Concentration <sup>6</sup>	85.7	1.14	12	180	10.93	11.5	0.22	0.45	0+		0.57	0+
HQ (noncancer)	0.031	0.0062	0.26	0.066	0.063	0.25	0.016	0.00020	0+		0.012	0+
HI for Impacted Organ/System	NA	NA	NA	NA	NA	NA	0.016	0.00020	0+	0+	0.012	
ELCR	NA	NA	NA	NA	NA	NA	6.85E-07	NA	NA		NA	0+
AELCR							6.85E-07					

Chemical Name	TPH <sup>1</sup>						VOCs <sup>4</sup>					
	Method MA-APH <sup>2</sup>			Method TO-15 Modified <sup>3</sup>			Benzene	Toluene	Ethylbenzene		Total Xylenes‡	Naphthalene
	APH EC5-8 Alphanatics	APH EC9-10 aromatics*	APH EC9-12 aliphatics	APH EC5-8 Alphanatics	APH EC9-10 aromatics*	APH EC9-12 aliphatics						
2025 MTCA Method B Indoor Air Cancer Cleanup Level	NA	NA	NA	NA	NA	NA	0.32	NA	NA		NA	0.074
2025 MTCA Method B Indoor Air Noncancer Cleanup Level	2740	182	46	2740	182	46	13.71	2,286	460		45.7	1.37
Impacted Organ System <sup>5</sup>	NA	NA	NA	NA	NA	NA	Immune System	Urinary	Liver	Kidney	Other	Other
IA6												
Actual Detections	150	ND (<20)	32	180	ND (< 20)	ND (< 20)	0.44	ND (<6.8)	ND (<0.36)		1.67	0.11
Background Adjusted Concentration <sup>6</sup>	116	0+	13	180	9.54	10	0.07	0.4	0+		0.46	0.032
HQ (noncancer)	0.042	0+	0.28	0.066	0.052	0.22	0.005	0.00017	0+		0.010	0.023
HI for Impacted Organ/System	NA	NA	NA	NA	NA	NA	0.005	0.0002	0+	0+	0.033	
ELCR	NA	NA	NA	NA	NA	NA	2.18E-07	NA	NA		NA	4.32E-07
AELCR							6.51E-07					

Notes: - Zero was used if a negative value was calculated when adjusting results for background.

*Italic* - A result was less than the laboratory detection limit; therefore, a value equal to half the detection limit was used.

  - Hazard quotient or hazard index greater than 1; ELCR greater than 1E-6; AELCR greater than 1E-5, adverse effects to humans are likely.

  - Hazard quotient or hazard index less than 1; ELCR less than 1E-6; AELCR less than 1E-5, adverse effects to humans are not likely.

TPH - Total petroleum hydrocarbons

1 - Determined by the sum of air-phase petroleum hydrocarbons (APHs) EC5-8 aliphatics, EC9-12 aliphatics, and EC9-10 aromatics.

2 - Analyzed through Method MA-APH

3 - Analyzed through Method TO-15 Modified. Air-phase petroleum hydrocarbon background concentrations were not subtracted from results because the results were reprocessed to remove nonpetrogenic compounds and because background results were not reprocessed using similar methods.

4 - VOCs and cVOCs analyzed through Method TO-15

5 - Noncancer Effects table within Cleanup Levels and Risk Calculation (CLARC; Ecology 2025b)

6 - Background adjusted concentration calculated by subtracting actual detections from average background concentration

AELCR - Additive excess lifetime cancer risk

ELCR - Excess lifetime cancer risk

HI - Hazard Index

HQ - Hazard Quotient

µg/m<sup>3</sup> Micrograms per cubic meter

VOCs - Volatile organic compounds

cVOCs - Chlorinated VOCs

MTCA - Model Toxics Control Act

ND - Not detected above laboratory reporting limit

NA - Not applicable

-- - Not analyzed

\* - Aromatics EC9-10 concentration calculated by subtracting total xylenes and ethylbenzene from laboratory provided concentration

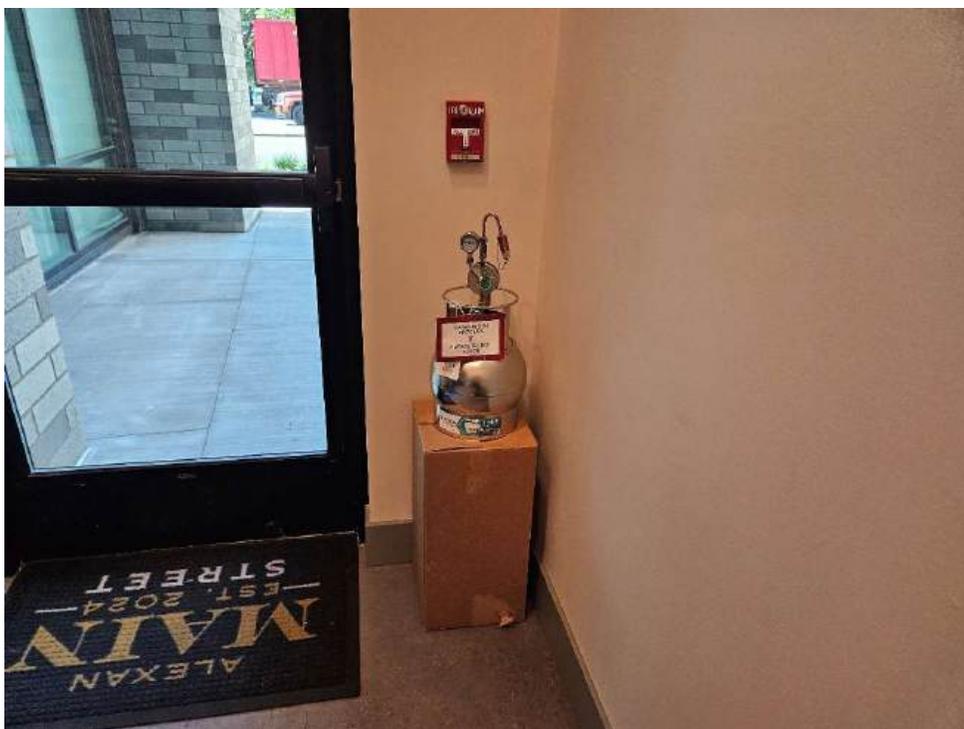
‡ - Combined m-, o-, and p-xylenes

0+ - When background subtracted from indoor air sample analyte concentration fell below zero.

**APPENDIX C**  
**PHOTO LOG**



**Photo 1** View of indoor air sample IA1



**Photo 2** View of indoor air sample IA2



**Photo 3** View of indoor air sample IA3



**Photo 4** View of indoor air sample IA4



**Photo 5** View of indoor air sample IA5



**Photo 6** View of indoor air sample IA6



**Photo 7** View of background air sample BA1



**Photo 8** View of background air sample BA2



**Photo 9** View of background air sample BA3



**Photo 10** View of background air sample BA4



**Photo 11** View of background air sample BA5

**APPENDIX D**  
**INDOOR AIR BUILDING SURVEY**

### Indoor Air Building Survey and Sample Form

Preparers Name: Chris Taber Date: 07/16/25  
Preparer's affiliation: Consultant Phone #: 425-361-0337  
Site Name: Alexan Bothell Lot D Project No.: 81207336

#### 1.0 Occupants

Building Address: 9911 Main Street, Bothell, WA  
Property Contact: Scott Bevan Owner/Renter/other: \_\_\_\_\_  
Contact Phone: \_\_\_\_\_

#### 2.0 Building Characteristics

Building type: mixed use commercial/residential  
Describe building: six-story apartment building with open-air parking garage, residential, and commercial tenant spaces on first floor  
Sensitive population: day care/nursing home/hospital/other (specify) N/A  
Number of floors below grade: \_\_\_\_\_ (full basement / crawlspace / slab-on-grade)  
Approx. depth of basement below grade surface: \_\_\_\_\_ ft.  
Basement floor construction and thickness: \_\_\_\_\_  
Foundation Walls: \_\_\_\_\_  
Basement sump present: (yes / no) Sump pump: (yes / no) Water in sump: (yes / no)  
Are the basement walls or floor sealed with waterproof paint or epoxy? (yes / no)  
Type of ground cover outside of building: grass / concrete / asphalt / other: \_\_\_\_\_  
Existing subsurface depressurization system in place? (yes / no) active / passive  
Sub-slab vapor/moisture barrier in place? (yes / no)  
Type of barrier: \_\_\_\_\_  
Type of heating system for the building: roof mounted HVAC

### 3.0 Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor and room), and whether the item was removed from the building 48 hours prior to indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the commencement of the indoor air sampling event.

Potential Sources	Location(s)	Removed (yes/no/NA)
Gasoline storage cans		
Gas-powered equipment		
Kerosene storage cans		
Moth balls		
Air fresheners		
Fuel tank (inside building)		
Wood stove or fireplace		
New furniture/upholstery		
New carpeting/flooring		
Hobbies – glues, paints, etc.		

**LIST OTHER IMPORTANT SOURCES IDENTIFIED**

Painting of baseboards	North residential hallway July 16, 2025	No, can't with sampling
Cleaning	Main lobby morning of July 16, 2025	No

#### 4.0 Miscellaneous Items

Do any occupants of the building smoke? (yes / no) How often? \_\_\_\_\_

Does the building have an attached garage directly connected to living space? (yes / no)

If so, is a car usually parked in the garage? (yes / no)

Are gas-powered equipment or cans of fuel stored in the garage? (yes / no)

Do the occupants of the building have their clothes dry cleaned? (yes / no)

If yes, how often? Weekly / monthly / 3-4 times a year

Do any of the occupants use solvents in work? (yes / no)

If yes, what types of solvents are used: \_\_\_\_\_

If yes, are their clothes washed at work? (yes / no)

Has painting or staining been done in the building in the last 6 months? (yes / no)

If yes, when today - 07/16/25 and where North residential hallway

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process: \_\_\_\_\_

#### 5.0 Sampling Information

Sampling Personnel: C. Taber & M. Hummer Phone: \_\_\_\_\_

Company: Terracon Consultants

Sample Source: Indoor Air / Sub-Slab / Exterior Soil Gas

Were "Instructions for Occupants" followed? (yes / no)

If not, describe modifications: \_\_\_\_\_

#### 6.0 Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event? (yes / no) \_\_\_\_\_

Describe the general weather conditions: wind from N to S, sunny

**APPENDIX E**  
**ANALYTICAL REPORTS**

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Elizabeth Webber-Bruya  
Ann Webber-Bruya  
Michael Erdahl  
Vineta Mills  
Eric Young

5500 4th Ave South  
Seattle, WA 98108-2419  
(206) 285-8282  
office@friedmanandbruya.com  
www.friedmanandbruya.com

July 30, 2025

Kyle Bennett, Project Manager  
Terracon  
Pacific Cascade Building  
21905 64<sup>th</sup> Ave W, Suite 100  
Mountlake Terrace, WA 98043

Dear Mr Bennett:

Included are the results from the testing of material submitted on July 16, 2025 from the Alexan Bothell 81207336 task 10, F&BI 507273 project. There are 46 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: Maddy Hummer, Chris Taber  
TRR0730R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on July 16, 2025 by Friedman & Bruya, Inc. from the Terracon Alexan Bothell 81207336 task 10, F&BI 507273 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Terracon</u>
507273 -01	IA1
507273 -02	IA2
507273 -03	IA3
507273 -04	IA4
507273 -05	IA5
507273 -06	IA6
507273 -07	BA1
507273 -08	BA2
507273 -09	BA3
507273 -10	BA4
507273 -11	BA5
507273 -12	Paint_White
507273 -13	Paint_Grey
507273 -14	VMP3
507273 -15	VMP5
507273 -16	VMP7
507273 -17	VMP8
507273 -18	VMP10
507273 -19	VMP11

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	IA1	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/15/25	Lab ID:	507273-01 1/1.0
Date Analyzed:	07/17/25	Data File:	071715.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration
	ug/m3

APH EC5-8 aliphatics	<75
APH EC9-12 aliphatics	<25
APH EC9-10 aromatics	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	IA2	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/15/25	Lab ID:	507273-02 1/1.0
Date Analyzed:	07/18/25	Data File:	071717.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration
	ug/m3

APH EC5-8 aliphatics	<75
APH EC9-12 aliphatics	<25
APH EC9-10 aromatics	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	IA3	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/15/25	Lab ID:	507273-03 1/1.0
Date Analyzed:	07/18/25	Data File:	071718.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration
	ug/m3

APH EC5-8 aliphatics	<75
APH EC9-12 aliphatics	<25
APH EC9-10 aromatics	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	IA4	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/15/25	Lab ID:	507273-04 1/0.90
Date Analyzed:	07/18/25	Data File:	071719.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration
	ug/m3

APH EC5-8 aliphatics	110
APH EC9-12 aliphatics	<22
APH EC9-10 aromatics	<22

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	IA5	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/15/25	Lab ID:	507273-05 1/0.91
Date Analyzed:	07/18/25	Data File:	071720.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration
	ug/m3

APH EC5-8 aliphatics	120
APH EC9-12 aliphatics	31
APH EC9-10 aromatics	<23

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID: IA6	Client: Terracon
Date Received: 07/16/25	Project: Alexan Bothell 81207336
Date Collected: 07/15/25	Lab ID: 507273-06 1/0.82
Date Analyzed: 07/18/25	Data File: 071721.D
Matrix: Air	Instrument: GCMS8
Units: ug/m3	Operator: bat

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

Compounds:	Concentration
	ug/m3

APH EC5-8 aliphatics	150
APH EC9-12 aliphatics	32
APH EC9-10 aromatics	<20

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	BA1	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/15/25	Lab ID:	507273-07 1/1.0
Date Analyzed:	07/18/25	Data File:	071722.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration
	ug/m3

APH EC5-8 aliphatics	<75
APH EC9-12 aliphatics	<25
APH EC9-10 aromatics	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	BA2	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/15/25	Lab ID:	507273-08 1/0.84
Date Analyzed:	07/18/25	Data File:	071723.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration
	ug/m3

APH EC5-8 aliphatics	<63
APH EC9-12 aliphatics	25
APH EC9-10 aromatics	<21

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	BA3	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/15/25	Lab ID:	507273-09 1/0.92
Date Analyzed:	07/18/25	Data File:	071724.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration
	ug/m3

APH EC5-8 aliphatics	<69
APH EC9-12 aliphatics	35
APH EC9-10 aromatics	<23

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	BA4	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/15/25	Lab ID:	507273-10 1/0.92
Date Analyzed:	07/18/25	Data File:	071725.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration
	ug/m3

APH EC5-8 aliphatics	<69
APH EC9-12 aliphatics	<23
APH EC9-10 aromatics	<23

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	BA5	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/15/25	Lab ID:	507273-11 1/0.90
Date Analyzed:	07/18/25	Data File:	071726.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration
	ug/m3

APH EC5-8 aliphatics	<67
APH EC9-12 aliphatics	<22
APH EC9-10 aromatics	<22

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	VMP3	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/16/25	Lab ID:	507273-14 1/5.9
Date Analyzed:	07/22/25	Data File:	072125.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration
	ug/m3

APH EC5-8 aliphatics	<440
APH EC9-12 aliphatics	<150
APH EC9-10 aromatics	<150

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	VMP5	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/16/25	Lab ID:	507273-15 1/18
Date Analyzed:	07/22/25	Data File:	072128.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration
	ug/m3

APH EC5-8 aliphatics	<1,300
APH EC9-12 aliphatics	<450
APH EC9-10 aromatics	<450

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	VMP7	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/16/25	Lab ID:	507273-16 1/18
Date Analyzed:	07/22/25	Data File:	072127.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration
	ug/m3

APH EC5-8 aliphatics	<1,300
APH EC9-12 aliphatics	<450
APH EC9-10 aromatics	<450

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	VMP8	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/16/25	Lab ID:	507273-17 1/6.1
Date Analyzed:	07/22/25	Data File:	072126.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration
	ug/m3

APH EC5-8 aliphatics	<460
APH EC9-12 aliphatics	500
APH EC9-10 aromatics	260

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	VMP10	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/16/25	Lab ID:	507273-18 1/170
Date Analyzed:	07/22/25	Data File:	072130.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration
	ug/m3

APH EC5-8 aliphatics	<13,000
APH EC9-12 aliphatics	<4,200
APH EC9-10 aromatics	<4,200

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	VMP11	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/16/25	Lab ID:	507273-19 1/130
Date Analyzed:	07/22/25	Data File:	072129.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration
	ug/m3

APH EC5-8 aliphatics	<9,700
APH EC9-12 aliphatics	<3,200
APH EC9-10 aromatics	<3,200

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Method Blank	Client:	Terracon
Date Received:	Not Applicable	Project:	Alexan Bothell 81207336
Date Collected:	Not Applicable	Lab ID:	05-1771 mb
Date Analyzed:	07/21/25	Data File:	072112.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration
	ug/m3

APH EC5-8 aliphatics	<75
APH EC9-12 aliphatics	<25
APH EC9-10 aromatics	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Method Blank	Client:	Terracon
Date Received:	Not Applicable	Project:	Alexan Bothell 81207336
Date Collected:	Not Applicable	Lab ID:	05-1693 mb
Date Analyzed:	07/17/25	Data File:	071711.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration
	ug/m3

APH EC5-8 aliphatics	<75
APH EC9-12 aliphatics	<25
APH EC9-10 aromatics	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	IA1	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/15/25	Lab ID:	507273-01 1/1.0
Date Analyzed:	07/17/25	Data File:	071715.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.13	<0.05
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	0.097	0.024
1,1,1-Trichloroethane	<0.55	<0.1
Benzene	0.50	0.16
Trichloroethene	<0.11	<0.02
Toluene	<7.5	<2
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1
Ethylbenzene	0.47	0.11
m,p-Xylene	1.2	0.27
o-Xylene	0.44	0.10
Naphthalene	0.13	0.024

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	IA2	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/15/25	Lab ID:	507273-02 1/1.0
Date Analyzed:	07/18/25	Data File:	071717.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.13	<0.05
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	<0.04	<0.01
1,1,1-Trichloroethane	<0.55	<0.1
Benzene	0.68	0.21
Trichloroethene	<0.11	<0.02
Toluene	<7.5	<2
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1
Ethylbenzene	<0.43	<0.1
m,p-Xylene	1.2	0.29
o-Xylene	0.44	0.10
Naphthalene	0.18	0.034

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	IA3	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/15/25	Lab ID:	507273-03 1/1.0
Date Analyzed:	07/18/25	Data File:	071718.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.13	<0.05
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	0.073	0.018
1,1,1-Trichloroethane	<0.55	<0.1
Benzene	0.85	0.27
Trichloroethene	<0.11	<0.02
Toluene	<7.5	<2
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1
Ethylbenzene	0.49	0.11
m,p-Xylene	1.7	0.38
o-Xylene	0.58	0.13
Naphthalene	0.13	0.025

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	IA4	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/15/25	Lab ID:	507273-04 1/0.90
Date Analyzed:	07/18/25	Data File:	071719.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.12	<0.045
Chloroethane	<2.4	<0.9
1,1-Dichloroethene	<0.36	<0.09
trans-1,2-Dichloroethene	<0.36	<0.09
1,1-Dichloroethane	<0.36	<0.09
cis-1,2-Dichloroethene	<0.36	<0.09
1,2-Dichloroethane (EDC)	0.20	0.049
1,1,1-Trichloroethane	<0.49	<0.09
Benzene	0.53	0.16
Trichloroethene	<0.097	<0.018
Toluene	<6.8	<1.8
1,1,2-Trichloroethane	<0.049	<0.009
Tetrachloroethene	<6.1	<0.9
Ethylbenzene	0.39	0.090
m,p-Xylene	1.3	0.29
o-Xylene	0.50	0.11
Naphthalene	0.11	0.021

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	IA5	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/15/25	Lab ID:	507273-05 1/0.91
Date Analyzed:	07/18/25	Data File:	071720.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.12	<0.045
Chloroethane	<2.4	<0.91
1,1-Dichloroethene	<0.36	<0.091
trans-1,2-Dichloroethene	<0.36	<0.091
1,1-Dichloroethane	<0.37	<0.091
cis-1,2-Dichloroethene	<0.36	<0.091
1,2-Dichloroethane (EDC)	0.20	0.048
1,1,1-Trichloroethane	<0.5	<0.091
Benzene	0.59	0.18
Trichloroethene	<0.098	<0.018
Toluene	<6.9	<1.8
1,1,2-Trichloroethane	<0.05	<0.0091
Tetrachloroethene	<6.2	<0.91
Ethylbenzene	<0.4	<0.091
m,p-Xylene	1.3	0.29
o-Xylene	0.48	0.11
Naphthalene	0.072 j	0.014 j

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	IA6	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/15/25	Lab ID:	507273-06 1/0.82
Date Analyzed:	07/18/25	Data File:	071721.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.1	<0.041
Chloroethane	<2.2	<0.82
1,1-Dichloroethene	<0.33	<0.082
trans-1,2-Dichloroethene	<0.33	<0.082
1,1-Dichloroethane	<0.33	<0.082
cis-1,2-Dichloroethene	<0.33	<0.082
1,2-Dichloroethane (EDC)	0.20	0.049
1,1,1-Trichloroethane	<0.45	<0.082
Benzene	0.44	0.14
Trichloroethene	<0.088	<0.016
Toluene	<6.2	<1.6
1,1,2-Trichloroethane	<0.045	<0.0082
Tetrachloroethene	<5.6	<0.82
Ethylbenzene	<0.36	<0.082
m,p-Xylene	1.2	0.27
o-Xylene	0.47	0.11
Naphthalene	0.11	0.021

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	BA1	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/15/25	Lab ID:	507273-07 1/1.0
Date Analyzed:	07/18/25	Data File:	071722.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.13	<0.05
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	0.065	0.016
1,1,1-Trichloroethane	<0.55	<0.1
Benzene	0.34	0.11
Trichloroethene	<0.11	<0.02
Toluene	<7.5	<2
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Naphthalene	<0.073 j	<0.014 j

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	BA2	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/15/25	Lab ID:	507273-08 1/0.84
Date Analyzed:	07/18/25	Data File:	071723.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.11	<0.042
Chloroethane	<2.2	<0.84
1,1-Dichloroethene	<0.33	<0.084
trans-1,2-Dichloroethene	<0.33	<0.084
1,1-Dichloroethane	<0.34	<0.084
cis-1,2-Dichloroethene	<0.33	<0.084
1,2-Dichloroethane (EDC)	0.061	0.015
1,1,1-Trichloroethane	<0.46	<0.084
Benzene	0.37	0.12
Trichloroethene	<0.09	<0.017
Toluene	<6.3	<1.7
1,1,2-Trichloroethane	<0.046	<0.0084
Tetrachloroethene	<5.7	<0.84
Ethylbenzene	<0.36	<0.084
m,p-Xylene	<0.73	<0.17
o-Xylene	<0.36	<0.084
Naphthalene	0.097	0.018

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	BA3	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/15/25	Lab ID:	507273-09 1/0.92
Date Analyzed:	07/18/25	Data File:	071724.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.12	<0.046
Chloroethane	<2.4	<0.92
1,1-Dichloroethene	<0.36	<0.092
trans-1,2-Dichloroethene	<0.36	<0.092
1,1-Dichloroethane	<0.37	<0.092
cis-1,2-Dichloroethene	<0.36	<0.092
1,2-Dichloroethane (EDC)	0.060	0.015
1,1,1-Trichloroethane	<0.5	<0.092
Benzene	0.34	0.11
Trichloroethene	<0.099	<0.018
Toluene	<6.9	<1.8
1,1,2-Trichloroethane	<0.05	<0.0092
Tetrachloroethene	<6.2	<0.92
Ethylbenzene	<0.4	<0.092
m,p-Xylene	<0.8	<0.18
o-Xylene	<0.4	<0.092
Naphthalene	0.068 j	0.013 j

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	BA4	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/15/25	Lab ID:	507273-10 1/0.92
Date Analyzed:	07/18/25	Data File:	071725.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.12	<0.046
Chloroethane	<2.4	<0.92
1,1-Dichloroethene	<0.36	<0.092
trans-1,2-Dichloroethene	<0.36	<0.092
1,1-Dichloroethane	<0.37	<0.092
cis-1,2-Dichloroethene	<0.36	<0.092
1,2-Dichloroethane (EDC)	0.060	0.015
1,1,1-Trichloroethane	<0.5	<0.092
Benzene	0.35	0.11
Trichloroethene	<0.099	<0.018
Toluene	<6.9	<1.8
1,1,2-Trichloroethane	<0.05	<0.0092
Tetrachloroethene	<6.2	<0.92
Ethylbenzene	<0.4	<0.092
m,p-Xylene	<0.8	<0.18
o-Xylene	<0.4	<0.092
Naphthalene	<0.068 j	<0.013 j

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	BA5	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/15/25	Lab ID:	507273-11 1/0.90
Date Analyzed:	07/18/25	Data File:	071726.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.12	<0.045
Chloroethane	<2.4	<0.9
1,1-Dichloroethene	<0.36	<0.09
trans-1,2-Dichloroethene	<0.36	<0.09
1,1-Dichloroethane	<0.36	<0.09
cis-1,2-Dichloroethene	<0.36	<0.09
1,2-Dichloroethane (EDC)	0.066	0.016
1,1,1-Trichloroethane	<0.49	<0.09
Benzene	0.45	0.14
Trichloroethene	<0.097	<0.018
Toluene	<6.8	<1.8
1,1,2-Trichloroethane	<0.049	<0.009
Tetrachloroethene	<6.1	<0.9
Ethylbenzene	<0.39	<0.09
m,p-Xylene	0.87	0.20
o-Xylene	<0.39	<0.09
Naphthalene	0.085 j	0.016 j

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ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	VMP3	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/16/25	Lab ID:	507273-14 1/5.9
Date Analyzed:	07/22/25	Data File:	072125.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.75	<0.29
Chloroethane	<16	<5.9
2-Propanol	<51	<21
1,1-Dichloroethene	<2.3	<0.59
trans-1,2-Dichloroethene	<2.3	<0.59
1,1-Dichloroethane	<2.4	<0.59
cis-1,2-Dichloroethene	<2.3	<0.59
1,2-Dichloroethane (EDC)	<0.24	<0.059
1,1,1-Trichloroethane	<3.2	<0.59
Benzene	<1.9	<0.59
Trichloroethene	5.5	1.0
Toluene	<44	<12
1,1,2-Trichloroethane	<0.32	<0.059
Tetrachloroethene	110	17
Ethylbenzene	<2.6	<0.59
m,p-Xylene	<5.1	<1.2
o-Xylene	<2.6	<0.59
Naphthalene	<1.5	<0.29

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	VMP5	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/16/25	Lab ID:	507273-15 1/18
Date Analyzed:	07/22/25	Data File:	072128.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<2.3	<0.9
Chloroethane	<47	<18
2-Propanol	<150	<63
1,1-Dichloroethene	<7.1	<1.8
trans-1,2-Dichloroethene	<7.1	<1.8
1,1-Dichloroethane	<7.3	<1.8
cis-1,2-Dichloroethene	<7.1	<1.8
1,2-Dichloroethane (EDC)	<0.73	<0.18
1,1,1-Trichloroethane	<9.8	<1.8
Benzene	<5.8	<1.8
Trichloroethene	<1.9	<0.36
Toluene	<140	<36
1,1,2-Trichloroethane	<0.98	<0.18
Tetrachloroethene	<120	<18
Ethylbenzene	<7.8	<1.8
m,p-Xylene	<16	<3.6
o-Xylene	<7.8	<1.8
Naphthalene	1.8 j	0.33 j

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	VMP7	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/16/25	Lab ID:	507273-16 1/18
Date Analyzed:	07/22/25	Data File:	072127.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<2.3	<0.9
Chloroethane	<47	<18
2-Propanol	<150	<63
1,1-Dichloroethene	<7.1	<1.8
trans-1,2-Dichloroethene	<7.1	<1.8
1,1-Dichloroethane	<7.3	<1.8
cis-1,2-Dichloroethene	<7.1	<1.8
1,2-Dichloroethane (EDC)	<0.73	<0.18
1,1,1-Trichloroethane	<9.8	<1.8
Benzene	<5.8	<1.8
Trichloroethene	<1.9	<0.36
Toluene	<140	<36
1,1,2-Trichloroethane	<0.98	<0.18
Tetrachloroethene	<120	<18
Ethylbenzene	<7.8	<1.8
m,p-Xylene	<16	<3.6
o-Xylene	9.6	2.2
Naphthalene	<1.4 j	<0.26 j

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	VMP8	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/16/25	Lab ID:	507273-17 1/6.1
Date Analyzed:	07/22/25	Data File:	072126.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.78	<0.3
Chloroethane	<16	<6.1
2-Propanol	<52	<21
1,1-Dichloroethene	<2.4	<0.61
trans-1,2-Dichloroethene	<2.4	<0.61
1,1-Dichloroethane	<2.5	<0.61
cis-1,2-Dichloroethene	<2.4	<0.61
1,2-Dichloroethane (EDC)	<0.25	<0.061
1,1,1-Trichloroethane	3.9	0.71
Benzene	<1.9	<0.61
Trichloroethene	<0.66	<0.12
Toluene	<46	<12
1,1,2-Trichloroethane	<0.33	<0.061
Tetrachloroethene	<41	<6.1
Ethylbenzene	3.8	0.88
m,p-Xylene	15	3.5
o-Xylene	7.5	1.7
Naphthalene	1.9	0.35

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	VMP10	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/16/25	Lab ID:	507273-18 1/170
Date Analyzed:	07/22/25	Data File:	072130.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<22	<8.5
Chloroethane	<450	<170
2-Propanol	<1,500	<590
1,1-Dichloroethene	<67	<17
trans-1,2-Dichloroethene	<67	<17
1,1-Dichloroethane	<69	<17
cis-1,2-Dichloroethene	<67	<17
1,2-Dichloroethane (EDC)	<6.9	<1.7
1,1,1-Trichloroethane	<93	<17
Benzene	<54	<17
Trichloroethene	<18	<3.4
Toluene	<1,300	<340
1,1,2-Trichloroethane	<9.3	<1.7
Tetrachloroethene	<1,200	<170
Ethylbenzene	<74	<17
m,p-Xylene	<150	<34
o-Xylene	<74	<17
Naphthalene	<45	<8.5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	VMP11	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336
Date Collected:	07/16/25	Lab ID:	507273-19 1/130
Date Analyzed:	07/22/25	Data File:	072129.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<17	<6.5
Chloroethane	<340	<130
2-Propanol	<1,100	<450
1,1-Dichloroethene	<52	<13
trans-1,2-Dichloroethene	<52	<13
1,1-Dichloroethane	<53	<13
cis-1,2-Dichloroethene	<52	<13
1,2-Dichloroethane (EDC)	<5.3	<1.3
1,1,1-Trichloroethane	<71	<13
Benzene	<42	<13
Trichloroethene	<14	<2.6
Toluene	<980	<260
1,1,2-Trichloroethane	<7.1	<1.3
Tetrachloroethene	<880	<130
Ethylbenzene	<56	<13
m,p-Xylene	<110	<26
o-Xylene	<56	<13
Naphthalene	<34	<6.5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Terracon
Date Received:	Not Applicable	Project:	Alexan Bothell 81207336
Date Collected:	Not Applicable	Lab ID:	05-1693 mb
Date Analyzed:	07/17/25	Data File:	071711.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.13	<0.05
Chloroethane	<2.6	<1
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	<0.04	<0.01
1,1,1-Trichloroethane	<0.55	<0.1
Benzene	<0.32	<0.1
Trichloroethene	<0.11	<0.02
Toluene	<7.5	<2
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Naphthalene	<0.073 j	<0.014 j

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Terracon
Date Received:	Not Applicable	Project:	Alexan Bothell 81207336
Date Collected:	Not Applicable	Lab ID:	05-1771 mb
Date Analyzed:	07/21/25	Data File:	072112.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.13	<0.05
Chloroethane	<2.6	<1
2-Propanol	<8.6	<3.5
1,1-Dichloroethene	<0.4	<0.1
trans-1,2-Dichloroethene	<0.4	<0.1
1,1-Dichloroethane	<0.4	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
1,2-Dichloroethane (EDC)	<0.04	<0.01
1,1,1-Trichloroethane	<0.55	<0.1
Benzene	<0.32	<0.1
Trichloroethene	<0.11	<0.02
Toluene	<7.5	<2
1,1,2-Trichloroethane	<0.055	<0.01
Tetrachloroethene	<6.8	<1
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Naphthalene	<0.073 j	<0.014 j

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/30/25

Date Received: 07/16/25

Project: Alexan Bothell 81207336 task 10, F&BI 507273

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

Laboratory Code: 507319-01 1/5.5 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
APH EC5-8 aliphatics	ug/m3	<410	<410	nm
APH EC9-12 aliphatics	ug/m3	590	560	5
APH EC9-10 aromatics	ug/m3	<140	<140	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
APH EC5-8 aliphatics	ug/m3	67	95	70-130
APH EC9-12 aliphatics	ug/m3	67	106	70-130
APH EC9-10 aromatics	ug/m3	67	88	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/30/25

Date Received: 07/16/25

Project: Alexan Bothell 81207336 task 10, F&BI 507273

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

Laboratory Code: 507273-01 1/1.0 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
APH EC5-8 aliphatics	ug/m3	<75	<75	nm
APH EC9-12 aliphatics	ug/m3	<25	<25	nm
APH EC9-10 aromatics	ug/m3	<25	<25	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
APH EC5-8 aliphatics	ug/m3	67	97	70-130
APH EC9-12 aliphatics	ug/m3	67	113	70-130
APH EC9-10 aromatics	ug/m3	67	91	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/30/25

Date Received: 07/16/25

Project: Alexan Bothell 81207336 task 10, F&BI 507273

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

Laboratory Code: 507273-01 1/1.0 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 25)
Vinyl chloride	ug/m3	<0.13	<0.13	nm
Chloroethane	ug/m3	<2.6	<2.6	nm
1,1-Dichloroethene	ug/m3	<0.4	<0.4	nm
trans-1,2-Dichloroethene	ug/m3	<0.4	<0.4	nm
1,1-Dichloroethane	ug/m3	<0.4	<0.4	nm
cis-1,2-Dichloroethene	ug/m3	<0.4	<0.4	nm
1,2-Dichloroethane (EDC)	ug/m3	0.097	0.11	13
1,1,1-Trichloroethane	ug/m3	<0.55	<0.55	nm
Benzene	ug/m3	0.50	0.48	4
Trichloroethene	ug/m3	<0.11	<0.11	nm
Toluene	ug/m3	<7.5	<7.5	nm
1,1,2-Trichloroethane	ug/m3	<0.055	<0.055	nm
Tetrachloroethene	ug/m3	<6.8	<6.8	nm
Ethylbenzene	ug/m3	0.47	0.48	2
m,p-Xylene	ug/m3	1.2	1.2	0
o-Xylene	ug/m3	0.44	0.45	2
Naphthalene	ug/m3	0.13	0.13	0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/30/25

Date Received: 07/16/25

Project: Alexan Bothell 81207336 task 10, F&BI 507273

**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	Acceptance
			Recovery LCS	Criteria
Vinyl chloride	ug/m3	35	116	70-130
Chloroethane	ug/m3	36	118	70-130
1,1-Dichloroethene	ug/m3	54	116	70-130
trans-1,2-Dichloroethene	ug/m3	54	116	70-130
1,1-Dichloroethane	ug/m3	55	123	70-130
cis-1,2-Dichloroethene	ug/m3	54	115	70-130
1,2-Dichloroethane (EDC)	ug/m3	55	121	70-130
1,1,1-Trichloroethane	ug/m3	74	118	70-130
Benzene	ug/m3	43	115	70-130
Trichloroethene	ug/m3	73	112	70-130
Toluene	ug/m3	51	112	70-130
1,1,2-Trichloroethane	ug/m3	74	119	70-130
Tetrachloroethene	ug/m3	92	114	70-130
Ethylbenzene	ug/m3	59	117	70-130
m,p-Xylene	ug/m3	120	118	70-130
o-Xylene	ug/m3	59	124	70-130
Naphthalene	ug/m3	71	108	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/30/25

Date Received: 07/16/25

Project: Alexan Bothell 81207336 task 10, F&BI 507273

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

Laboratory Code: 507319-01 1/5.5 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 25)
Vinyl chloride	ug/m3	<0.7	<0.7	nm
Chloroethane	ug/m3	<15	<15	nm
2-Propanol	ug/m3	<47	<47	nm
1,1-Dichloroethene	ug/m3	<2.2	<2.2	nm
trans-1,2-Dichloroethene	ug/m3	<2.2	<2.2	nm
1,1-Dichloroethane	ug/m3	<2.2	<2.2	nm
cis-1,2-Dichloroethene	ug/m3	<2.2	<2.2	nm
1,2-Dichloroethane (EDC)	ug/m3	<0.22	<0.22	nm
1,1,1-Trichloroethane	ug/m3	<3	<3	nm
Benzene	ug/m3	<1.8	<1.8	nm
Trichloroethene	ug/m3	3.3	3.1	6
Toluene	ug/m3	<41	<41	nm
1,1,2-Trichloroethane	ug/m3	<0.3	<0.3	nm
Tetrachloroethene	ug/m3	<37	<37	nm
Ethylbenzene	ug/m3	<2.4	<2.4	nm
m,p-Xylene	ug/m3	5.0	5.1	2
o-Xylene	ug/m3	<2.4	<2.4	nm
Naphthalene	ug/m3	1.5	1.5	0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/30/25

Date Received: 07/16/25

Project: Alexan Bothell 81207336 task 10, F&BI 507273

**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	Acceptance
			Recovery LCS	Criteria
Vinyl chloride	ug/m3	35	117	70-130
Chloroethane	ug/m3	36	114	70-130
2-Propanol	ug/m3	33	122	70-130
1,1-Dichloroethene	ug/m3	54	113	70-130
trans-1,2-Dichloroethene	ug/m3	54	113	70-130
1,1-Dichloroethane	ug/m3	55	118	70-130
cis-1,2-Dichloroethene	ug/m3	54	111	70-130
1,2-Dichloroethane (EDC)	ug/m3	55	114	70-130
1,1,1-Trichloroethane	ug/m3	74	113	70-130
Benzene	ug/m3	43	110	70-130
Trichloroethene	ug/m3	73	109	70-130
Toluene	ug/m3	51	106	70-130
1,1,2-Trichloroethane	ug/m3	74	113	70-130
Tetrachloroethene	ug/m3	92	109	70-130
Ethylbenzene	ug/m3	59	113	70-130
m,p-Xylene	ug/m3	120	114	70-130
o-Xylene	ug/m3	59	120	70-130
Naphthalene	ug/m3	71	107	70-130

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### Data Qualifiers & Definitions

- a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.
- c - The presence of the analyte may be due to carryover from previous sample injections.
- cf - The sample was centrifuged prior to analysis.
- d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.
- dv - Insufficient sample volume was available to achieve normal reporting limits.
- f - The sample was laboratory filtered prior to analysis.
- fb - The analyte was detected in the method blank.
- fc - The analyte is a common laboratory and field contaminant.
- hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.
- hs - Headspace was present in the container used for analysis.
- ht - The analysis was performed outside the method or client-specified holding time requirement.
- ip - Recovery fell outside of control limits due to sample matrix effects.
- j - The analyte concentration is reported between the method detection limit and the lowest calibration point. The value reported is an estimate.
- J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.
- js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- k - The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.
- lc - The presence of the analyte is likely due to laboratory contamination.
- L - The reported concentration was generated from a library search.
- nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.
- ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.
- vo - The value reported fell outside the control limits established for this analyte.
- x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

507273

SAMPLE CHAIN OF CUSTODY

07-16-25

c2

Report To Kyle Bennett

Company FORVORN

Address 21905 49th Ave W STE 106

City, State, ZIP MURVU HILLS TERRACE WA 98148

Phone 253-7133014 Email kyle.bennett@forvorn.com

Page # 1 of 2

TURNAROUND TIME

Standard  
 RUSH

Rush charges authorized by: \_\_\_\_\_

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

PROJECT NAME & ADDRESS  
Alexon Bethell  
812073316  
Task ID  
FORVORN

NOTES:  
IC CWS FEVER  
d. Maddy Hummer

SAMPLE INFORMATION

Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	TO15 Full Scan	TO15 BTEXN	APH	Chlorinated VOCs	Helium	Notes
IA1	01	23224	07847	IA / SG	7/15-7/16	28	946	10	828	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
IA2	02	37203	07886	IA / SG		30	949	7	806	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
IA3	03	37211	06604	IA / SG		29	952	7	831	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
IA4	04	40704	15211	IA / SG		30	955	4	833	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
IA5	05	18578	20442	IA / SG		30	954	4.5	834	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
IA6	06	20544	05350	IA / SG		29	1002	2	837	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
BIA1	07	37224	07851	IA / SG		30	932	7	813	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
BIA2	08	40707	20745	IA / SG		31	933	2	815	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		

ANALYSIS REQUESTED

Friedman & Bruya, Inc.

5500 4th Avenue South

Seattle, WA 98108

Ph. (206) 285-8282

Fax (206) 283-5044

FORMS\OOC\COGTO-15.DOC

SIGNATURE		PRINT NAME		COMPANY		DATE	TIME
Reinquished by: <u>[Signature]</u>	<u>[Signature]</u>	John's [Signature]	TORACON	7/16	8:23		
Received by: <u>[Signature]</u>	<u>[Signature]</u>	VINH	FORVORN	7-16-25	1423		
Reinquished by:							
Received by:							

Samples received at 20°C

507273

SAMPLE CHAIN OF CUSTODY

07-16-05

Page # 2 of 3

Report To TEVNACON CONSULTANTS

Company \_\_\_\_\_

Address \_\_\_\_\_

City, State, ZIP \_\_\_\_\_

Phone \_\_\_\_\_ Email kyle.yewett@tevnacn.com

SAMPLERS (signature) Chris Taber  
PROJECT NAME & ADDRESS \_\_\_\_\_

PO # 81207386

NOTES:  
cc chug taber +  
Maddy Hirsinger

TURNAROUND TIME  
 Standard  
 RUSH  
Rush charges authorized by: \_\_\_\_\_  
SAMPLE DISPOSAL  
Default: Clean following  
final report delivery  
Hold (Fee may apply): \_\_\_\_\_

SAMPLE INFORMATION

ANALYSIS REQUESTED

Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	TO15 Full Scan	TO15 BTEXN	APH	Chlorinated VOCs	Helium	Notes
BAA3	09	40707	06601	IA / SG	7/15-7/16	30	136	4	812	X	X	X	X	Hold	
BAA4	10	37224	07850	IA / SG	↓	32	938	6	818	X	X	X	X		
BAA5	11	40702	07846	IA / SG	↓	31	1007	2	838	X	X	X	X		
<del>Paint - white</del>	<del>12</del>	<del>_____</del>	<del>_____</del>	<del>IA / SG</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>
<del>Paint - Grey</del>	<del>13</del>	<del>_____</del>	<del>_____</del>	<del>IA / SG</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>

Added at lab  
7/17/05  
or  
Submit on hold

Friedman & Bryna, Inc.

5500 4th Avenue South

Seattle, WA 98108

Ph. (206) 285-8282

Fax (206) 283-5044

FORMS\COG\COCTO-15.DOC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>Chris Taber</u>	Chris Taber	TEVNACON	7/16	14:23
<u>VINTH</u>	VINTH	FBI	7-16-05	14:23
Received by:				
Relinquished by:				
Received by:				

Samples received at 26 °C

3 °C

507273

SAMPLE CHAIN OF CUSTODY

07-16-25 c2

Report To: Kyle Bennett

Company: TENVACON

Address: 21905 46th Ave W Ste 100

City, State, ZIP: Mountlake Terrace, WA 98047

Phone: 425-741-3304 Email: kyle.bennett@tenvacon.com

SAMPLE INFORMATION

SAMPLES (signature)

PROJECT NAME & ADDRESS

Alexen Botwell

PO #

81207336

NOTES: cc inлады, inunen of civis tubes

INVOICE TO

TENVACON

Page # 3 of 3

TURNAROUND TIME

Standard

RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

Default: Clean following

Final report delivery

Hold (Fee may apply):

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	ANALYSIS REQUESTED					Notes	
										TO15 Full Scan	TO15 BTEXN	APH	Chlorinated VOCs	Helium		
VMP2				IA / SG	7/16											
VMP3	14	3312	21	IA / SG	7/16	29	1130	6	1135		X	X	X	X		AD=0.3
VMP5	15	0984	774	IA / SG		28.5	1139	6	1143		X	X	X	X		AD=6.6
VMP7	16	3252	304	IA / SG		29	1140	6	1151		X	X	X	X		AD=6.0
VMP8	17	3669	242	IA / SG		27	914	6	918		X	X	X	X		AD=3.1
VMP10	18	3664	05	IA / SG		30	1047	6	1051		X	X	X	X		AD=5.206, 137
VMP11	19	0983	02	IA / SG		30	0944	6	0948		X	X	X	X		AD=48.9

SIGNATURE

Relinquished by:

[Signature]

PRINT NAME

CHRIS TOBEL

COMPANY

TOROLON

DATE

7/18 14:23

Received by:

[Signature]

PRINT NAME

VINTH

COMPANY

FBI

TIME

7-16-25 1423

Received by:

Samples received at 260C

Friedman & Bruya, Inc.

5500 4th Avenue South

Seattle, WA 98108

Ph. (206) 285-8282

Fax (206) 283-5044

FORMS\COC\COCCTO-15.DOC

**SAMPLE CONDITION UPON RECEIPT CHECKLIST**

PROJECT # 507273 CLIENT TRR INITIALS/DATE: (M) 7-16-25

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

Cooler/Sample temperature paint received on ice temperature at 3°C 26°C  
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs?  YES  NO

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

Is there a Chain-of-Custody\* (COC)?  YES  NO Initials/Date: (NP) 7/17  
\*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory 0 days

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

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

Were appropriate sample containers used?  YES  NO  Unknown

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

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

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

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

Other comments (use a separate page if needed)

- a) Received canister S/N 3412, label VMP 2 crossed out COC.
- b) Added 1 bag of paint Gray to COC.

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

Number of unused TO15 canisters\*\* 1 Number of unused TO17 tubes \_\_\_\_\_  
\*\*Fill out Green manifolds billing sheet S/N 2299

**APPENDIX F**  
**SUPPORTING DOCUMENTATION**

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Elizabeth Webber-Bruya  
Ann Webber-Bruya  
Michael Erdahl  
Vineta Mills  
Eric Young

5500 4th Ave South  
Seattle, WA 98108-2419  
(206) 285-8282  
office@friedmanandbruya.com  
www.friedmanandbruya.com

August 27, 2025

Kyle Bennett, Project Manager  
Terracon  
Pacific Cascade Building  
21905 64<sup>th</sup> Ave W, Suite 100  
Mountlake Terrace, WA 98043

Dear Mr Bennett:

Included are the additional results from the testing of material submitted on July 16, 2025 from the Alexan Bothell 81207336 task 10, F&BI 507273 project. There are 9 pages included in this report.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
c: Maddy Hummer, Chris Taber  
TRR0827R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on July 16, 2024 by Friedman & Bruya, Inc. from the Terracon Alexan Bothell 81207336 task 10, F&BI 507273 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Terracon</u>
507273 -01	IA1
507273 -02	IA2
507273 -03	IA3
507273 -04	IA4
507273 -05	IA5
507273 -06	IA6
507273 -07	BA1
507273 -08	BA2
507273 -09	BA3
507273 -10	BA4
507273 -11	BA5
507273 -12	Paint_White
507273 -13	Paint_Grey
507273 -14	VMP3
507273 -15	VMP5
507273 -16	VMP7
507273 -17	VMP8
507273 -18	VMP10
507273 -19	VMP11

Per request, the data associated with the air phase hydrocarbon (APH) concentrations reported for samples IA5 and IA6 were reviewed for possible high bias. F&B quantified compounds with a peak area greater than 0.1% of the relevant internal standard and qualitatively evaluated each compound. Peaks which did not qualitatively identify as petrogenic were excluded from the calculations, and peaks which did identify as petrogenic were included in the APH calculation.

Qualitative evaluation of non-APH compounds to be excluded was performed based on mass spectra. In cases where mass spectral libraries were unavailable, such as silicon interferences, identification was performed using the expected isotopic abundance of ionized silicon species. Low levels of other compounds, with area counts between 0.1% and 5% of the nearest internal standard, were also present. Because they could not be qualitatively identified, they were also excluded from the final APH calculations.

Both data sets are included in this report. The reprocessed APH ranges are reported by method TO-15 modified.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15 Modified

Client Sample ID:	IA5	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336 task 10
Date Collected:	07/15/25	Lab ID:	507273-05 1/0.91
Date Analyzed:	07/18/25	Data File:	071720.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	180
APH EC9-12 aliphatics	<23
APH EC9-10 aromatics	<23

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15 Modified

Client Sample ID:	IA6	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336 task 10
Date Collected:	07/15/25	Lab ID:	507273-06 1/0.82
Date Analyzed:	07/18/25	Data File:	071721.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3
APH EC5-8 aliphatics	180
APH EC9-12 aliphatics	<20
APH EC9-10 aromatics	<20

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method TO-15 Modified

Client Sample ID:	Method Blank	Client:	Terracon
Date Received:	Not Applicable	Project:	Alexan Bothell 81207336 task 10
Date Collected:	07/17/25	Lab ID:	05-1693 mb
Date Analyzed:	07/17/25	Data File:	071711.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	IA5	Client:	Terracon
Date Received:	07/16/25	Project:	Alexan Bothell 81207336 task 10
Date Collected:	07/15/25	Lab ID:	507273-05 1/0.91
Date Analyzed:	07/18/25	Data File:	071720.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration
	ug/m3

APH EC5-8 aliphatics	120
APH EC9-12 aliphatics	31
APH EC9-10 aromatics	<23

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID: IA6	Client:	Terracon
Date Received: 07/16/25	Project:	Alexan Bothell 81207336 task 10
Date Collected: 07/15/25	Lab ID:	507273-06 1/0.82
Date Analyzed: 07/18/25	Data File:	071721.D
Matrix: Air	Instrument:	GCMS8
Units: ug/m3	Operator:	bat

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

Compounds:	Concentration
	ug/m3

APH EC5-8 aliphatics	150
APH EC9-12 aliphatics	32
APH EC9-10 aromatics	<20

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By Method MA-APH

Client Sample ID:	Method Blank	Client:	Terracon
Date Received:	Not Applicable	Project:	Alexan Bothell 81207336 task 10
Date Collected:	07/17/25	Lab ID:	05-1693 mb
Date Analyzed:	07/17/25	Data File:	071711.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration
	ug/m3

APH EC5-8 aliphatics	<75
APH EC9-12 aliphatics	<25
APH EC9-10 aromatics	<25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/27/25

Date Received: 07/16/25

Project: Alexan Bothell 81207336 task 10, F&BI 507273

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

Laboratory Code: 507273-01 1/1.0 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
APH EC5-8 aliphatics	ug/m3	<75	<75	nm
APH EC9-12 aliphatics	ug/m3	<25	<25	nm
APH EC9-10 aromatics	ug/m3	<25	<25	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
APH EC5-8 aliphatics	ug/m3	67	97	70-130
APH EC9-12 aliphatics	ug/m3	67	113	70-130
APH EC9-10 aromatics	ug/m3	67	91	70-130

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

- a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.
- c - The presence of the analyte may be due to carryover from previous sample injections.
- cf - The sample was centrifuged prior to analysis.
- d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.
- dv - Insufficient sample volume was available to achieve normal reporting limits.
- f - The sample was laboratory filtered prior to analysis.
- fb - The analyte was detected in the method blank.
- fc - The analyte is a common laboratory and field contaminant.
- hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.
- hs - Headspace was present in the container used for analysis.
- ht - The analysis was performed outside the method or client-specified holding time requirement.
- ip - Recovery fell outside of control limits due to sample matrix effects.
- j - The analyte concentration is reported between the method detection limit and the lowest calibration point. The value reported is an estimate.
- J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.
- js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- k - The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.
- lc - The presence of the analyte is likely due to laboratory contamination.
- L - The reported concentration was generated from a library search.
- nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.
- ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.
- vo - The value reported fell outside the control limits established for this analyte.
- x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

507273

SAMPLE CHAIN OF CUSTODY

07-16-25 c2

Report To Kyle Bennett

Company Fenvecon

Address 21905 66th Ave W Ste 100

City, State, ZIP MDYMN-Take Terrace WA 98107

Phone 253-43304 Email Kyle.Bennett@fenvecon.com

SAMPLERS (signature) *[Signature]*

PROJECT NAME & ADDRESS

Alexon Bethell

PO #

81207386

NOTES:  
IC CWS tested  
4 missing Humses

INVOICE TO TASK ID  
FENVECON

Page # 1 of 2  
TURNAROUND TIME

Rush charges authorized by:  Standard  RUSH

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

SAMPLE INFORMATION

Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. (uHg)	Field Initial Time	Final Vac. (uHg)	Field Final Time	ANALYSIS REQUESTED				Notes	
										TO15 Full Scan	TO15 BTEXN	APH	Chlorinated VOCs		Helium
1A1	01	2322A	07847	A / SG	7/15-7/16	28	946	10	928	X	X	X	X		
1A2	02	37203	67886	A / SG		30	949	7	806	X	X	X	X		
1A3	03	37211	06004	B / SG		29	952	7	831	X	X	X	X		
1A4	04	40704	15211	A / SG		30	955	4	833	X	X	X	X		
1A5	05	18578	20442	A / SG		30	954	4.5	838	X	X	X	X		⊗-repurcess
1A6	06	20544	05350	A / SG		29	1002	2	837	X	X	X	X		
BPA1	07	37228	02851	A / SG		30	932	7	813	X	X	X	X		per KB
BPA2	08	40707	20124	A / SG		31	933	2	815	X	X	X	X		per KB

Friedman & Bruya, Inc.

5500 4th Avenue South

Seattle, WA 98108

Ph. (206) 285-8282

Fax (206) 283-5044

FORMS\COO\COCTO-15.DOC

SIGNATURE		PRINT NAME		COMPANY		DATE		TIME	
Relinquished by: <i>[Signature]</i>		Chris Tolbo		Fenvecon		7/16		14:23	
Received by: <i>[Signature]</i>		VINH		EBI		7-16-25		14:23	
Relinquished by:									
Received by:				Samples received at		20°C			

507273

SAMPLE CHAIN OF CUSTODY

07-16-05

Page # 2 of 3

Report To: TERRACON CONSULTANTS

Company: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, ZIP: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: Kyle.Kennett@TERRACON.COM

SAMPLERS (signature) *Chris Taber*

PO #

PROJECT NAME & ADDRESS  
Alexon Butwell

81207336  
Task ID

NOTES:  
cc chug taber +  
maddy thorne

INVOICE TO  
cc

TURNAROUND TIME  
 Standard  
 RUSH  
Rush charges authorized by: \_\_\_\_\_

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

SAMPLE INFORMATION

ANALYSIS REQUESTED

Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	TO15 Full Scan	TO15 BTEXN	APH	Chlorinated VOCs	Helium	Notes
BAT3	09	40707	06601	IA / SG	7/15-7/16	30	932	4	812	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Hold	
BIA4	10	37224	07850	IA / SG	↓	32	938	6	818	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
BIA5	11	40702	07846	IA / SG	↓	31	1007	2	838	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<del>Paint - white</del>	<del>12</del>	<del>_____</del>	<del>_____</del>	<del>IA / SG</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>
<del>Paint - Grey</del>	<del>13</del>	<del>_____</del>	<del>_____</del>	<del>IA / SG</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>	<del>_____</del>

Added at lab  
7/17/05

Submit on hold

SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

Relinquished by: <i>[Signature]</i>	Chris Taber	TERRACON	7/16	14:23
Received by: <i>[Signature]</i>	VINTH	FBI	7-16-05	14:23
Relinquished by: _____	_____	_____	_____	_____
Received by: _____	_____	_____	_____	_____

Samples received at 26 °C

3.0

Friedman & Bruya, Inc.

5500 4th Avenue South

Seattle, WA 98108

Ph. (206) 285-8282

Fax (206) 283-5044

FORMS\COO\COCTO-15.DOC

507273

SAMPLE CHAIN OF CUSTODY

07-16-25 c2

Report To: Kyle Bennett

Company: TENVACON

Address: 21905 64th Ave W Ste 100

City, State, ZIP: Mountlake Terrace, WA 98047

Phone: 425-741-3304 Email: Kyle.Bennett@Tenvacon.com

SAMPLE # 507273  
PROJECT NAME & ADDRESS  
Alexon Bethell

PO #

INVOICE TO  
81209336

TASK ID  
TENVACON

Page # 3 of 3  
TURNOUROUND TIME

Standard  
 RUSH  
Rush charges authorized by:

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

SAMPLE INFORMATION

Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. (Hg)	Field Initial Time	Final Vac. (Hg)	Field Final Time	TO15 Full Scan	TO15 BTEXN	APH	Chlorinated VOCs	Helium	Notes
VMP2				IA / <u>SG</u>	7/16					X	X	X	X	X	
VMP3	4	3312	21	IA / <u>SG</u>	7/16	29	1130	6	1135	X	X	X	X	X	PD=0.3
VMP5	15	9984	724	IA / <u>SG</u>		28.5	1139	6	1143	X	X	X	X	X	PD=6.6
VMP7	16	3252	304	IA / <u>SG</u>		29	1146	6	1151	X	X	X	X	X	PD=6.0
VMP8	17	3664	242	IA / <u>SG</u>		27	914	6	918	X	X	X	X	X	PD=3.1
VMP10	18	3664	05	IA / <u>SG</u>		30	1047	6	1051	X	X	X	X	X	PD=5.06, 1.37, 1.37
VMP11	19	9983	62	IA / <u>SG</u>		30	944	6	948	X	X	X	X	X	PD=46.9

ANALYSIS REQUESTED

Friedman & Bryna, Inc.  
5500 4th Avenue South  
Seattle, WA 98108  
Ph. (206) 285-8282  
Fax (206) 283-5044  
FORMS GOC-GOCTO-15.DOC

SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

Relinquished by: [Signature]

Received by: Chris Tobel

Torcalon

7/18

14:23

Relinquished by: [Signature]

VINTA

FBI

7-16-25

14:23

Received by:

Samples received at 260C

**SAMPLE CONDITION UPON RECEIPT CHECKLIST**

PROJECT # 507273 CLIENT TRR INITIALS/ DATE: (M) 7-16-25

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

Cooler/Sample temperature Paint received on ice temperature at 3°C 26°C  
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs?  YES  NO

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

Is there a Chain-of-Custody\* (COC)?  YES  NO Initials/ Date: (NP) 7/17  
\*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory 0 days

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

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

Were appropriate sample containers used?  YES  NO  Unknown

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

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

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

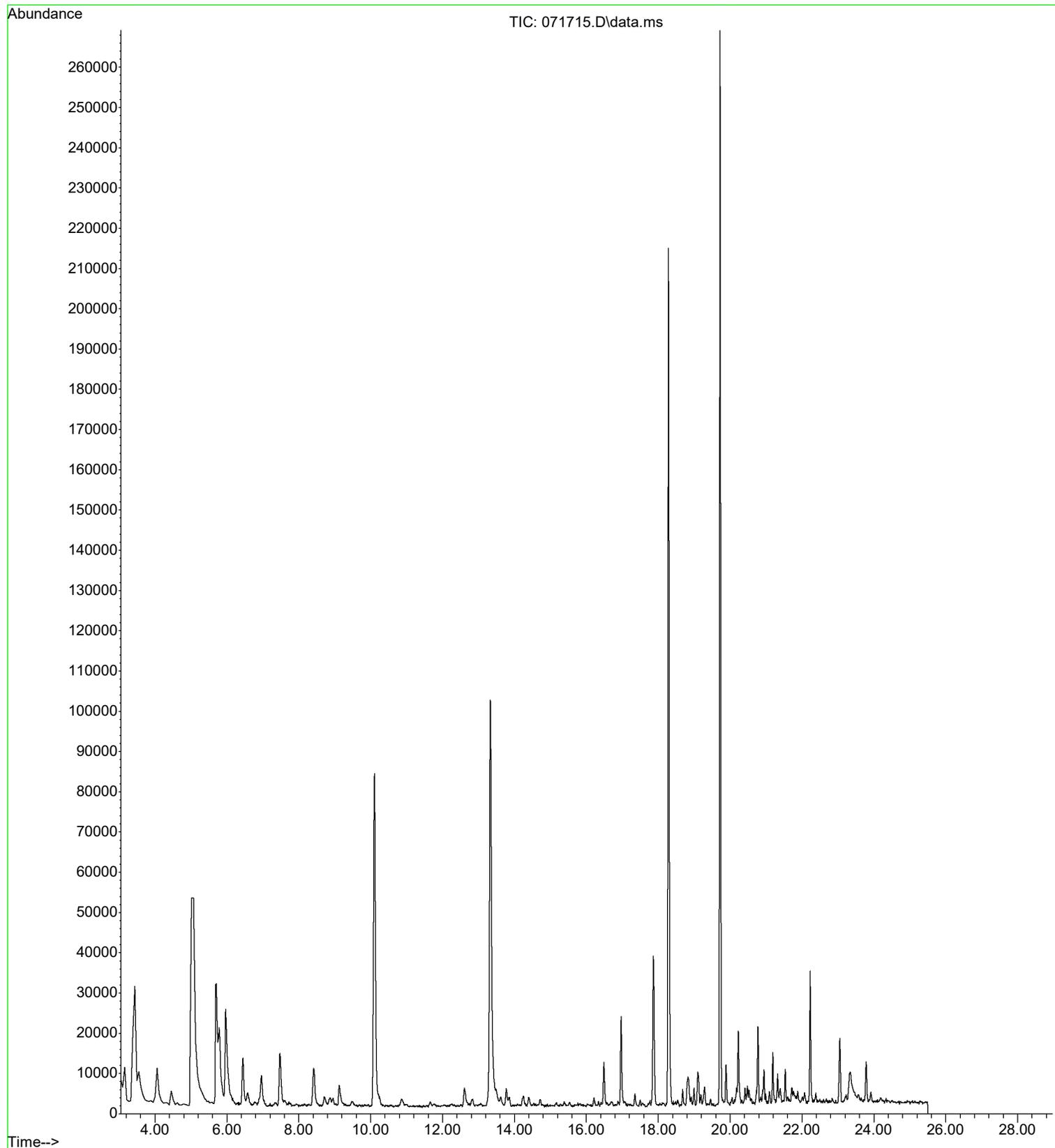
- Sample ID's  Yes  No \_\_\_\_\_  Not on COC/label
- Date Sampled  Yes  No \_\_\_\_\_  Not on COC/label
- Time Sampled  Yes  No \_\_\_\_\_  Not on COC/label
- # of Containers  Yes  No \_\_\_\_\_
- Relinquished  Yes  No \_\_\_\_\_
- Requested analysis  Yes  On Hold \_\_\_\_\_

Other comments (use a separate page if needed)  
 a) Received canister S/N 3412, label VMP 2 crossed out COC.  
 b) Added 1 bag of paint Gray to COC.  
 c) \_\_\_\_\_

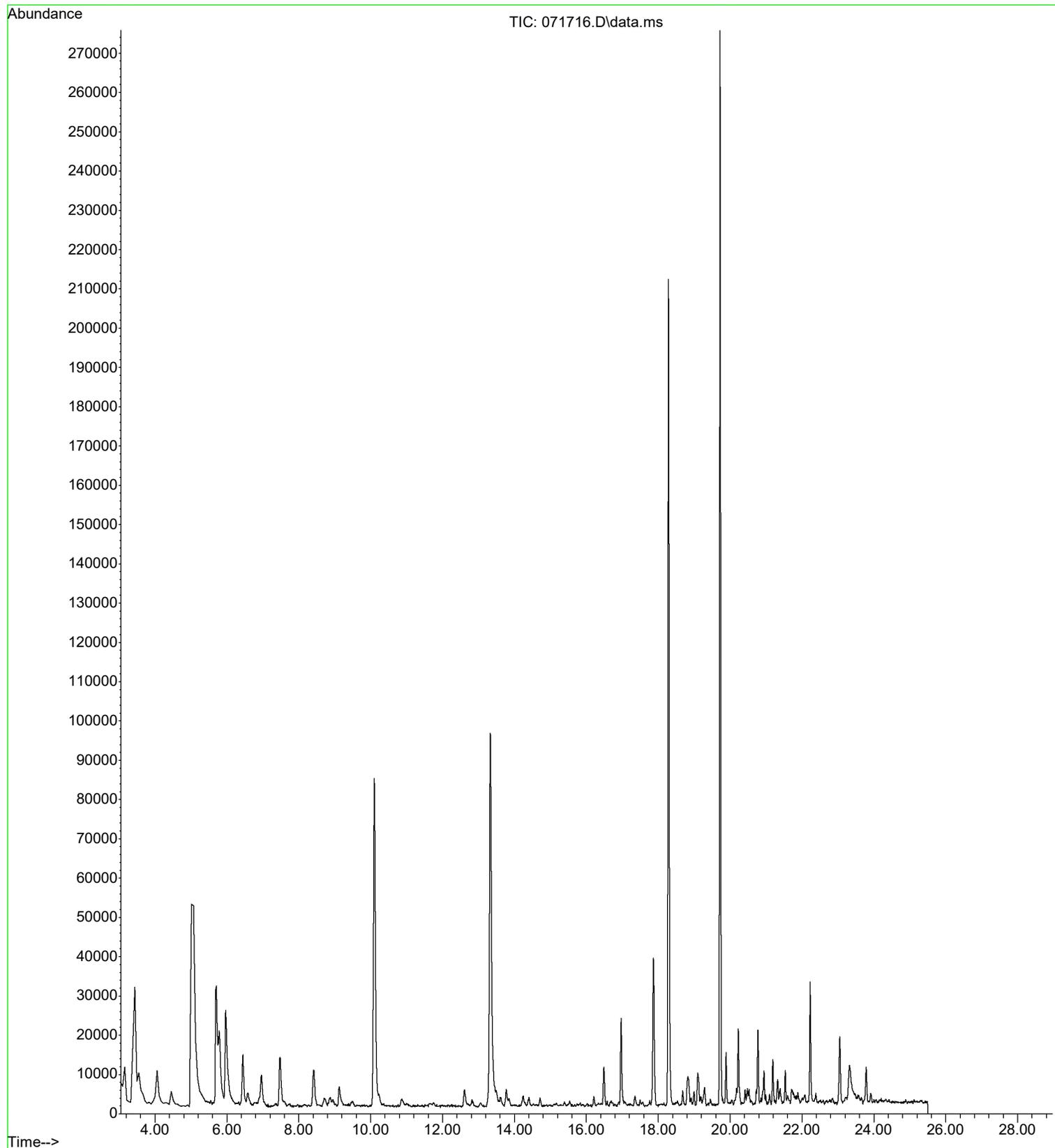
Air Samples: Were any additional canisters/tubes received?  NA  YES  NO

Number of unused TO15 canisters\*\* 1 Number of unused TO17 tubes \_\_\_\_\_  
 \*\*Fill out Green manifolds billing sheet S/N 2299

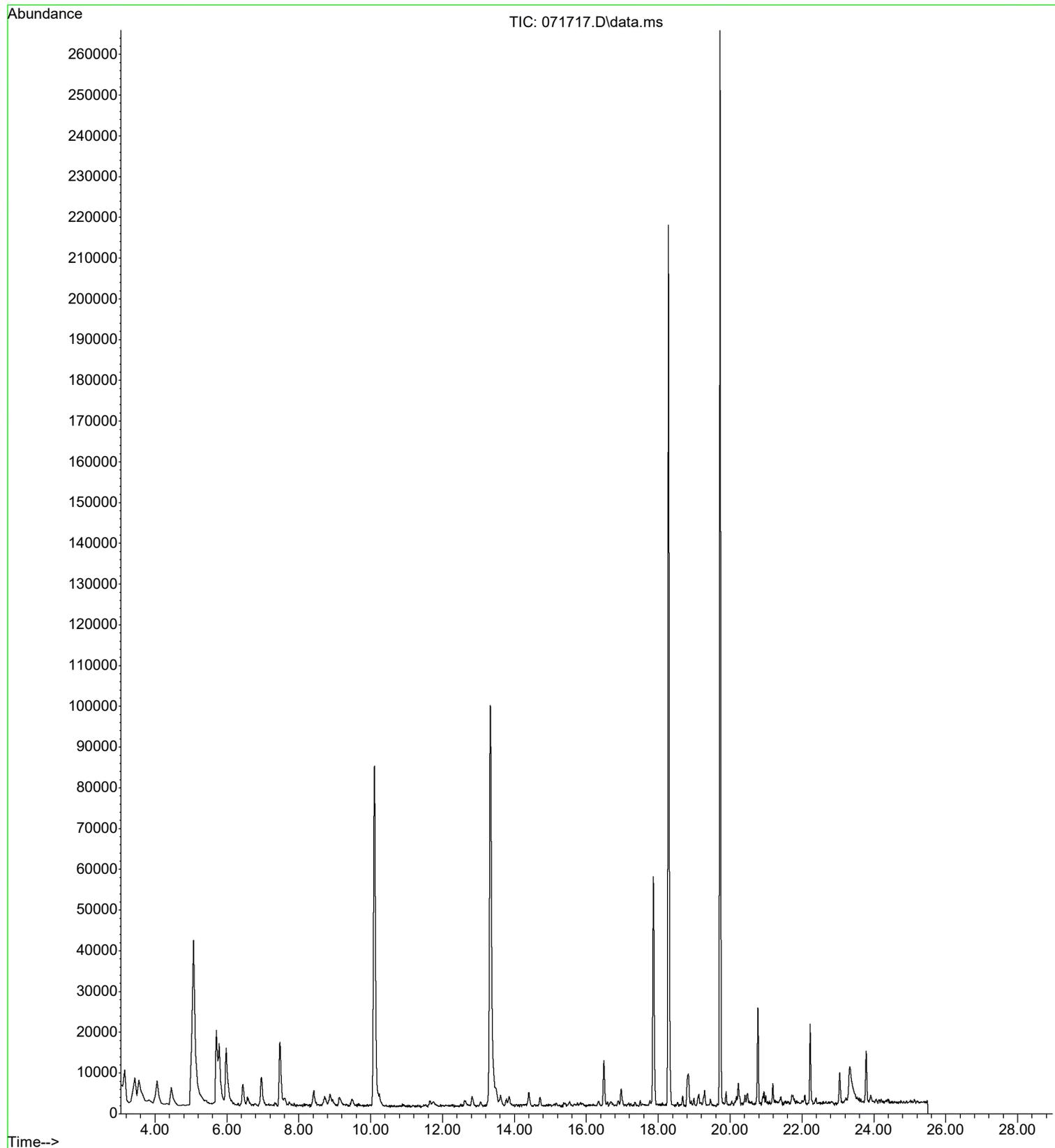
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Operator : bat  
Acquired : 17 Jul 2025 11:12 pm using AcqMethod T015NA.M  
Instrument : GCMS8  
Sample Name: 507273-01 1/1.0  
Misc Info : T5  
Vial Number: 15



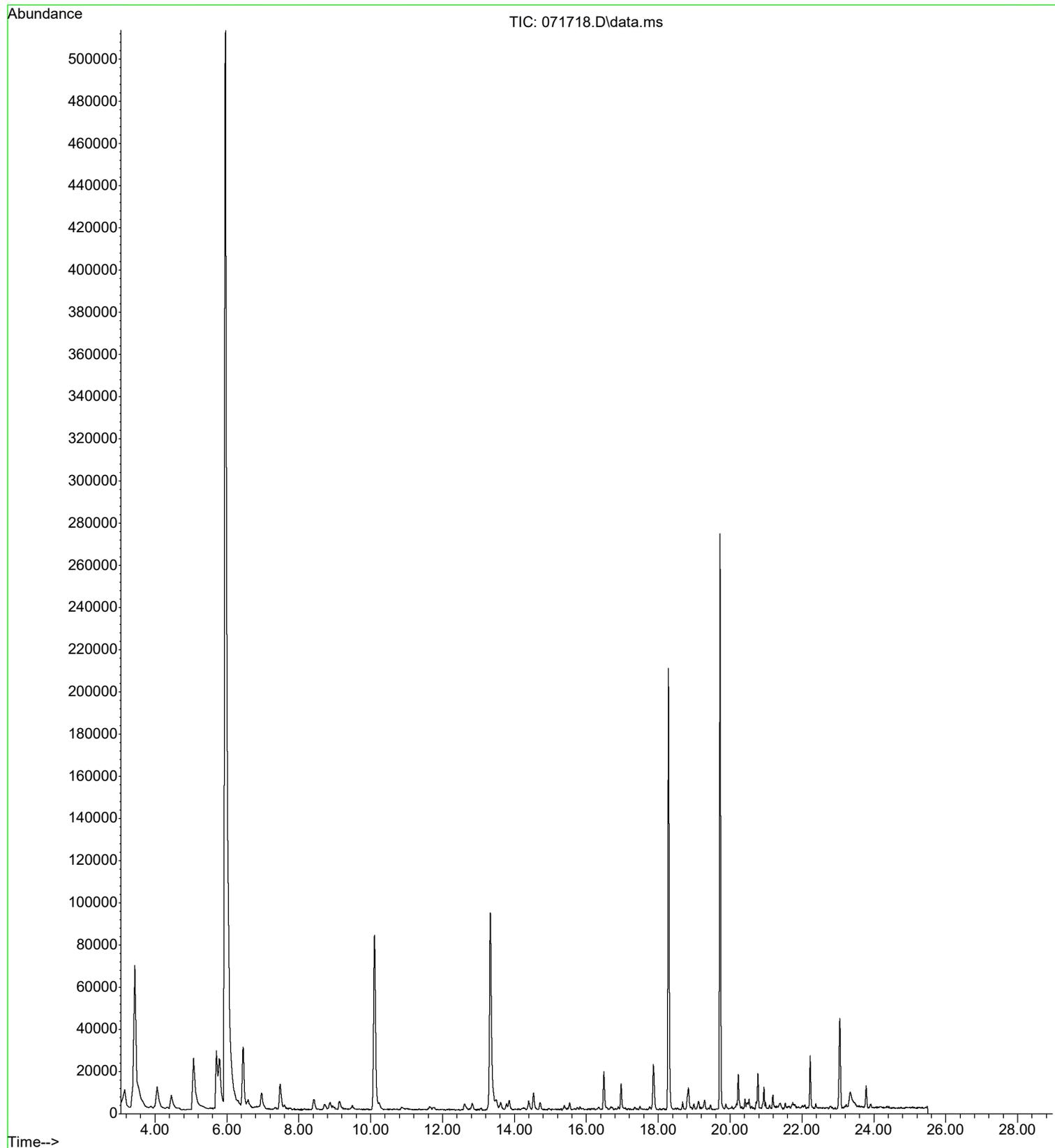
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Operator : bat  
Acquired : 18 Jul 2025 12:07 am using AcqMethod T015NA.M  
Instrument : GCMS8  
Sample Name: 507273-01 dup 1/1.0  
Misc Info : T5  
Vial Number: 16



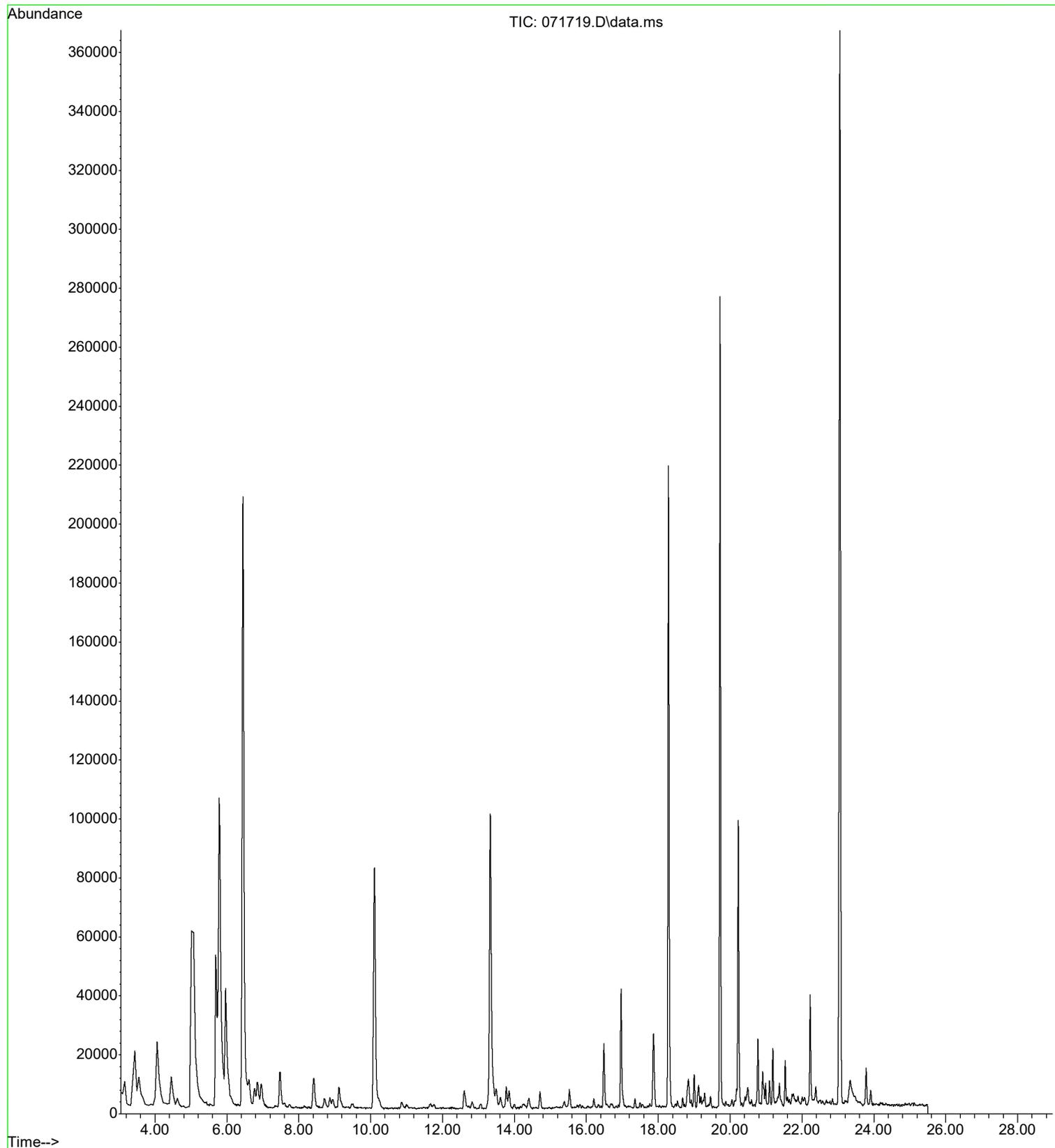
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Instrument : GCMS8  
Sample Name: 507273-02 1/1.0  
Misc Info : T6  
Vial Number: 17



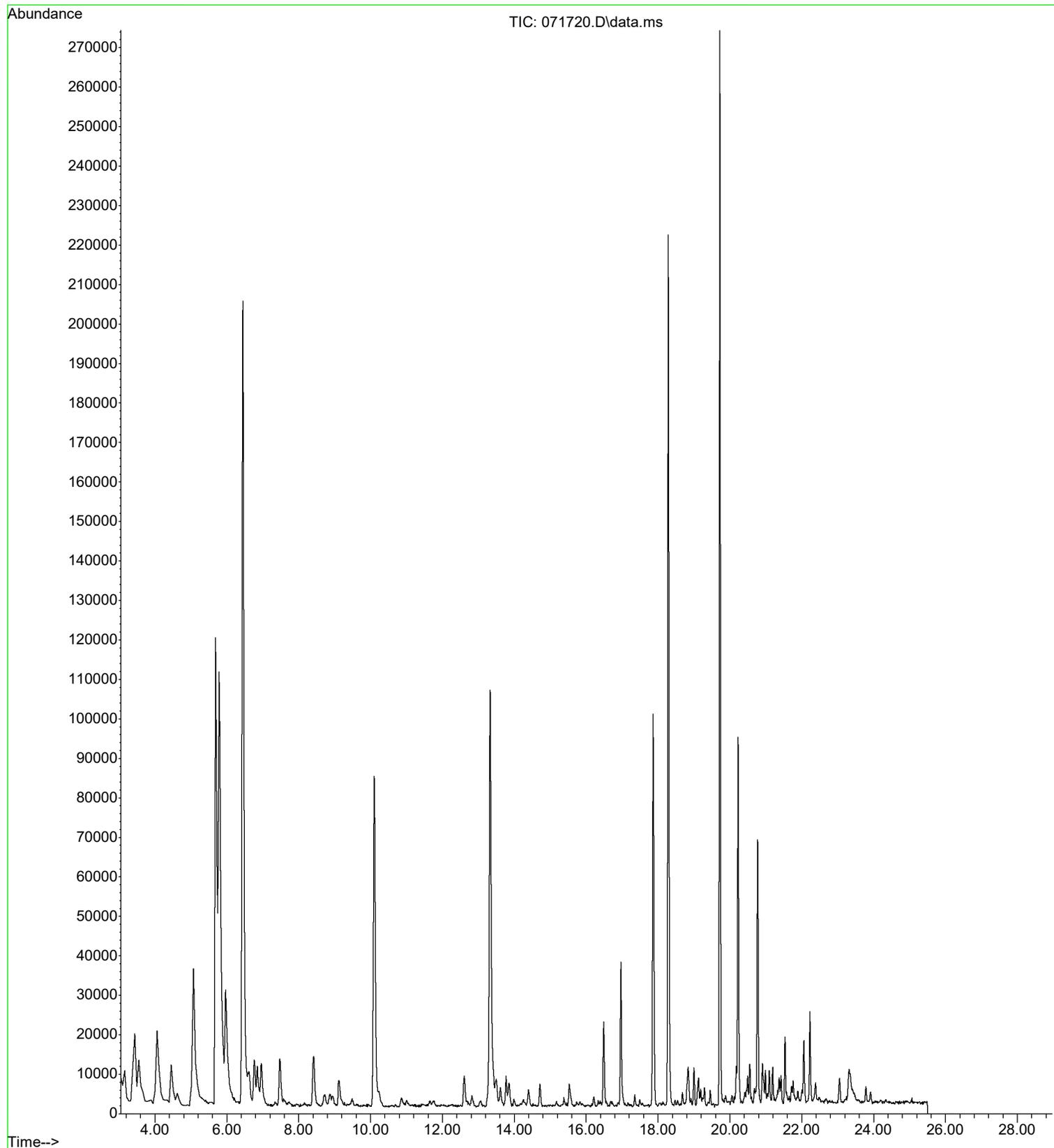
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Operator : bat  
Acquired : 18 Jul 2025 1:57 am using AcqMethod T015NA.M  
Instrument : GCMS8  
Sample Name: 507273-03 1/1.0  
Misc Info : T7  
Vial Number: 18



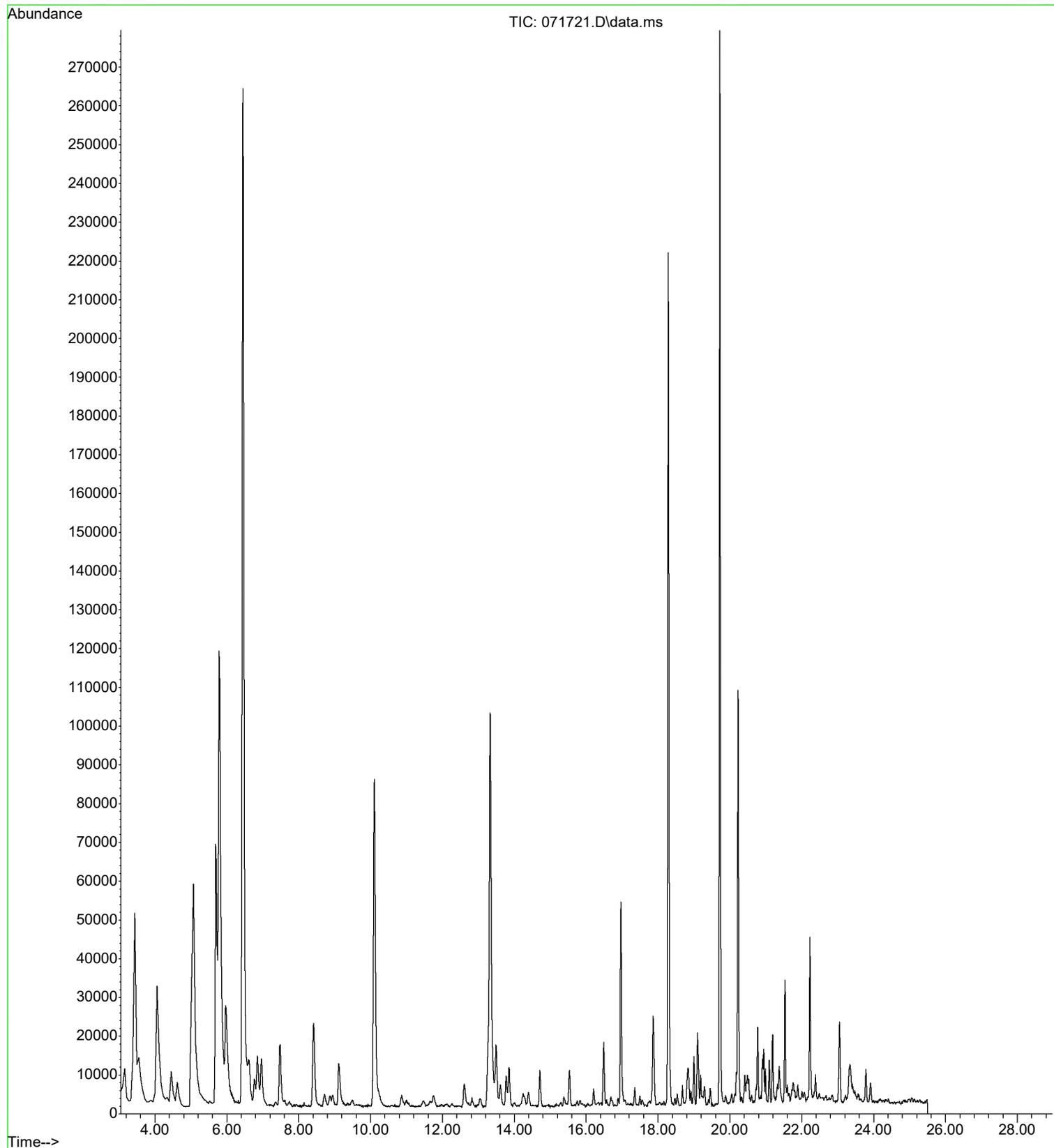
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Operator : bat  
Acquired : 18 Jul 2025 2:52 am using AcqMethod T015NA.M  
Instrument : GCMS8  
Sample Name: 507273-04 1/0.90  
Misc Info : T8  
Vial Number: 19



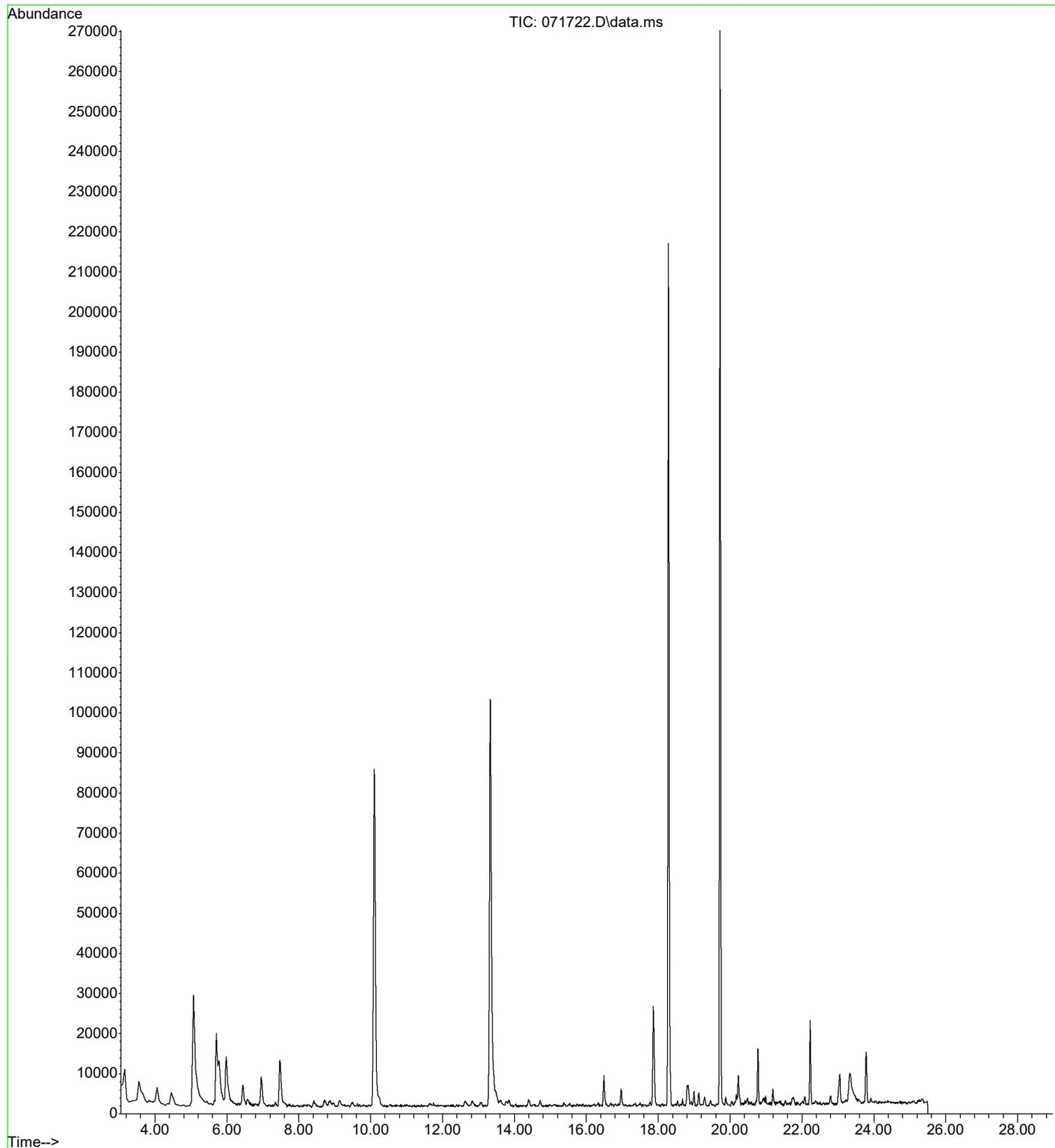
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Operator : bat  
Acquired : 18 Jul 2025 3:46 am using AcqMethod T015NA.M  
Instrument : GCMS8  
Sample Name: 507273-05 1/0.91  
Misc Info : T9  
Vial Number: 20



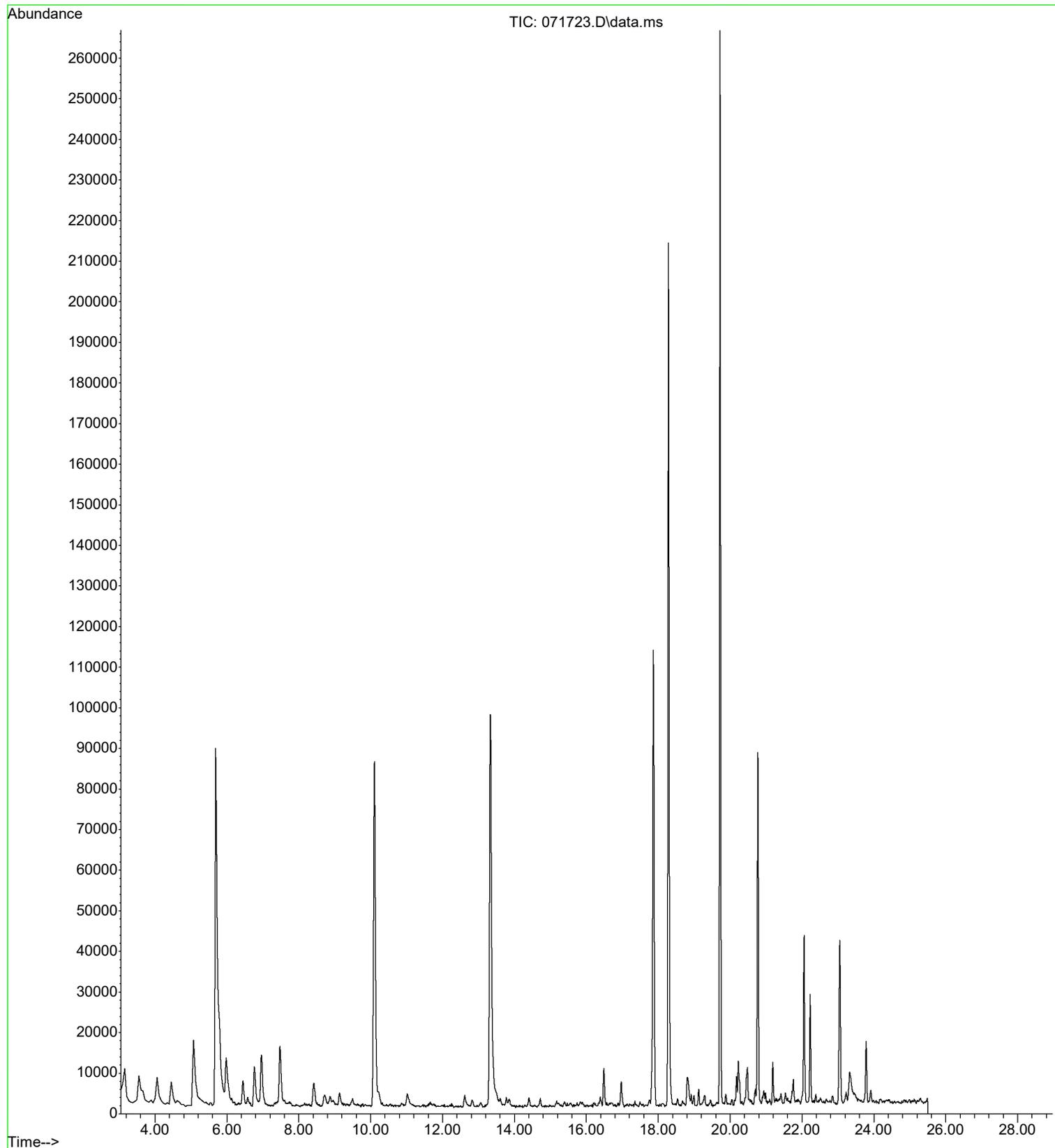
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Operator : bat  
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Instrument : GCMS8  
Sample Name: 507273-06 1/0.82  
Misc Info : T10  
Vial Number: 21



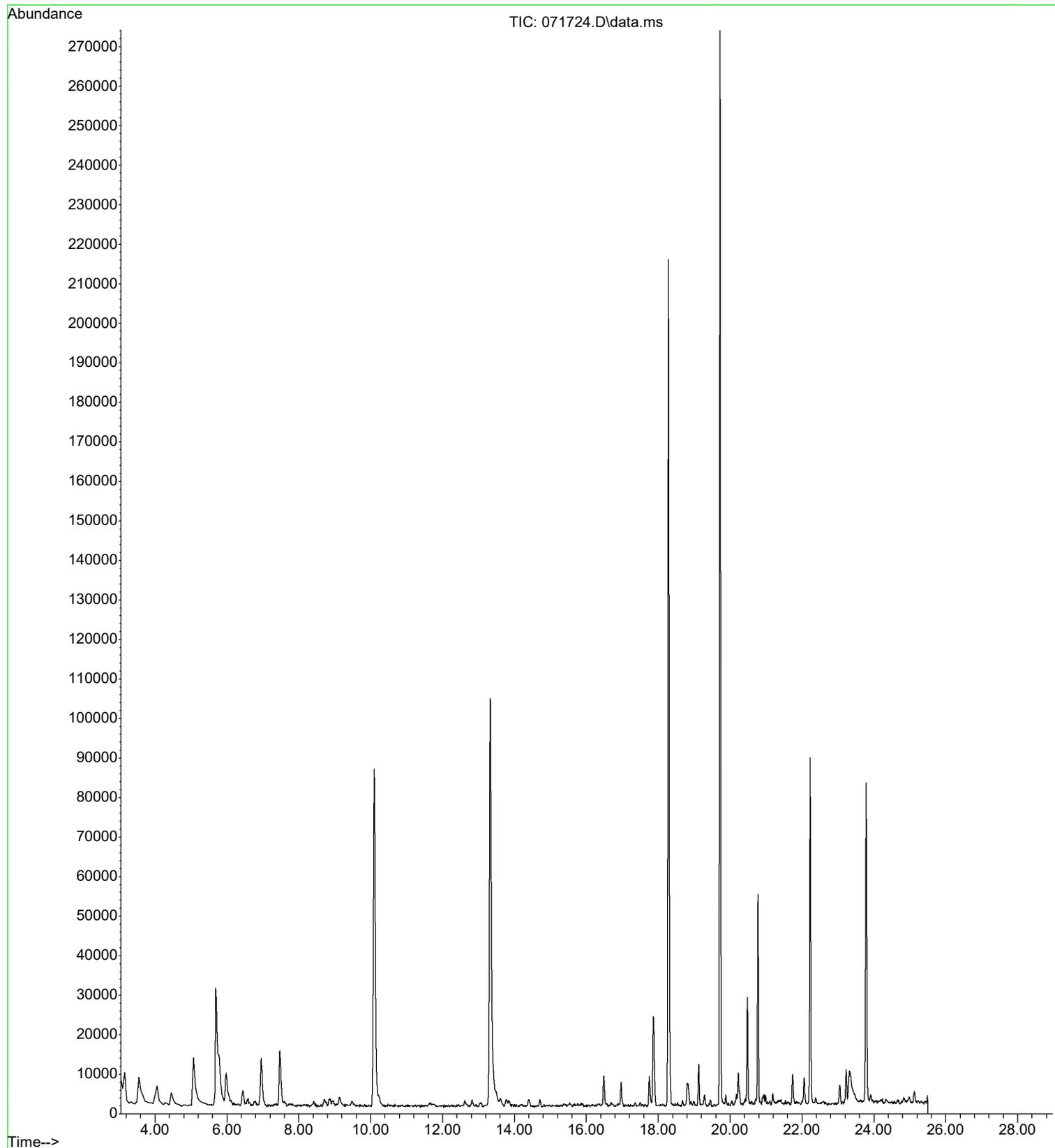
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Instrument : GCMS8  
Sample Name: 507273-07 1/1.0  
Misc Info : T11  
Vial Number: 22



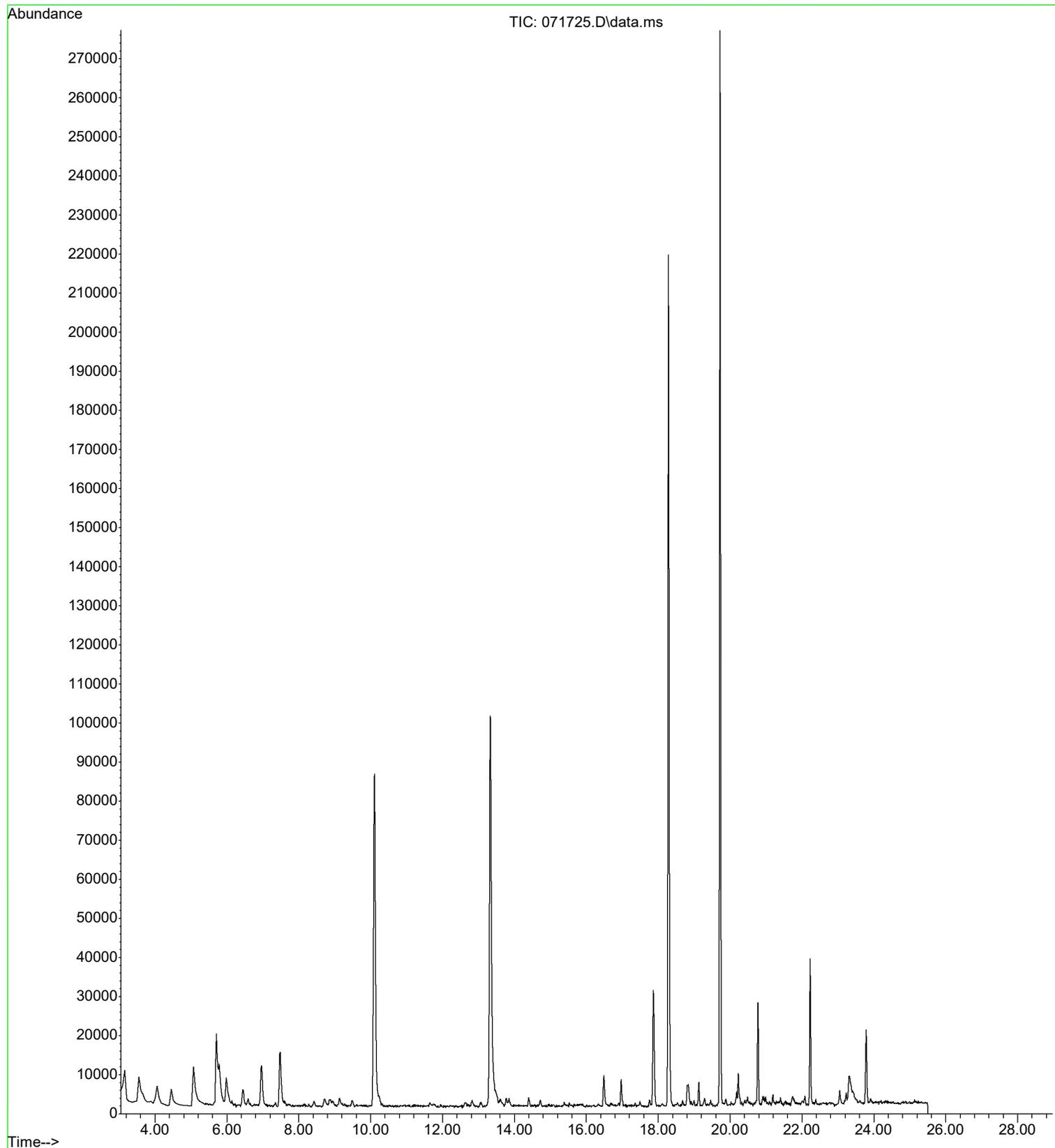
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Operator : bat  
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Instrument : GCMS8  
Sample Name: 507273-08 1/0.84  
Misc Info : T12  
Vial Number: 23



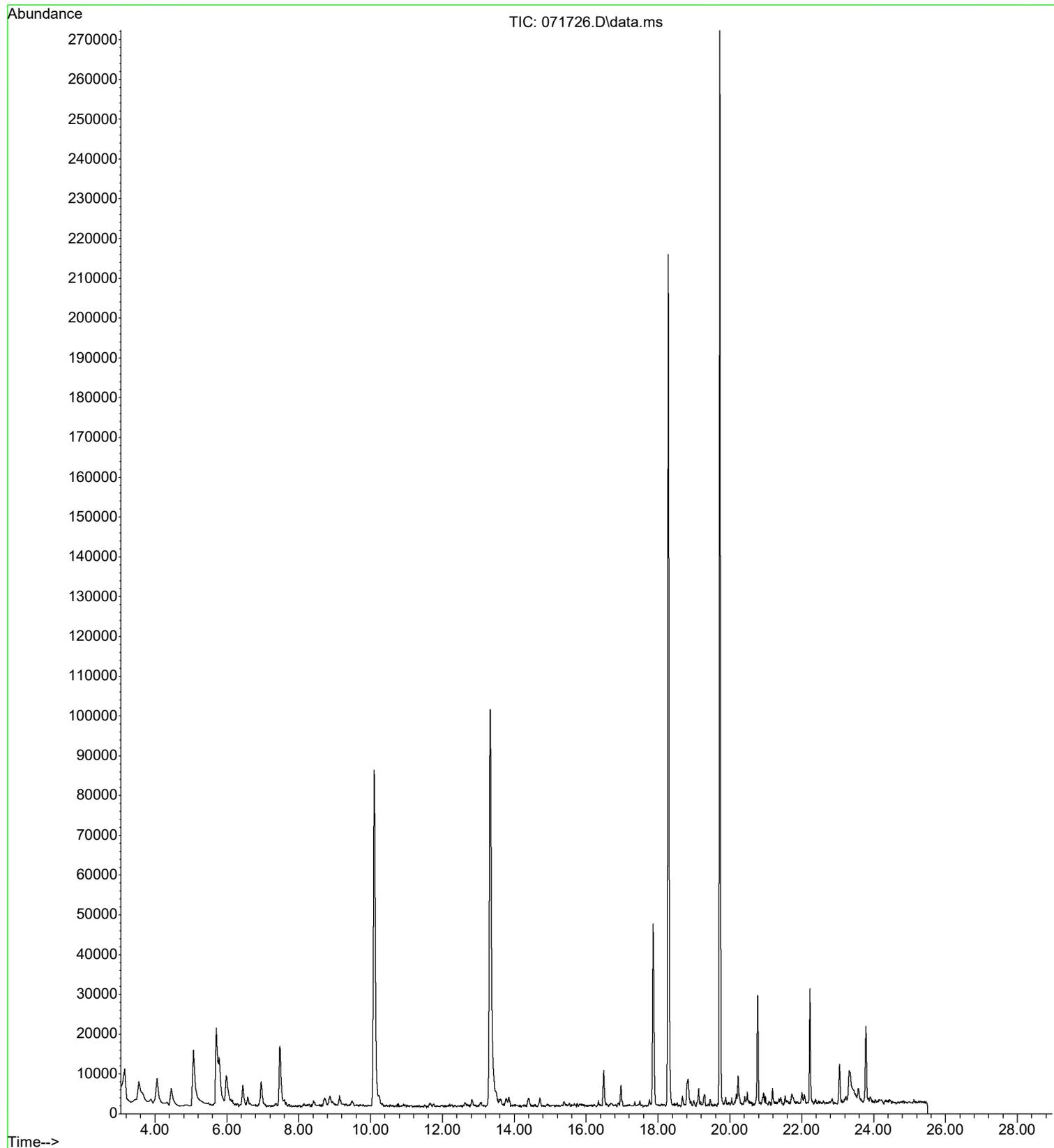
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Instrument : GCMS8  
Sample Name: 507273-09 1/0.92  
Misc Info : T13  
Vial Number: 24



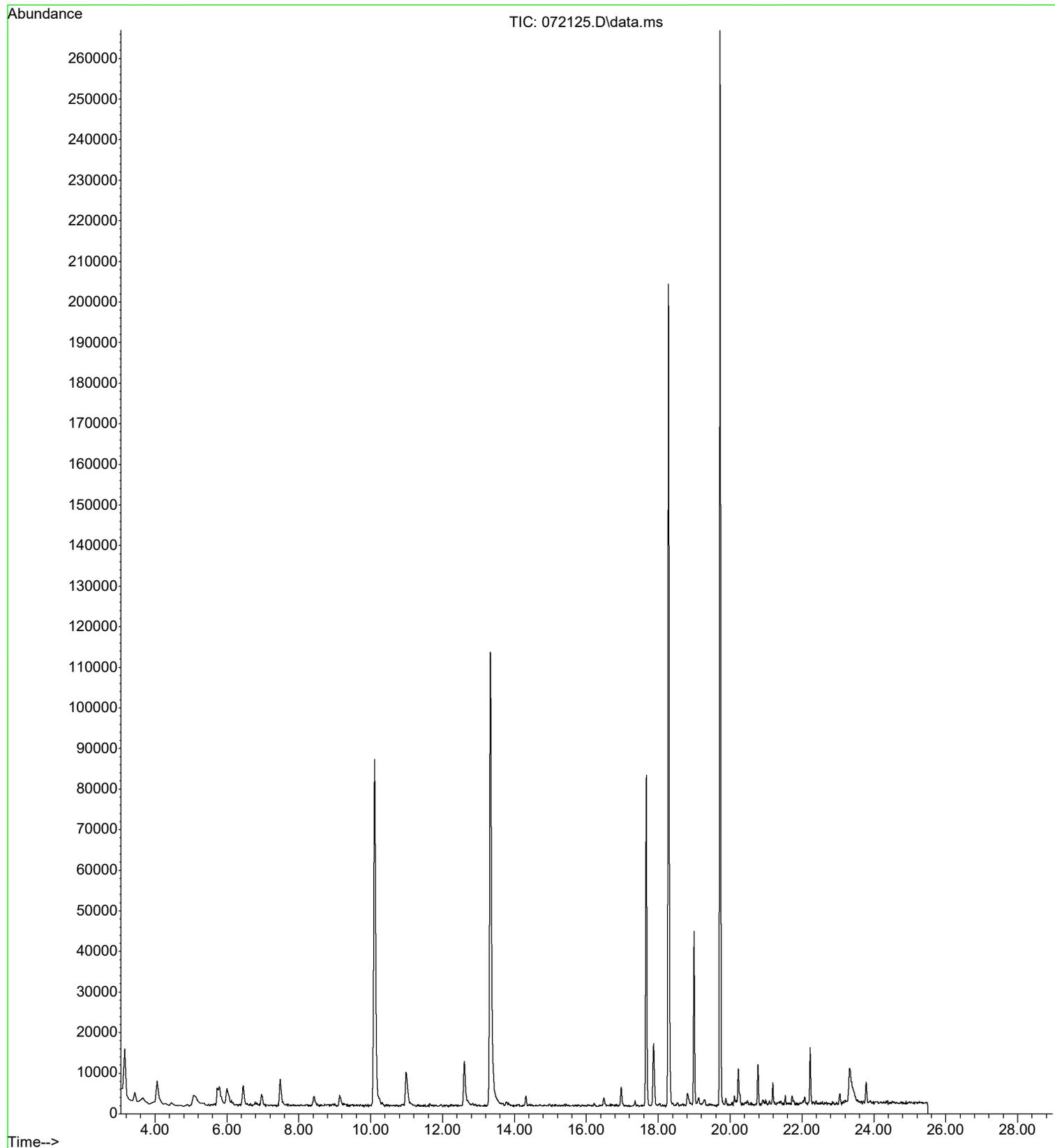
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Operator : bat  
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Sample Name: 507273-10 1/0.92  
Misc Info : T14  
Vial Number: 25



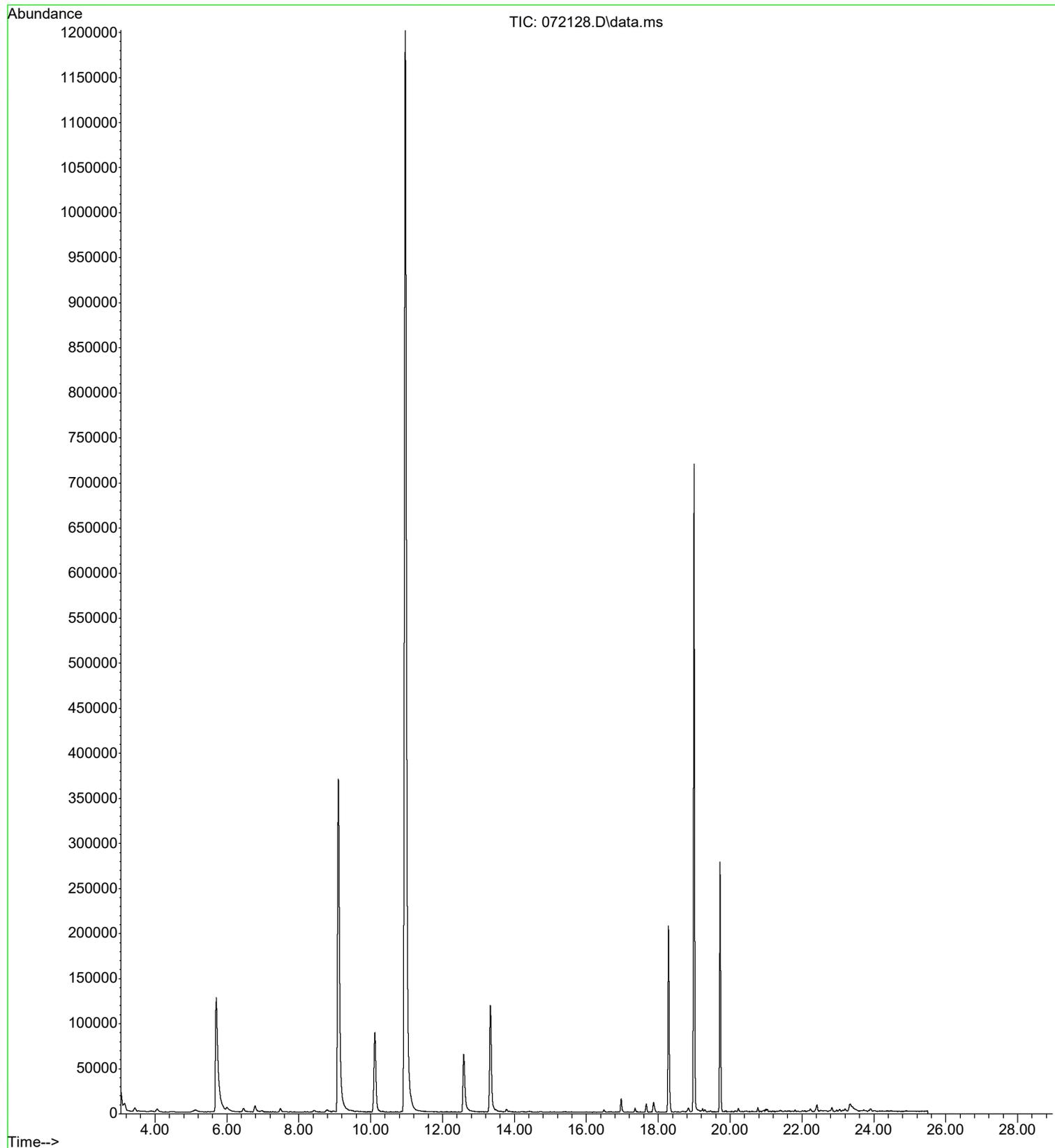
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Operator : bat  
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Instrument : GCMS8  
Sample Name: 507273-11 1/0.90  
Misc Info : T15  
Vial Number: 26



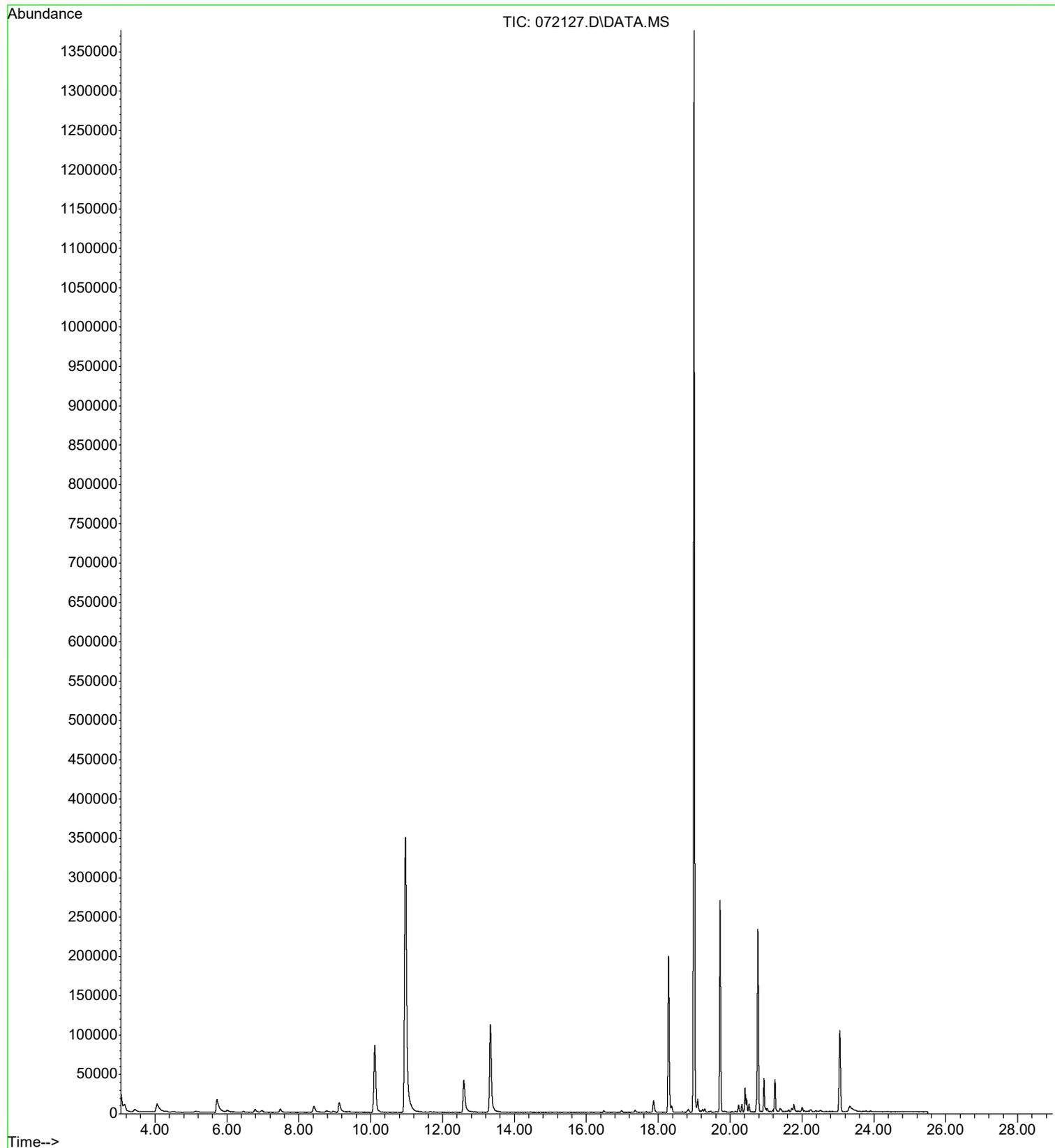
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Operator : bat  
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Instrument : GCMS8  
Sample Name: 507273-14 1/5.9  
Misc Info : T10  
Vial Number: 25



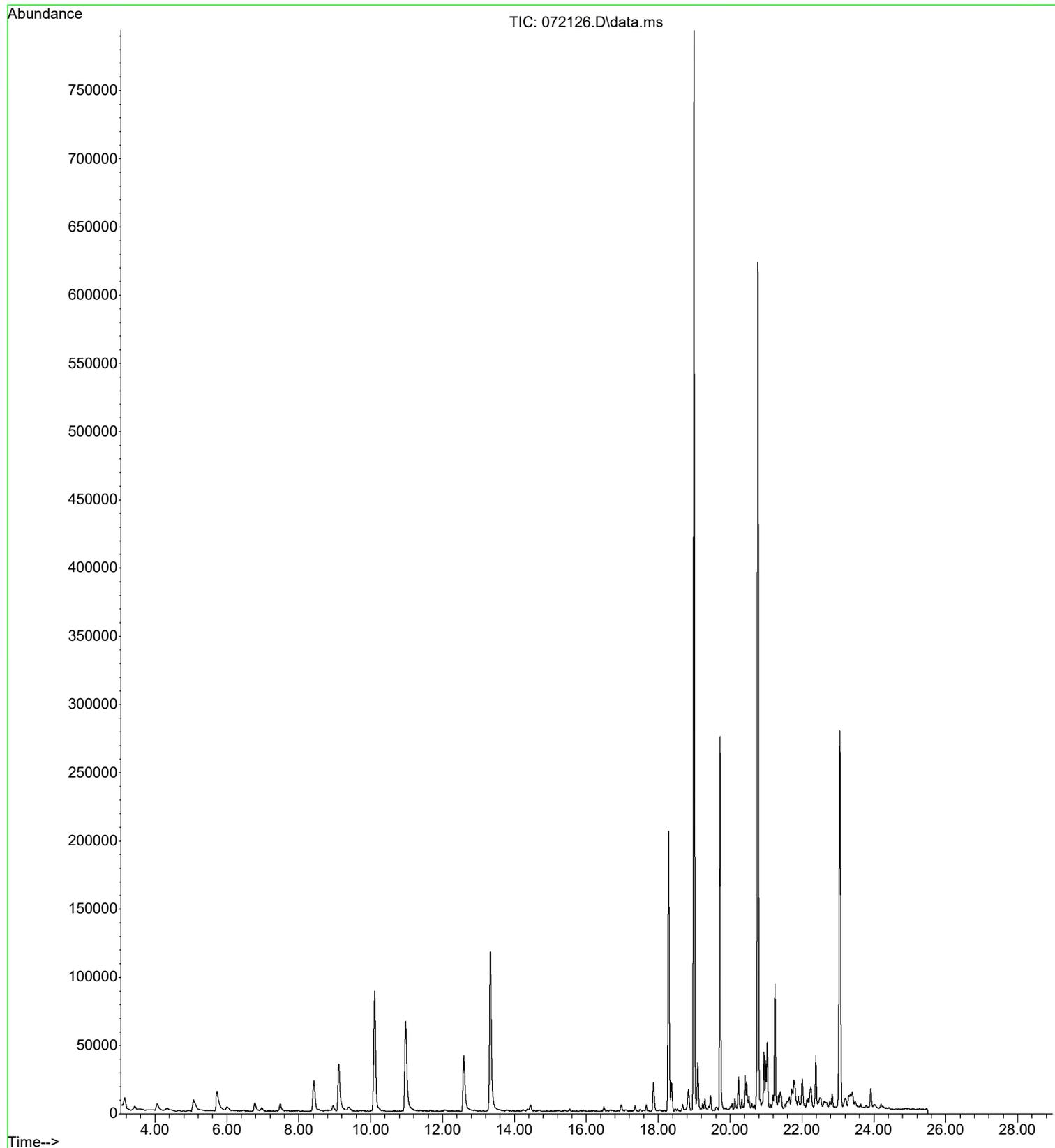
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Instrument : GCMS8  
Sample Name: 507273-15 1/18  
Misc Info : T13  
Vial Number: 28



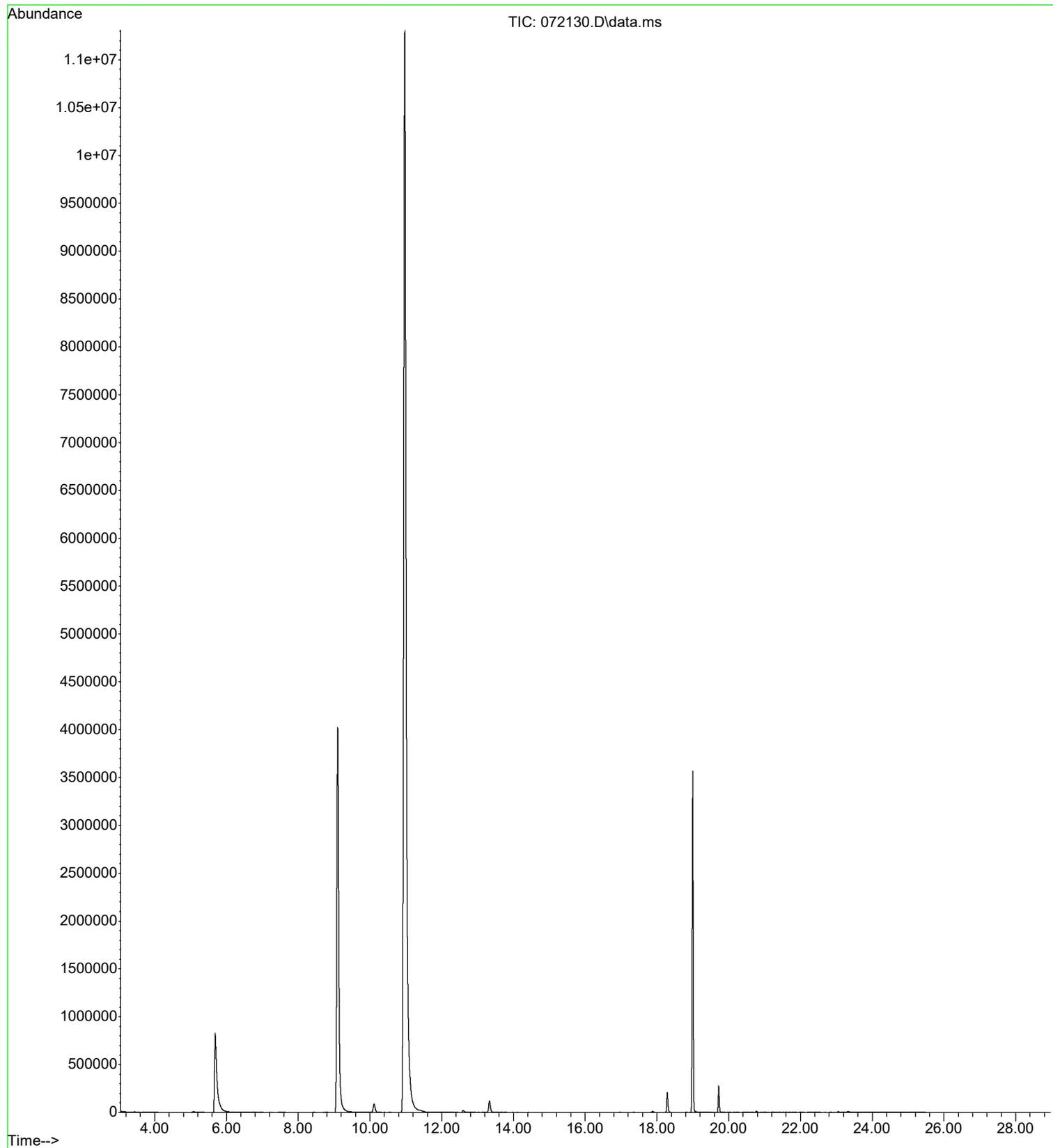
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Operator : bat  
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Instrument : GCMS8  
Sample Name: 507273-16 1/18  
Misc Info : T12  
Vial Number: 27



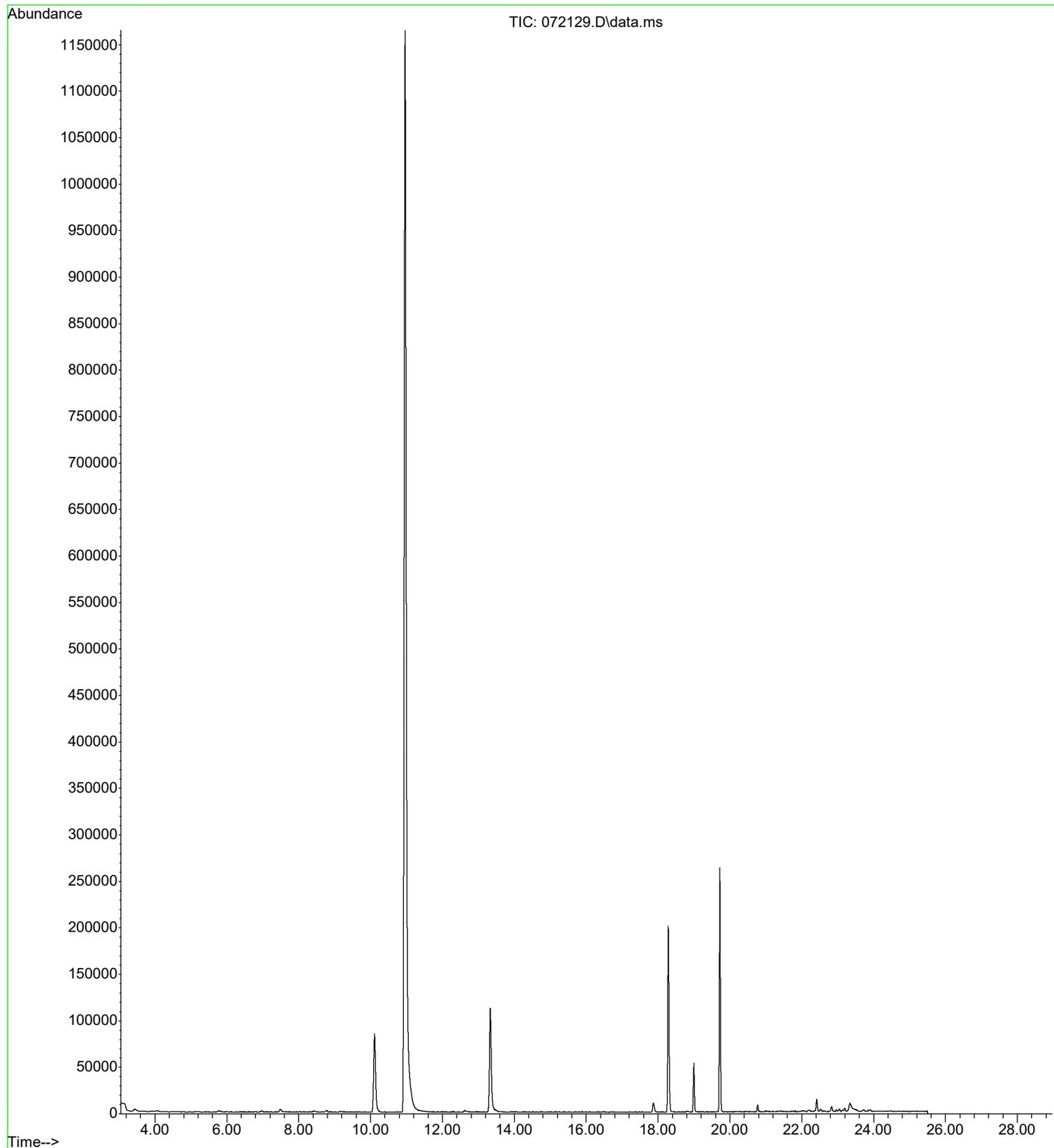
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Operator : bat  
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Sample Name: 507273-17 1/6.1  
Misc Info : T11  
Vial Number: 26



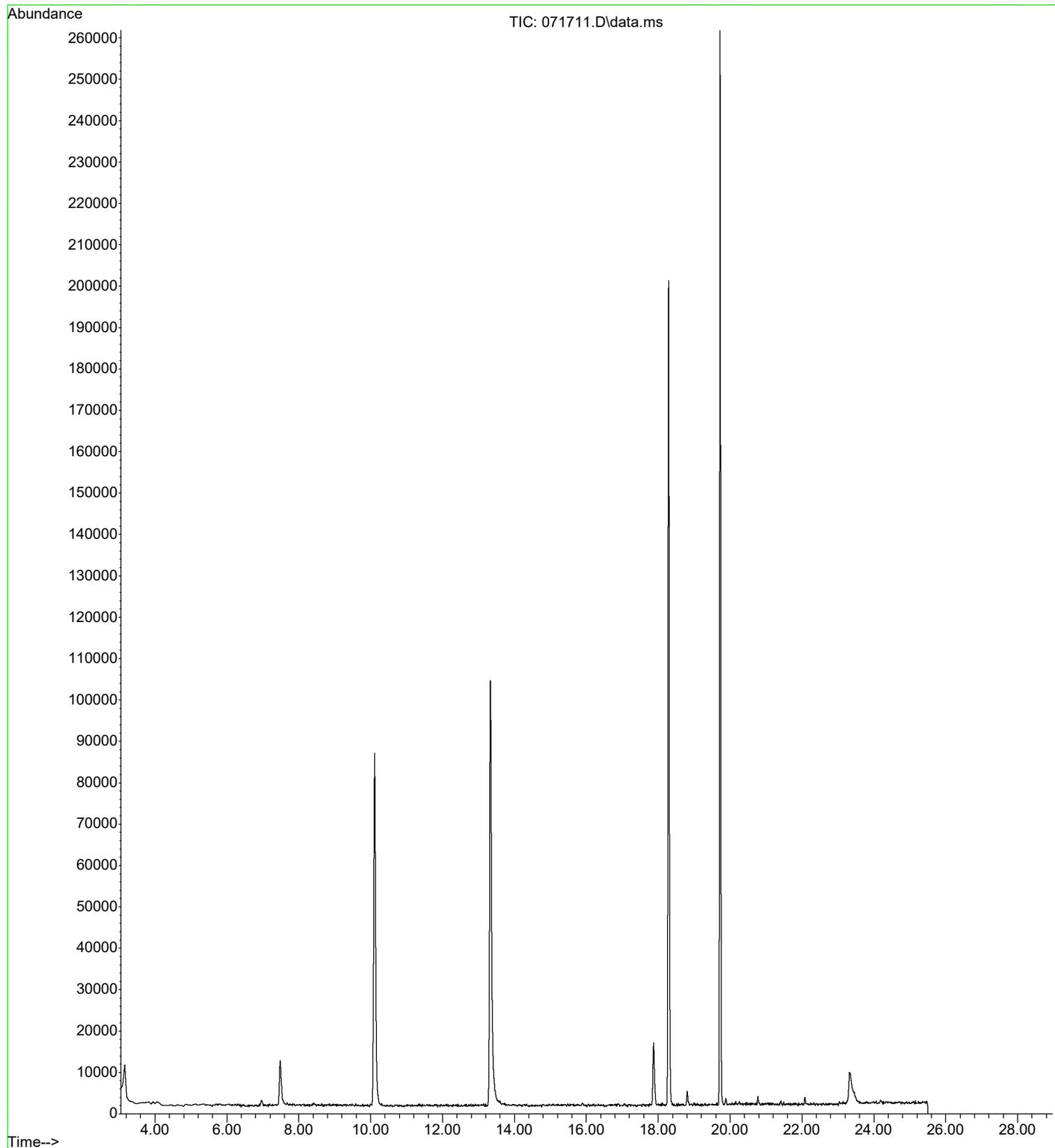
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Operator : bat  
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Instrument : GCMS8  
Sample Name: 507273-18 1/170  
Misc Info : T15  
Vial Number: 30



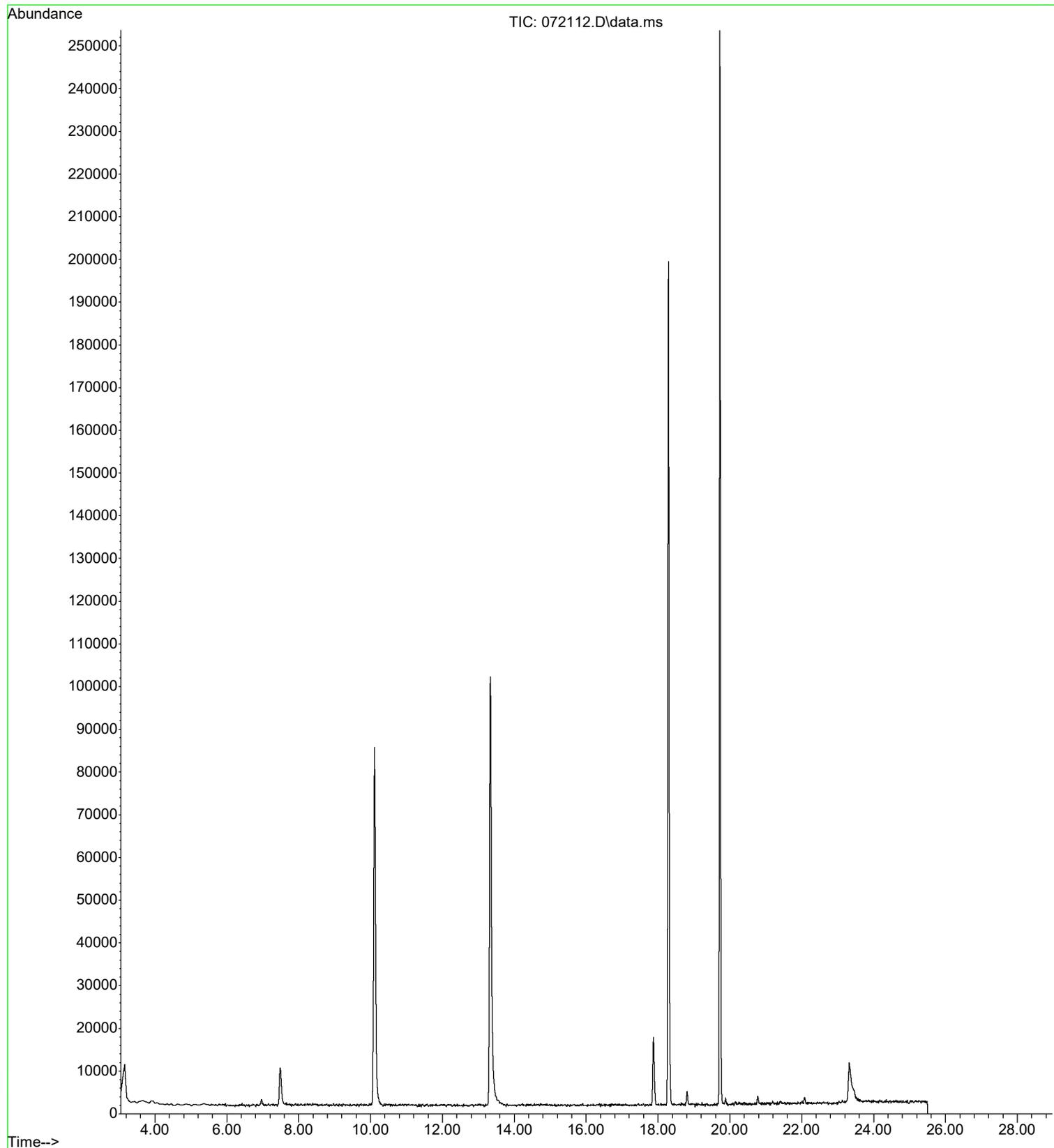
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Operator : bat  
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Instrument : GCMS8  
Sample Name: 507273-19 1/130  
Misc Info : T14  
Vial Number: 29



File :Y:\Proc\_GCMS8\07-17-25\071711.D  
Operator : bat  
Acquired : 17 Jul 2025 7:55 pm using AcqMethod T015NA.M  
Instrument : GCMS8  
Sample Name: 05-1693 mb  
Misc Info : T1  
Vial Number: 11



File :Y:\Proc\_GCMS8\07-21-25\072112.D  
Operator : bat  
Acquired : 21 Jul 2025 4:48 pm using AcqMethod T015NA.M  
Instrument : GCMS8  
Sample Name: 05-1771 mb  
Misc Info : T1  
Vial Number: 12



**Attachment 2**  
**Weather Plots and Data Tables**



### Weather History for KWAEVERE321

Daily Mode July 15 2025 View

Previous

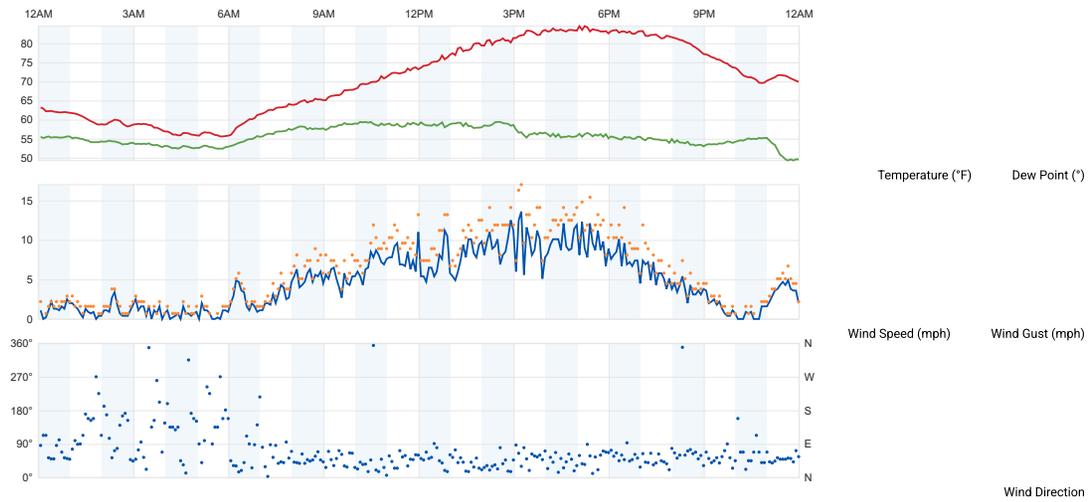
Next

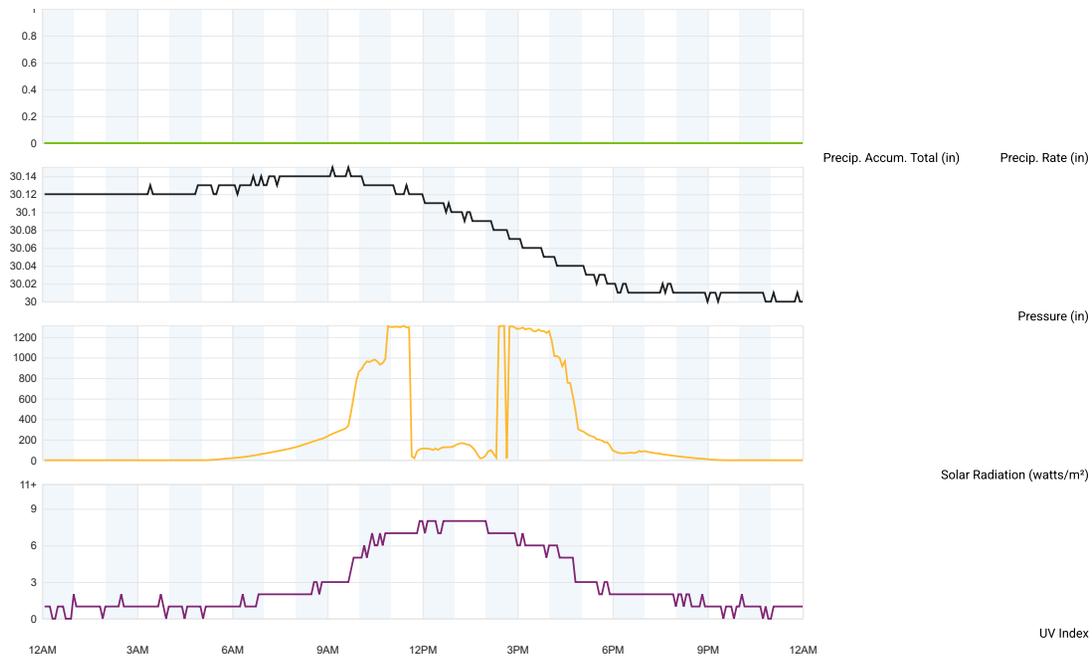
#### Summary July 15, 2025

	High	Low	Average
Temperature	84.5 °F	55.3 °F	70.3 °F
Dew Point	59.4 °F	49.1 °F	55.4 °F
Humidity	90 %	37 %	62 %
Precipitation	0.00 in	--	--
	High	Low	Average
Wind Speed	13.6 mph	0.0 mph	3.3 mph
Wind Gust	17.0 mph	--	4.4 mph
Wind Direction	--	--	NE
Pressure	30.15 in	29.99 in	--

Graph Table

#### July 15, 2025





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[Weather Data APIs \(https://www.weathercompany.com/weather-data-apis/\)](https://www.weathercompany.com/weather-data-apis/)

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[WunderMap \(/wundermap\)](#)

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[🗎 \(https://www.essentialaccessibility.com/the-weather-channel?\)](https://www.essentialaccessibility.com/the-weather-channel?)

[utm\\_source=theweatherchannelhomepage&utm\\_medium=iconlarge&utm\\_term=eachannelpage&utm\\_content=header&utm\\_campaign=theweatherchannel](https://www.weatherchannelhomepage&utm_medium=iconlarge&utm_term=eachannelpage&utm_content=header&utm_campaign=theweatherchannel)

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[Data Rights \(/data-rights\)](#)

<https://www.weathercompany.com>

<https://weather.com>

<https://www.wunderground.com>



<https://weather.com/storm-radar>

Elev 132 ft, 47.88 °N, 122.23 °W

# SainLogic WS0310 - KWAEVERE321 ⓘ

[FORECAST FOR EVERETT, WA \(\)](#)

## Station Summary

Offline

CURRENT CONDITIONS

MAP



--

Feels Like --

DEWPOINT  
--

PRESSURE  
--

PRECIP ACCUM  
--



WIND & GUST  
-- / --mph

PRECIP RATE  
--

HUMIDITY  
--

UV  
--



## PWS CURRENT CONDITIONS

TEMPERATURE ⓘ

WIND ⓘ

PRESSURE ⓘ





### Weather History for KWAEVERE321

Previous

Next

#### Summary July 15, 2025

	High	Low	Average
Temperature	84.5 °F	55.3 °F	70.3 °F
Dew Point	59.4 °F	49.1 °F	55.4 °F
Humidity	90 %	37 %	62 %
Precipitation	0.00 in	--	--
	High	Low	Average
Wind Speed	13.6 mph	0.0 mph	3.3 mph
Wind Gust	17.0 mph	--	4.4 mph
Wind Direction	--	--	NE
Pressure	30.15 in	29.99 in	--

#### July 15, 2025

Time	Temperature	Dew Point	Humidity	Wind	Speed	Gust	Pressure	Precip. Rate.	Precip. Accum.	UV	Solar
12:04 AM	63.1 °F	55.4 °F	76 %	East	0.5 mph	1.2 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
12:09 AM	62.5 °F	55.1 °F	77 %	ESE	0.0 mph	0.0 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
12:14 AM	62.1 °F	55.3 °F	78 %	ESE	0.0 mph	0.1 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
12:19 AM	62.1 °F	55.5 °F	79 %	NE	0.3 mph	0.7 mph	30.12 in	0.00 in	0.00 in	0	0 w/m²
12:24 AM	62.2 °F	55.3 °F	78 %	NE	1.5 mph	1.9 mph	30.12 in	0.00 in	0.00 in	0	0 w/m²
12:29 AM	62.0 °F	55.2 °F	78 %	NE	0.7 mph	1.1 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
12:34 AM	61.9 °F	55.3 °F	79 %	East	0.7 mph	1.2 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
12:39 AM	61.9 °F	55.3 °F	79 %	East	0.3 mph	0.9 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
12:44 AM	61.9 °F	55.3 °F	79 %	ENE	1.2 mph	1.5 mph	30.12 in	0.00 in	0.00 in	0	0 w/m²
12:49 AM	61.9 °F	55.3 °F	79 %	NE	1.2 mph	1.7 mph	30.12 in	0.00 in	0.00 in	0	0 w/m²
12:54 AM	61.8 °F	55.4 °F	79 %	NE	1.4 mph	1.9 mph	30.12 in	0.00 in	0.00 in	0	0 w/m²
12:59 AM	61.8 °F	55.4 °F	79 %	NE	1.4 mph	2.1 mph	30.12 in	0.00 in	0.00 in	2	0 w/m²
1:04 AM	61.7 °F	55.1 °F	79 %	ENE	1.1 mph	1.5 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
1:09 AM	61.5 °F	55.1 °F	80 %	East	0.6 mph	0.9 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²

Time	Temperature	Dew Point	Humidity	Wind	Speed	Gust	Pressure	Precip. Rate.	Precip. Accum.	UV	Solar
1:14 AM	61.3 °F	55.1 °F	80 %	East	0.9 mph	1.7 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
1:19 AM	60.9 °F	54.9 °F	80 %	East	0.1 mph	0.5 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
1:24 AM	60.6 °F	54.7 °F	81 %	ESE	0.1 mph	0.3 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
1:29 AM	60.2 °F	54.4 °F	81 %	South	0.6 mph	1.2 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
1:34 AM	59.8 °F	54.3 °F	82 %	SSE	0.2 mph	0.5 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
1:39 AM	59.5 °F	54.0 °F	82 %	SSE	0.5 mph	0.9 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
1:44 AM	59.1 °F	53.9 °F	83 %	SSE	0.2 mph	0.6 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
1:49 AM	58.8 °F	54.0 °F	84 %	West	0.0 mph	0.0 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
1:54 AM	58.6 °F	54.0 °F	84 %	SW	0.1 mph	0.1 mph	30.12 in	0.00 in	0.00 in	0	0 w/m²
1:59 AM	58.7 °F	54.2 °F	85 %	ESE	0.1 mph	0.1 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
2:04 AM	58.6 °F	54.1 °F	85 %	South	0.3 mph	0.6 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
2:09 AM	58.7 °F	54.2 °F	85 %	SSE	0.5 mph	0.8 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
2:14 AM	59.0 °F	54.3 °F	84 %	ESE	0.3 mph	0.7 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
2:19 AM	59.5 °F	54.2 °F	82 %	NE	1.9 mph	2.5 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
2:24 AM	59.9 °F	54.1 °F	81 %	ENE	2.4 mph	3.1 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
2:29 AM	59.8 °F	54.0 °F	81 %	ENE	0.9 mph	1.6 mph	30.12 in	0.00 in	0.00 in	2	0 w/m²
2:34 AM	59.5 °F	53.7 °F	81 %	SE	0.5 mph	0.9 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
2:39 AM	58.8 °F	53.4 °F	82 %	SSE	0.1 mph	0.3 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
2:44 AM	58.4 °F	53.5 °F	84 %	South	0.1 mph	0.3 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
2:49 AM	58.1 °F	53.4 °F	84 %	SSE	0.2 mph	0.6 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
2:54 AM	58.2 °F	53.7 °F	85 %	NE	0.5 mph	0.8 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
2:59 AM	58.6 °F	53.8 °F	84 %	NE	1.5 mph	2.1 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
3:04 AM	58.7 °F	53.5 °F	83 %	NE	1.6 mph	2.1 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
3:09 AM	58.8 °F	53.6 °F	83 %	ENE	0.6 mph	1.2 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
3:14 AM	58.8 °F	53.6 °F	83 %	East	0.7 mph	1.0 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
3:19 AM	58.8 °F	53.6 °F	83 %	NE	1.2 mph	1.7 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
3:24 AM	58.6 °F	53.5 °F	83 %	NNE	0.2 mph	0.3 mph	30.13 in	0.00 in	0.00 in	1	0 w/m²
3:29 AM	58.5 °F	53.5 °F	83 %	NNW	1.0 mph	1.2 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
3:34 AM	58.3 °F	53.2 °F	83 %	SE	0.0 mph	0.0 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
3:39 AM	57.8 °F	53.0 °F	84 %	SSE	0.5 mph	0.8 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
3:44 AM	57.8 °F	53.3 °F	85 %	West	0.3 mph	0.4 mph	30.12 in	0.00 in	0.00 in	2	0 w/m²
3:49 AM	57.5 °F	53.0 °F	85 %	SSW	1.0 mph	1.5 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
3:54 AM	57.0 °F	52.7 °F	85 %	ENE	0.0 mph	0.0 mph	30.12 in	0.00 in	0.00 in	0	0 w/m²
3:59 AM	56.9 °F	53.0 °F	87 %	SE	0.3 mph	0.6 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
4:04 AM	56.8 °F	53.0 °F	87 %	SSW	0.3 mph	0.7 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
4:09 AM	56.4 °F	52.6 °F	87 %	SE	0.0 mph	0.0 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
4:14 AM	56.0 °F	52.4 °F	87 %	SE	0.0 mph	0.1 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
4:19 AM	56.0 °F	52.5 °F	88 %	SE	0.2 mph	0.4 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
4:24 AM	55.9 °F	52.4 °F	88 %	SE	0.1 mph	0.1 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
4:29 AM	55.9 °F	52.7 °F	89 %	NE	0.0 mph	0.0 mph	30.12 in	0.00 in	0.00 in	0	0 w/m²
4:34 AM	56.3 °F	52.9 °F	89 %	NE	1.2 mph	1.8 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
4:39 AM	56.4 °F	52.8 °F	88 %	NNE	0.3 mph	0.4 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
4:44 AM	56.3 °F	52.7 °F	88 %	NW	0.3 mph	0.6 mph	30.12 in	0.00 in	0.00 in	1	0 w/m²
4:49 AM	56.0 °F	52.5 °F	88 %	South	0.1 mph	0.4 mph	30.12 in	0.00 in	0.00 in	1	0.1 w/m²
4:54 AM	56.0 °F	52.5 °F	88 %	SSE	0.1 mph	0.3 mph	30.13 in	0.00 in	0.00 in	1	0.1 w/m²
4:59 AM	55.8 °F	52.4 °F	88 %	SSE	0.7 mph	1.2 mph	30.13 in	0.00 in	0.00 in	1	0.2 w/m²
5:04 AM	55.7 °F	52.5 °F	89 %	East	0.0 mph	0.0 mph	30.13 in	0.00 in	0.00 in	0	0.5 w/m²

Time	Temperature	Dew Point	Humidity	Wind	Speed	Gust	Pressure	Precip. Rate.	Precip. Accum.	UV	Solar
5:09 AM	56.2 °F	52.8 °F	88 %	NE	1.4 mph	2.0 mph	30.13 in	0.00 in	0.00 in	1	0.9 w/m²
5:14 AM	56.6 °F	52.8 °F	87 %	East	0.5 mph	0.8 mph	30.13 in	0.00 in	0.00 in	1	1.7 w/m²
5:19 AM	56.4 °F	52.7 °F	87 %	WSW	0.5 mph	1.1 mph	30.13 in	0.00 in	0.00 in	1	2.8 w/m²
5:24 AM	56.4 °F	52.6 °F	87 %	SW	0.1 mph	0.3 mph	30.12 in	0.00 in	0.00 in	1	4.4 w/m²
5:29 AM	56.2 °F	52.6 °F	88 %	East	0.0 mph	0.0 mph	30.12 in	0.00 in	0.00 in	1	6.3 w/m²
5:34 AM	55.9 °F	52.4 °F	88 %	SE	0.0 mph	0.0 mph	30.13 in	0.00 in	0.00 in	1	8.6 w/m²
5:39 AM	55.7 °F	52.2 °F	88 %	SE	0.0 mph	0.1 mph	30.13 in	0.00 in	0.00 in	1	11.2 w/m²
5:44 AM	55.5 °F	52.3 °F	89 %	West	0.0 mph	0.0 mph	30.13 in	0.00 in	0.00 in	1	14.2 w/m²
5:49 AM	55.5 °F	52.3 °F	89 %	SSE	0.4 mph	0.6 mph	30.13 in	0.00 in	0.00 in	1	16.8 w/m²
5:54 AM	55.4 °F	52.4 °F	89 %	South	0.8 mph	1.2 mph	30.13 in	0.00 in	0.00 in	1	17.2 w/m²
5:59 AM	55.7 °F	52.7 °F	90 %	SSE	0.2 mph	0.3 mph	30.13 in	0.00 in	0.00 in	1	19.3 w/m²
6:04 AM	55.8 °F	52.9 °F	90 %	NE	1.0 mph	1.3 mph	30.13 in	0.00 in	0.00 in	1	22.3 w/m²
6:09 AM	56.5 °F	53.1 °F	88 %	NNE	2.4 mph	2.8 mph	30.12 in	0.00 in	0.00 in	1	24.4 w/m²
6:14 AM	57.3 °F	53.4 °F	87 %	NNE	2.9 mph	3.6 mph	30.13 in	0.00 in	0.00 in	1	27.5 w/m²
6:19 AM	58.1 °F	53.8 °F	86 %	NNE	3.9 mph	4.6 mph	30.13 in	0.00 in	0.00 in	2	30.3 w/m²
6:24 AM	58.6 °F	54.0 °F	85 %	NNE	2.8 mph	3.3 mph	30.13 in	0.00 in	0.00 in	1	32.9 w/m²
6:29 AM	58.9 °F	54.1 °F	84 %	NE	2.0 mph	2.7 mph	30.13 in	0.00 in	0.00 in	1	36.5 w/m²
6:34 AM	59.4 °F	54.5 °F	84 %	ESE	0.6 mph	1.0 mph	30.13 in	0.00 in	0.00 in	1	40.7 w/m²
6:39 AM	59.7 °F	54.5 °F	83 %	East	0.5 mph	0.9 mph	30.14 in	0.00 in	0.00 in	1	44.9 w/m²
6:44 AM	60.1 °F	54.6 °F	82 %	NNE	1.1 mph	1.5 mph	30.13 in	0.00 in	0.00 in	1	49 w/m²
6:49 AM	60.2 °F	55.0 °F	83 %	East	0.8 mph	1.4 mph	30.13 in	0.00 in	0.00 in	2	54.1 w/m²
6:54 AM	60.8 °F	55.4 °F	82 %	SE	0.5 mph	1.2 mph	30.14 in	0.00 in	0.00 in	2	59.7 w/m²
6:59 AM	61.3 °F	55.4 °F	81 %	SW	0.4 mph	0.8 mph	30.13 in	0.00 in	0.00 in	2	64.1 w/m²
7:04 AM	61.5 °F	55.5 °F	81 %	East	0.5 mph	0.8 mph	30.13 in	0.00 in	0.00 in	2	68.4 w/m²
7:09 AM	61.8 °F	55.8 °F	81 %	NNE	0.9 mph	1.1 mph	30.14 in	0.00 in	0.00 in	2	72.8 w/m²
7:14 AM	62.0 °F	56.0 °F	81 %	North	0.5 mph	1.0 mph	30.14 in	0.00 in	0.00 in	2	78.2 w/m²
7:19 AM	62.6 °F	56.2 °F	80 %	East	0.9 mph	1.5 mph	30.14 in	0.00 in	0.00 in	2	82.9 w/m²
7:24 AM	62.4 °F	56.1 °F	80 %	NE	2.3 mph	3.0 mph	30.13 in	0.00 in	0.00 in	2	87.1 w/m²
7:29 AM	62.8 °F	56.6 °F	80 %	East	0.8 mph	1.5 mph	30.14 in	0.00 in	0.00 in	2	92.8 w/m²
7:34 AM	63.2 °F	56.7 °F	79 %	NE	1.4 mph	2.1 mph	30.14 in	0.00 in	0.00 in	2	97.6 w/m²
7:39 AM	63.2 °F	56.7 °F	79 %	NE	2.3 mph	3.1 mph	30.14 in	0.00 in	0.00 in	2	102.6 w/m²
7:44 AM	63.2 °F	56.9 °F	80 %	NE	2.8 mph	3.3 mph	30.14 in	0.00 in	0.00 in	2	108.4 w/m²
7:49 AM	63.3 °F	57.0 °F	80 %	East	1.6 mph	2.2 mph	30.14 in	0.00 in	0.00 in	2	114.3 w/m²
7:54 AM	64.0 °F	57.4 °F	79 %	NE	2.1 mph	2.7 mph	30.14 in	0.00 in	0.00 in	2	120 w/m²
7:59 AM	63.7 °F	57.1 °F	79 %	ENE	3.0 mph	3.8 mph	30.14 in	0.00 in	0.00 in	2	126.7 w/m²
8:04 AM	63.7 °F	57.4 °F	80 %	NE	3.7 mph	4.6 mph	30.14 in	0.00 in	0.00 in	2	133.8 w/m²
8:09 AM	64.0 °F	57.7 °F	80 %	NE	4.0 mph	5.3 mph	30.14 in	0.00 in	0.00 in	2	142.4 w/m²
8:14 AM	64.5 °F	57.9 °F	79 %	NE	2.8 mph	3.8 mph	30.14 in	0.00 in	0.00 in	2	151 w/m²
8:19 AM	64.7 °F	57.9 °F	79 %	ENE	2.4 mph	3.1 mph	30.14 in	0.00 in	0.00 in	2	159 w/m²
8:24 AM	64.9 °F	57.8 °F	78 %	NE	3.4 mph	5.1 mph	30.14 in	0.00 in	0.00 in	2	167 w/m²
8:29 AM	64.3 °F	57.4 °F	78 %	NE	4.6 mph	5.8 mph	30.14 in	0.00 in	0.00 in	2	176.7 w/m²
8:34 AM	64.6 °F	57.5 °F	78 %	NE	4.6 mph	5.8 mph	30.14 in	0.00 in	0.00 in	3	185.3 w/m²
8:39 AM	64.7 °F	57.4 °F	77 %	NE	3.8 mph	4.6 mph	30.14 in	0.00 in	0.00 in	3	192.7 w/m²
8:44 AM	65.2 °F	57.6 °F	76 %	ENE	3.4 mph	5.0 mph	30.14 in	0.00 in	0.00 in	2	200.4 w/m²
8:49 AM	65.1 °F	57.3 °F	76 %	ENE	4.5 mph	5.6 mph	30.14 in	0.00 in	0.00 in	3	208.6 w/m²
8:54 AM	65.0 °F	57.4 °F	76 %	NE	4.9 mph	6.2 mph	30.14 in	0.00 in	0.00 in	3	218.4 w/m²
8:59 AM	65.0 °F	57.4 °F	77 %	NE	3.7 mph	4.7 mph	30.14 in	0.00 in	0.00 in	3	231.9 w/m²

Time	Temperature	Dew Point	Humidity	Wind	Speed	Gust	Pressure	Precip. Rate.	Precip. Accum.	UV	Solar
9:04 AM	65.1 °F	57.3 °F	76 %	NNE	4.2 mph	5.3 mph	30.14 in	0.00 in	0.00 in	3	245.1 w/m²
9:09 AM	65.6 °F	57.7 °F	76 %	ENE	3.1 mph	4.6 mph	30.15 in	0.00 in	0.00 in	3	256.8 w/m²
9:14 AM	66.0 °F	57.9 °F	75 %	NE	3.3 mph	4.4 mph	30.14 in	0.00 in	0.00 in	3	267.9 w/m²
9:19 AM	66.1 °F	57.9 °F	75 %	NNE	4.8 mph	5.5 mph	30.14 in	0.00 in	0.00 in	3	278.1 w/m²
9:24 AM	66.2 °F	58.0 °F	75 %	NE	3.9 mph	5.1 mph	30.14 in	0.00 in	0.00 in	3	288.6 w/m²
9:29 AM	66.2 °F	58.3 °F	76 %	ENE	3.3 mph	4.7 mph	30.14 in	0.00 in	0.00 in	3	299.4 w/m²
9:34 AM	66.5 °F	58.3 °F	75 %	ENE	2.0 mph	3.0 mph	30.14 in	0.00 in	0.00 in	3	310.1 w/m²
9:39 AM	67.3 °F	58.7 °F	74 %	NNE	3.3 mph	4.4 mph	30.15 in	0.00 in	0.00 in	3	336.3 w/m²
9:44 AM	67.3 °F	58.5 °F	74 %	NNE	3.3 mph	4.0 mph	30.14 in	0.00 in	0.00 in	4	466.8 w/m²
9:49 AM	67.7 °F	58.7 °F	73 %	ENE	3.1 mph	4.1 mph	30.14 in	0.00 in	0.00 in	5	614.7 w/m²
9:54 AM	67.7 °F	58.6 °F	73 %	ENE	4.2 mph	5.9 mph	30.14 in	0.00 in	0.00 in	5	771.5 w/m²
9:59 AM	67.8 °F	58.7 °F	73 %	NNE	3.2 mph	4.5 mph	30.14 in	0.00 in	0.00 in	5	864.9 w/m²
10:04 AM	68.1 °F	58.8 °F	72 %	NNE	4.5 mph	6.0 mph	30.14 in	0.00 in	0.00 in	5	885.8 w/m²
10:09 AM	69.0 °F	59.0 °F	71 %	NE	3.4 mph	4.4 mph	30.13 in	0.00 in	0.00 in	6	932.1 w/m²
10:14 AM	69.2 °F	59.1 °F	70 %	NE	2.7 mph	3.8 mph	30.13 in	0.00 in	0.00 in	5	963.4 w/m²
10:19 AM	69.2 °F	59.1 °F	70 %	NE	4.4 mph	5.4 mph	30.13 in	0.00 in	0.00 in	6	957.1 w/m²
10:24 AM	69.3 °F	59.1 °F	70 %	NNE	4.3 mph	5.0 mph	30.13 in	0.00 in	0.00 in	7	970.9 w/m²
10:29 AM	69.5 °F	59.1 °F	69 %	NE	4.5 mph	5.9 mph	30.13 in	0.00 in	0.00 in	6	980.8 w/m²
10:34 AM	69.6 °F	58.6 °F	68 %		6.8 mph	8.9 mph	30.13 in	0.00 in	0.00 in	6	961.2 w/m²
10:39 AM	69.7 °F	58.2 °F	67 %	NNE	7.0 mph	8.4 mph	30.13 in	0.00 in	0.00 in	7	930.4 w/m²
10:44 AM	69.9 °F	58.2 °F	66 %	NNE	5.7 mph	7.0 mph	30.13 in	0.00 in	0.00 in	6	947.2 w/m²
10:49 AM	70.9 °F	58.5 °F	65 %	NE	4.4 mph	5.9 mph	30.13 in	0.00 in	0.00 in	7	985.7 w/m²
10:54 AM	70.6 °F	58.1 °F	65 %	NNE	4.7 mph	6.5 mph	30.13 in	0.00 in	0.00 in	7	1305.8 w/m²
10:59 AM	71.0 °F	58.3 °F	64 %	North	6.3 mph	7.3 mph	30.13 in	0.00 in	0.00 in	7	1298 w/m²
11:04 AM	71.3 °F	58.3 °F	64 %	ENE	6.0 mph	7.8 mph	30.13 in	0.00 in	0.00 in	7	1298 w/m²
11:09 AM	71.9 °F	57.9 °F	61 %	NE	5.9 mph	7.8 mph	30.12 in	0.00 in	0.00 in	7	1301.9 w/m²
11:14 AM	71.9 °F	58.1 °F	62 %	NNE	7.4 mph	9.8 mph	30.12 in	0.00 in	0.00 in	7	1298 w/m²
11:19 AM	71.9 °F	58.3 °F	62 %	NNE	6.4 mph	7.7 mph	30.12 in	0.00 in	0.00 in	7	1298 w/m²
11:24 AM	71.8 °F	57.9 °F	62 %	ENE	5.2 mph	7.4 mph	30.12 in	0.00 in	0.00 in	7	1309.6 w/m²
11:29 AM	72.1 °F	57.9 °F	61 %	NE	5.4 mph	7.7 mph	30.13 in	0.00 in	0.00 in	7	1294.1 w/m²
11:34 AM	72.0 °F	58.0 °F	61 %	ENE	5.6 mph	7.2 mph	30.12 in	0.00 in	0.00 in	7	1294.1 w/m²
11:39 AM	72.6 °F	58.4 °F	61 %	NNE	5.6 mph	7.4 mph	30.12 in	0.00 in	0.00 in	7	37.8 w/m²
11:44 AM	72.3 °F	58.6 °F	62 %	NE	5.4 mph	7.3 mph	30.12 in	0.00 in	0.00 in	7	17.9 w/m²
11:49 AM	72.9 °F	58.7 °F	61 %	NE	5.1 mph	6.5 mph	30.12 in	0.00 in	0.00 in	7	86.3 w/m²
11:54 AM	73.4 °F	58.4 °F	60 %	ENE	4.7 mph	6.3 mph	30.12 in	0.00 in	0.00 in	8	106.6 w/m²
11:59 AM	72.7 °F	58.2 °F	60 %	ENE	6.1 mph	7.8 mph	30.12 in	0.00 in	0.00 in	8	112.8 w/m²
12:04 PM	73.4 °F	58.8 °F	60 %	NE	4.7 mph	6.5 mph	30.11 in	0.00 in	0.00 in	7	114 w/m²
12:09 PM	73.7 °F	58.3 °F	59 %	NE	3.7 mph	5.0 mph	30.11 in	0.00 in	0.00 in	8	113.1 w/m²
12:14 PM	73.9 °F	58.2 °F	58 %	ENE	4.0 mph	6.2 mph	30.11 in	0.00 in	0.00 in	8	110.1 w/m²
12:19 PM	74.1 °F	58.4 °F	58 %	NE	4.2 mph	5.1 mph	30.11 in	0.00 in	0.00 in	8	98.7 w/m²
12:24 PM	74.4 °F	57.9 °F	57 %	NE	4.2 mph	5.8 mph	30.11 in	0.00 in	0.00 in	8	114.2 w/m²
12:29 PM	74.9 °F	58.3 °F	56 %	East	3.5 mph	5.5 mph	30.11 in	0.00 in	0.00 in	7	100 w/m²
12:34 PM	75.0 °F	58.1 °F	56 %	East	4.3 mph	6.0 mph	30.11 in	0.00 in	0.00 in	7	118 w/m²
12:39 PM	75.0 °F	58.0 °F	56 %	NE	5.0 mph	6.7 mph	30.11 in	0.00 in	0.00 in	8	125.5 w/m²
12:44 PM	76.4 °F	58.8 °F	55 %	NE	4.4 mph	6.6 mph	30.10 in	0.00 in	0.00 in	8	126.3 w/m²
12:49 PM	75.6 °F	57.7 °F	54 %	NNE	9.8 mph	11.5 mph	30.11 in	0.00 in	0.00 in	8	126.9 w/m²
12:54 PM	76.0 °F	57.8 °F	53 %	NNE	6.4 mph	8.2 mph	30.10 in	0.00 in	0.00 in	8	128.3 w/m²

Time	Temperature	Dew Point	Humidity	Wind	Speed	Gust	Pressure	Precip. Rate.	Precip. Accum.	UV	Solar
12:59 PM	76.6 °F	58.6 °F	54 %	ENE	4.1 mph	5.1 mph	30.10 in	0.00 in	0.00 in	8	136.6 w/m²
1:04 PM	76.9 °F	58.6 °F	53 %	NE	4.5 mph	5.6 mph	30.10 in	0.00 in	0.00 in	8	153.3 w/m²
1:09 PM	76.7 °F	58.6 °F	54 %	ENE	4.1 mph	5.5 mph	30.10 in	0.00 in	0.00 in	8	159.6 w/m²
1:14 PM	77.6 °F	58.6 °F	52 %	NE	3.9 mph	5.6 mph	30.10 in	0.00 in	0.00 in	8	167.9 w/m²
1:19 PM	78.1 °F	58.6 °F	51 %	NE	4.6 mph	6.4 mph	30.09 in	0.00 in	0.00 in	8	160.4 w/m²
1:24 PM	77.8 °F	58.1 °F	51 %	NE	6.9 mph	8.7 mph	30.10 in	0.00 in	0.00 in	8	152.1 w/m²
1:29 PM	78.1 °F	58.5 °F	51 %	NNE	5.8 mph	8.0 mph	30.10 in	0.00 in	0.00 in	8	146.9 w/m²
1:34 PM	78.0 °F	57.8 °F	50 %	NNE	7.4 mph	8.7 mph	30.09 in	0.00 in	0.00 in	8	123.3 w/m²
1:39 PM	78.2 °F	57.8 °F	50 %	NE	6.8 mph	8.7 mph	30.09 in	0.00 in	0.00 in	8	94.2 w/m²
1:44 PM	78.9 °F	56.9 °F	47 %	NNE	5.9 mph	7.4 mph	30.09 in	0.00 in	0.00 in	8	49.8 w/m²
1:49 PM	79.5 °F	57.5 °F	47 %	NE	5.0 mph	6.5 mph	30.09 in	0.00 in	0.00 in	8	17.2 w/m²
1:54 PM	79.0 °F	57.4 °F	48 %	NNE	6.1 mph	7.8 mph	30.09 in	0.00 in	0.00 in	8	23.3 w/m²
1:59 PM	78.7 °F	57.6 °F	49 %	NNE	7.0 mph	9.0 mph	30.09 in	0.00 in	0.00 in	8	44.8 w/m²
2:04 PM	78.9 °F	58.0 °F	49 %	NNE	6.4 mph	7.6 mph	30.09 in	0.00 in	0.00 in	7	87.3 w/m²
2:09 PM	79.7 °F	57.8 °F	47 %	NNE	7.2 mph	8.5 mph	30.09 in	0.00 in	0.00 in	7	98.2 w/m²
2:14 PM	80.1 °F	58.0 °F	47 %	NNE	8.8 mph	11.0 mph	30.08 in	0.00 in	0.00 in	7	61.9 w/m²
2:19 PM	79.1 °F	58.1 °F	49 %	NNE	7.1 mph	9.0 mph	30.08 in	0.00 in	0.00 in	7	25.1 w/m²
2:24 PM	80.2 °F	58.9 °F	48 %	NE	6.9 mph	8.6 mph	30.08 in	0.00 in	0.00 in	7	1301.9 w/m²
2:29 PM	80.3 °F	58.9 °F	48 %	NNE	7.3 mph	8.6 mph	30.08 in	0.00 in	0.00 in	7	1309.6 w/m²
2:34 PM	80.4 °F	59.2 °F	49 %	East	6.1 mph	7.5 mph	30.08 in	0.00 in	0.00 in	7	1309.6 w/m²
2:39 PM	80.8 °F	58.9 °F	47 %	NE	6.6 mph	9.3 mph	30.08 in	0.00 in	0.00 in	7	17.1 w/m²
2:44 PM	80.4 °F	58.8 °F	48 %	NE	6.4 mph	8.1 mph	30.07 in	0.00 in	0.00 in	7	1301.9 w/m²
2:49 PM	80.1 °F	58.5 °F	48 %	NNE	9.2 mph	10.6 mph	30.07 in	0.00 in	0.00 in	7	1305.8 w/m²
2:54 PM	80.1 °F	58.0 °F	47 %	NNE	10.3 mph	12.1 mph	30.07 in	0.00 in	0.00 in	7	1294.1 w/m²
2:59 PM	80.7 °F	58.1 °F	46 %	NE	7.1 mph	8.9 mph	30.07 in	0.00 in	0.00 in	6	1278.6 w/m²
3:04 PM	81.0 °F	57.0 °F	44 %	East	4.8 mph	6.3 mph	30.07 in	0.00 in	0.00 in	6	1282.5 w/m²
3:09 PM	81.5 °F	56.3 °F	42 %	ENE	8.3 mph	10.7 mph	30.06 in	0.00 in	0.00 in	7	1294.1 w/m²
3:14 PM	81.9 °F	55.6 °F	41 %	NNE	8.7 mph	11.4 mph	30.06 in	0.00 in	0.00 in	6	1274.7 w/m²
3:19 PM	82.1 °F	55.5 °F	40 %	East	4.7 mph	6.8 mph	30.06 in	0.00 in	0.00 in	6	1282.5 w/m²
3:24 PM	82.7 °F	55.1 °F	39 %	NE	6.0 mph	7.8 mph	30.06 in	0.00 in	0.00 in	6	1282.5 w/m²
3:29 PM	82.5 °F	55.3 °F	39 %	NNE	6.5 mph	9.0 mph	30.06 in	0.00 in	0.00 in	6	1259.2 w/m²
3:34 PM	82.6 °F	56.0 °F	40 %	ENE	4.7 mph	6.2 mph	30.06 in	0.00 in	0.00 in	6	1255.3 w/m²
3:39 PM	82.5 °F	55.7 °F	40 %	ENE	6.0 mph	8.5 mph	30.06 in	0.00 in	0.00 in	6	1274.7 w/m²
3:44 PM	82.1 °F	55.6 °F	40 %	NE	9.0 mph	11.5 mph	30.06 in	0.00 in	0.00 in	6	1259.2 w/m²
3:49 PM	81.5 °F	55.9 °F	42 %	ENE	8.5 mph	12.0 mph	30.05 in	0.00 in	0.00 in	6	1259.2 w/m²
3:54 PM	82.2 °F	56.1 °F	41 %	NE	4.3 mph	6.3 mph	30.05 in	0.00 in	0.00 in	5	1239.8 w/m²
3:59 PM	83.2 °F	56.3 °F	40 %	ENE	5.7 mph	7.4 mph	30.05 in	0.00 in	0.00 in	6	1259.2 w/m²
4:04 PM	82.8 °F	55.7 °F	40 %	NNE	7.3 mph	9.1 mph	30.05 in	0.00 in	0.00 in	6	1166 w/m²
4:09 PM	83.1 °F	55.2 °F	39 %	NE	7.5 mph	9.8 mph	30.05 in	0.00 in	0.00 in	6	1014.2 w/m²
4:14 PM	82.9 °F	55.5 °F	39 %	NE	7.6 mph	9.9 mph	30.04 in	0.00 in	0.00 in	6	1015.7 w/m²
4:19 PM	83.1 °F	55.2 °F	39 %	ENE	6.0 mph	7.8 mph	30.04 in	0.00 in	0.00 in	5	996.5 w/m²
4:24 PM	83.2 °F	55.5 °F	39 %	NNE	8.1 mph	10.1 mph	30.04 in	0.00 in	0.00 in	5	916.1 w/m²
4:29 PM	83.2 °F	55.1 °F	38 %	NE	7.1 mph	10.5 mph	30.04 in	0.00 in	0.00 in	5	965.6 w/m²
4:34 PM	83.1 °F	55.3 °F	39 %	NNE	8.1 mph	10.6 mph	30.04 in	0.00 in	0.00 in	5	755.5 w/m²
4:39 PM	82.9 °F	55.2 °F	39 %	NE	7.9 mph	10.3 mph	30.04 in	0.00 in	0.00 in	5	751 w/m²
4:44 PM	82.9 °F	55.2 °F	39 %	ENE	7.1 mph	9.7 mph	30.04 in	0.00 in	0.00 in	5	625.6 w/m²
4:49 PM	83.1 °F	55.1 °F	38 %	NE	7.1 mph	9.3 mph	30.04 in	0.00 in	0.00 in	3	484.4 w/m²

Time	Temperature	Dew Point	Humidity	Wind	Speed	Gust	Pressure	Precip. Rate.	Precip. Accum.	UV	Solar
4:54 PM	83.2 °F	55.1 °F	38 %	NNE	8.9 mph	11.0 mph	30.04 in	0.00 in	0.00 in	3	303.4 w/m²
4:59 PM	82.8 °F	55.3 °F	39 %	NNE	8.8 mph	10.9 mph	30.04 in	0.00 in	0.00 in	3	287.8 w/m²
5:04 PM	83.9 °F	55.9 °F	39 %	ENE	6.3 mph	8.3 mph	30.04 in	0.00 in	0.00 in	3	279.1 w/m²
5:09 PM	83.0 °F	55.2 °F	39 %	NE	7.9 mph	9.9 mph	30.03 in	0.00 in	0.00 in	3	260.2 w/m²
5:14 PM	83.8 °F	55.9 °F	39 %	NE	5.4 mph	7.3 mph	30.03 in	0.00 in	0.00 in	3	244.9 w/m²
5:19 PM	83.7 °F	56.1 °F	39 %	East	5.2 mph	7.6 mph	30.03 in	0.00 in	0.00 in	3	234.4 w/m²
5:24 PM	83.0 °F	55.7 °F	39 %	ENE	8.3 mph	12.4 mph	30.03 in	0.00 in	0.00 in	3	226.4 w/m²
5:29 PM	83.1 °F	55.4 °F	39 %	North	7.6 mph	9.3 mph	30.02 in	0.00 in	0.00 in	3	204.9 w/m²
5:34 PM	83.1 °F	55.7 °F	39 %	NE	7.9 mph	10.1 mph	30.03 in	0.00 in	0.00 in	2	199.5 w/m²
5:39 PM	83.2 °F	55.5 °F	39 %	NNE	8.1 mph	10.8 mph	30.03 in	0.00 in	0.00 in	2	191.6 w/m²
5:44 PM	83.0 °F	55.6 °F	39 %	ENE	7.2 mph	9.0 mph	30.03 in	0.00 in	0.00 in	3	174.1 w/m²
5:49 PM	82.6 °F	55.5 °F	40 %	ENE	6.4 mph	10.0 mph	30.02 in	0.00 in	0.00 in	3	174.6 w/m²
5:54 PM	83.0 °F	55.7 °F	39 %	ENE	4.9 mph	6.5 mph	30.02 in	0.00 in	0.00 in	2	144.4 w/m²
5:59 PM	82.5 °F	55.0 °F	39 %	ENE	8.1 mph	10.2 mph	30.02 in	0.00 in	0.00 in	2	97.9 w/m²
6:04 PM	82.7 °F	55.2 °F	39 %	ENE	5.5 mph	8.0 mph	30.02 in	0.00 in	0.00 in	2	84.4 w/m²
6:09 PM	83.1 °F	55.0 °F	38 %	ENE	7.0 mph	9.0 mph	30.01 in	0.00 in	0.00 in	2	73.1 w/m²
6:14 PM	82.8 °F	54.8 °F	38 %	ENE	6.6 mph	7.8 mph	30.01 in	0.00 in	0.00 in	2	68.9 w/m²
6:19 PM	82.6 °F	54.5 °F	38 %	NE	7.5 mph	9.0 mph	30.02 in	0.00 in	0.00 in	2	66.7 w/m²
6:24 PM	82.8 °F	54.6 °F	38 %	ENE	5.0 mph	7.4 mph	30.02 in	0.00 in	0.00 in	2	68.4 w/m²
6:29 PM	82.7 °F	54.4 °F	38 %	NE	7.3 mph	9.6 mph	30.01 in	0.00 in	0.00 in	2	71.7 w/m²
6:34 PM	82.5 °F	55.0 °F	39 %	East	5.4 mph	7.3 mph	30.01 in	0.00 in	0.00 in	2	73.1 w/m²
6:39 PM	82.9 °F	54.8 °F	38 %	NE	5.1 mph	7.2 mph	30.01 in	0.00 in	0.00 in	2	70 w/m²
6:44 PM	82.4 °F	54.9 °F	39 %	NE	4.7 mph	6.4 mph	30.01 in	0.00 in	0.00 in	2	73.4 w/m²
6:49 PM	82.3 °F	54.8 °F	39 %	ENE	6.0 mph	8.3 mph	30.01 in	0.00 in	0.00 in	2	90.1 w/m²
6:54 PM	82.4 °F	54.9 °F	39 %	NE	4.3 mph	6.0 mph	30.01 in	0.00 in	0.00 in	2	81.8 w/m²
6:59 PM	83.1 °F	55.1 °F	38 %	NNE	2.8 mph	3.9 mph	30.01 in	0.00 in	0.00 in	2	89.4 w/m²
7:04 PM	82.5 °F	54.5 °F	38 %	ENE	5.2 mph	8.3 mph	30.01 in	0.00 in	0.00 in	2	84.3 w/m²
7:09 PM	82.0 °F	54.6 °F	39 %	NE	4.6 mph	6.2 mph	30.01 in	0.00 in	0.00 in	2	77.7 w/m²
7:14 PM	81.7 °F	54.5 °F	39 %	NE	6.3 mph	8.0 mph	30.01 in	0.00 in	0.00 in	2	74.1 w/m²
7:19 PM	81.9 °F	54.7 °F	39 %	ENE	3.5 mph	4.5 mph	30.01 in	0.00 in	0.00 in	2	68.3 w/m²
7:24 PM	81.9 °F	54.6 °F	39 %	NE	5.7 mph	7.2 mph	30.01 in	0.00 in	0.00 in	2	66.1 w/m²
7:29 PM	82.0 °F	54.6 °F	39 %	NE	3.6 mph	4.5 mph	30.01 in	0.00 in	0.00 in	2	63.3 w/m²
7:34 PM	81.5 °F	54.6 °F	40 %	ENE	4.6 mph	6.0 mph	30.02 in	0.00 in	0.00 in	2	56.7 w/m²
7:39 PM	81.3 °F	54.5 °F	40 %	NE	4.4 mph	5.8 mph	30.01 in	0.00 in	0.00 in	2	53.2 w/m²
7:44 PM	81.3 °F	54.2 °F	39 %	NE	3.0 mph	3.8 mph	30.02 in	0.00 in	0.00 in	2	51.3 w/m²
7:49 PM	81.7 °F	54.3 °F	39 %	NE	2.9 mph	3.6 mph	30.02 in	0.00 in	0.00 in	2	46.1 w/m²
7:54 PM	81.3 °F	53.8 °F	39 %	NNE	4.2 mph	5.5 mph	30.01 in	0.00 in	0.00 in	2	43.9 w/m²
7:59 PM	81.4 °F	54.5 °F	40 %	ENE	2.2 mph	2.9 mph	30.01 in	0.00 in	0.00 in	1	40.6 w/m²
8:04 PM	81.2 °F	53.8 °F	39 %	ENE	3.3 mph	4.0 mph	30.01 in	0.00 in	0.00 in	2	36.7 w/m²
8:09 PM	81.1 °F	53.9 °F	39 %	NE	2.4 mph	3.1 mph	30.01 in	0.00 in	0.00 in	2	35.2 w/m²
8:14 PM	80.7 °F	53.7 °F	39 %	ENE	3.1 mph	3.9 mph	30.01 in	0.00 in	0.00 in	1	31.1 w/m²
8:19 PM	80.7 °F	53.6 °F	39 %		3.2 mph	4.4 mph	30.01 in	0.00 in	0.00 in	2	28.1 w/m²
8:24 PM	80.4 °F	53.8 °F	40 %	ENE	2.8 mph	3.7 mph	30.01 in	0.00 in	0.00 in	2	26 w/m²
8:29 PM	80.1 °F	53.7 °F	40 %	ENE	1.8 mph	2.2 mph	30.01 in	0.00 in	0.00 in	1	22.8 w/m²
8:34 PM	79.7 °F	53.2 °F	40 %	ENE	3.2 mph	4.4 mph	30.01 in	0.00 in	0.00 in	1	20.1 w/m²
8:39 PM	79.1 °F	53.4 °F	41 %	ENE	2.3 mph	2.8 mph	30.01 in	0.00 in	0.00 in	1	17.2 w/m²
8:44 PM	78.7 °F	53.0 °F	41 %	ENE	2.6 mph	3.5 mph	30.01 in	0.00 in	0.00 in	1	16.3 w/m²

Time	Temperature	Dew Point	Humidity	Wind	Speed	Gust	Pressure	Precip. Rate.	Precip. Accum.	UV	Solar
8:49 PM	78.2 °F	53.1 °F	42 %	NE	2.6 mph	3.3 mph	30.01 in	0.00 in	0.00 in	2	15.5 w/m²
8:54 PM	77.6 °F	53.1 °F	43 %	ENE	2.4 mph	2.9 mph	30.01 in	0.00 in	0.00 in	1	12.4 w/m²
8:59 PM	77.2 °F	53.0 °F	43 %	NNE	3.3 mph	4.0 mph	30.00 in	0.00 in	0.00 in	1	9.5 w/m²
9:04 PM	77.0 °F	53.1 °F	44 %	ENE	2.2 mph	3.0 mph	30.01 in	0.00 in	0.00 in	1	6.8 w/m²
9:09 PM	76.6 °F	53.1 °F	44 %	NE	1.8 mph	2.2 mph	30.01 in	0.00 in	0.00 in	1	4.9 w/m²
9:14 PM	76.3 °F	53.4 °F	45 %	NE	2.1 mph	2.5 mph	30.01 in	0.00 in	0.00 in	1	3.3 w/m²
9:19 PM	76.0 °F	53.4 °F	45 %	NE	1.8 mph	2.2 mph	30.00 in	0.00 in	0.00 in	1	2 w/m²
9:24 PM	75.8 °F	53.5 °F	46 %	NE	1.7 mph	2.1 mph	30.01 in	0.00 in	0.00 in	1	1.1 w/m²
9:29 PM	75.5 °F	53.5 °F	46 %	NE	1.6 mph	2.1 mph	30.01 in	0.00 in	0.00 in	0	0.5 w/m²
9:34 PM	75.1 °F	53.5 °F	47 %	NE	1.0 mph	1.2 mph	30.01 in	0.00 in	0.00 in	1	0.3 w/m²
9:39 PM	74.8 °F	53.8 °F	48 %	ENE	0.4 mph	0.7 mph	30.01 in	0.00 in	0.00 in	1	0.1 w/m²
9:44 PM	74.3 °F	54.0 °F	49 %	East	0.2 mph	0.3 mph	30.01 in	0.00 in	0.00 in	1	0.1 w/m²
9:49 PM	74.0 °F	53.9 °F	50 %	NE	0.1 mph	0.3 mph	30.01 in	0.00 in	0.00 in	0	0 w/m²
9:54 PM	73.7 °F	53.9 °F	50 %	NNE	0.8 mph	1.2 mph	30.01 in	0.00 in	0.00 in	1	0 w/m²
9:59 PM	73.4 °F	54.0 °F	51 %	NE	0.3 mph	0.6 mph	30.01 in	0.00 in	0.00 in	1	0 w/m²
10:04 PM	72.7 °F	54.3 °F	52 %	SSE	0.0 mph	0.0 mph	30.01 in	0.00 in	0.00 in	2	0 w/m²
10:09 PM	72.0 °F	54.4 °F	54 %	ENE	0.0 mph	0.0 mph	30.01 in	0.00 in	0.00 in	1	0 w/m²
10:14 PM	71.3 °F	54.2 °F	55 %	ENE	0.0 mph	0.0 mph	30.01 in	0.00 in	0.00 in	1	0 w/m²
10:19 PM	71.2 °F	54.7 °F	56 %	NNE	0.7 mph	1.4 mph	30.01 in	0.00 in	0.00 in	1	0 w/m²
10:24 PM	70.9 °F	54.9 °F	57 %	NE	0.1 mph	0.1 mph	30.01 in	0.00 in	0.00 in	1	0 w/m²
10:29 PM	71.0 °F	54.6 °F	56 %	NE	0.3 mph	0.6 mph	30.01 in	0.00 in	0.00 in	1	0 w/m²
10:34 PM	70.6 °F	54.7 °F	57 %	ENE	0.0 mph	0.1 mph	30.01 in	0.00 in	0.00 in	1	0 w/m²
10:39 PM	70.1 °F	54.8 °F	58 %	ESE	0.0 mph	0.0 mph	30.01 in	0.00 in	0.00 in	1	0 w/m²
10:44 PM	69.6 °F	55.1 °F	60 %	ENE	0.0 mph	0.0 mph	30.01 in	0.00 in	0.00 in	0	0 w/m²
10:49 PM	69.5 °F	55.0 °F	60 %	NE	0.8 mph	1.2 mph	30.00 in	0.00 in	0.00 in	1	0 w/m²
10:54 PM	69.6 °F	55.1 °F	60 %	NE	1.5 mph	2.1 mph	30.00 in	0.00 in	0.00 in	0	0 w/m²
10:59 PM	69.9 °F	54.9 °F	59 %	ENE	1.1 mph	1.5 mph	30.00 in	0.00 in	0.00 in	0	0 w/m²
11:04 PM	70.5 °F	54.3 °F	57 %	NE	1.7 mph	2.1 mph	30.01 in	0.00 in	0.00 in	1	0 w/m²
11:09 PM	70.8 °F	53.7 °F	55 %	NE	2.5 mph	2.9 mph	30.00 in	0.00 in	0.00 in	1	0 w/m²
11:14 PM	70.9 °F	53.0 °F	53 %	NE	2.8 mph	3.1 mph	30.00 in	0.00 in	0.00 in	1	0 w/m²
11:19 PM	71.4 °F	51.6 °F	50 %	NE	3.7 mph	4.9 mph	30.00 in	0.00 in	0.00 in	1	0 w/m²
11:24 PM	71.6 °F	50.3 °F	47 %	NE	3.4 mph	4.2 mph	30.00 in	0.00 in	0.00 in	1	0 w/m²
11:29 PM	71.5 °F	49.8 °F	46 %	NE	3.8 mph	4.9 mph	30.00 in	0.00 in	0.00 in	1	0 w/m²
11:34 PM	71.4 °F	49.5 °F	46 %	NE	3.2 mph	4.2 mph	30.00 in	0.00 in	0.00 in	1	0 w/m²
11:39 PM	71.0 °F	49.2 °F	46 %	NE	3.1 mph	4.1 mph	30.00 in	0.00 in	0.00 in	1	0 w/m²
11:44 PM	70.6 °F	49.4 °F	47 %	NE	2.9 mph	3.7 mph	30.00 in	0.00 in	0.00 in	1	0 w/m²
11:49 PM	70.4 °F	49.2 °F	47 %	NE	2.7 mph	3.4 mph	30.01 in	0.00 in	0.00 in	1	0 w/m²
11:54 PM	70.1 °F	49.5 °F	48 %	ENE	2.5 mph	2.9 mph	30.00 in	0.00 in	0.00 in	1	0 w/m²
11:59 PM	69.7 °F	49.5 °F	49 %	NE	1.5 mph	2.1 mph	30.00 in	0.00 in	0.00 in	1	0 w/m²

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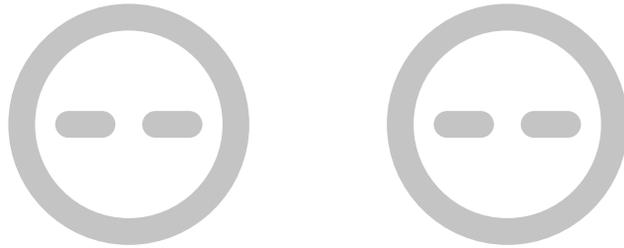
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### Weather History for KWAEVERE321

Daily Mode July 16 2025 View

Previous

Next

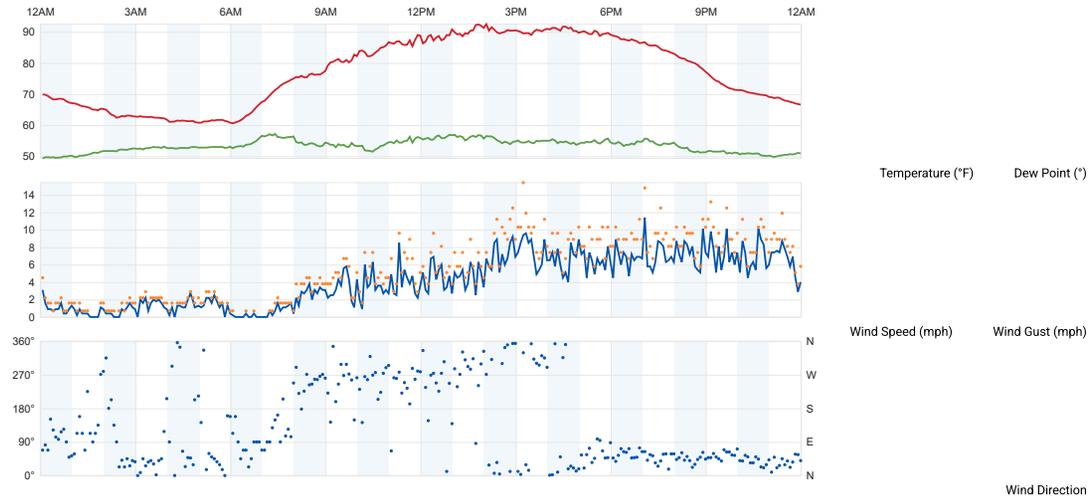
#### Summary July 16, 2025

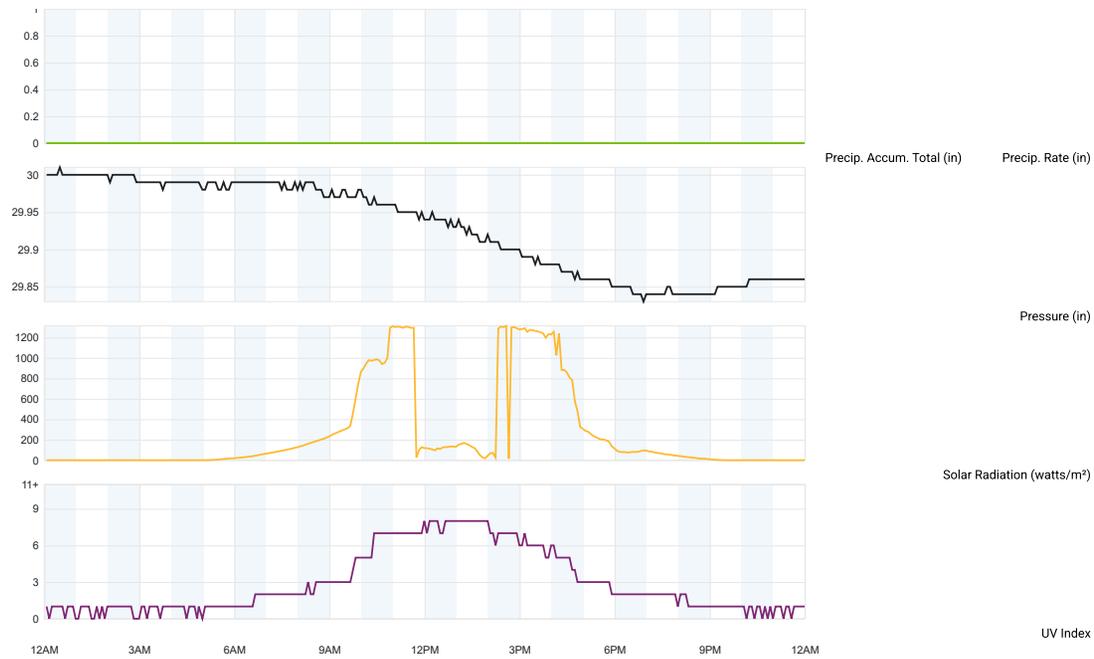
	High	Low	Average
Temperature	92.5 °F	60.4 °F	76.8 °F
Dew Point	57.2 °F	49.1 °F	53.0 °F
Humidity	76 %	28 %	46 %
Precipitation	0.00 in	--	--

	High	Low	Average
Wind Speed	11.4 mph	0.0 mph	2.9 mph
Wind Gust	15.4 mph	--	3.8 mph
Wind Direction	--	--	NNE
Pressure	30.01 in	29.83 in	--

Graph Table

#### July 16, 2025





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[Essential Accessibility \(https://www.essentialaccessibility.com/the-weather-channel?utm\\_source=theweatherchannelhomepage&utm\\_medium=iconlarge&utm\\_term=eachannelpage&utm\\_content=header&utm\\_campaign=theweatherchannel\)](https://www.essentialaccessibility.com/the-weather-channel?utm_source=theweatherchannelhomepage&utm_medium=iconlarge&utm_term=eachannelpage&utm_content=header&utm_campaign=theweatherchannel)

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<https://weather.com>

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Elev 132 ft, 47.88 °N, 122.23 °W

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[FORECAST FOR EVERETT, WA \(\)](#)

## Station Summary

Offline

CURRENT CONDITIONS

MAP



--

Feels Like --

DEWPOINT

--

PRESSURE

--

PRECIP ACCUM

--



WIND & GUST

-- / --mph

PRECIP RATE

--

HUMIDITY

--

UV

--



## PWS CURRENT CONDITIONS

TEMPERATURE



WIND



PRESSURE





### Weather History for KWAEVERE321

[Previous](#)

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#### Summary July 16, 2025

	High	Low	Average
Temperature	92.5 °F	60.4 °F	76.8 °F
Dew Point	57.2 °F	49.1 °F	53.0 °F
Humidity	76 %	28 %	46 %
Precipitation	0.00 in	--	--

	High	Low	Average
Wind Speed	11.4 mph	0.0 mph	2.9 mph
Wind Gust	15.4 mph	--	3.8 mph
Wind Direction	--	--	NNE
Pressure	30.01 in	29.83 in	--

#### July 16, 2025

Time	Temperature	Dew Point	Humidity	Wind	Speed	Gust	Pressure	Precip. Rate.	Precip. Accum.	UV	Solar
12:04 AM	69.8 °F	49.2 °F	48 %	ENE	2.2 mph	3.0 mph	30.00 in	0.00 in	0.00 in	1	0 w/m²
12:09 AM	69.7 °F	49.4 °F	48 %	East	1.0 mph	1.5 mph	30.00 in	0.00 in	0.00 in	0	0 w/m²
12:14 AM	69.2 °F	49.4 °F	49 %	ENE	0.3 mph	0.6 mph	30.00 in	0.00 in	0.00 in	1	0 w/m²
12:19 AM	68.6 °F	49.4 °F	50 %	SSE	0.5 mph	1.1 mph	30.00 in	0.00 in	0.00 in	1	0 w/m²
12:24 AM	68.1 °F	49.4 °F	51 %	ESE	0.2 mph	0.4 mph	30.00 in	0.00 in	0.00 in	1	0 w/m²
12:29 AM	68.2 °F	49.4 °F	51 %	ESE	0.6 mph	1.1 mph	30.01 in	0.00 in	0.00 in	1	0 w/m²
12:34 AM	68.4 °F	49.6 °F	51 %	East	0.5 mph	1.1 mph	30.00 in	0.00 in	0.00 in	1	0 w/m²
12:39 AM	68.4 °F	49.6 °F	51 %	ESE	0.6 mph	1.2 mph	30.00 in	0.00 in	0.00 in	0	0 w/m²
12:44 AM	67.9 °F	49.6 °F	52 %	SE	0.2 mph	0.4 mph	30.00 in	0.00 in	0.00 in	1	0 w/m²
12:49 AM	67.5 °F	49.8 °F	53 %	East	0.1 mph	0.1 mph	30.00 in	0.00 in	0.00 in	1	0 w/m²
12:54 AM	67.3 °F	49.8 °F	53 %	NE	0.3 mph	0.5 mph	30.00 in	0.00 in	0.00 in	1	0 w/m²
12:59 AM	67.0 °F	49.9 °F	54 %	NE	0.6 mph	0.9 mph	30.00 in	0.00 in	0.00 in	0	0 w/m²
1:04 AM	66.9 °F	49.7 °F	54 %	ENE	0.3 mph	0.6 mph	30.00 in	0.00 in	0.00 in	0	0 w/m²
1:09 AM	66.6 °F	49.7 °F	55 %	ESE	0.0 mph	0.1 mph	30.00 in	0.00 in	0.00 in	1	0 w/m²

Time	Temperature	Dew Point	Humidity	Wind	Speed	Gust	Pressure	Precip. Rate.	Precip. Accum.	UV	Solar
1:14 AM	66.3 °F	50.0 °F	56 %	SSE	0.5 mph	0.8 mph	30.00 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
1:19 AM	65.9 °F	50.0 °F	57 %	ESE	0.1 mph	0.3 mph	30.00 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
1:24 AM	65.9 °F	50.2 °F	57 %	ENE	0.1 mph	0.4 mph	30.00 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
1:29 AM	65.7 °F	50.3 °F	58 %	SW	0.1 mph	0.1 mph	30.00 in	0.00 in	0.00 in	0	0 w/m <sup>2</sup>
1:34 AM	65.3 °F	50.5 °F	59 %	ESE	0.0 mph	0.0 mph	30.00 in	0.00 in	0.00 in	0	0 w/m <sup>2</sup>
1:39 AM	64.9 °F	50.8 °F	60 %	East	0.0 mph	0.0 mph	30.00 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
1:44 AM	64.9 °F	51.0 °F	61 %	ESE	0.0 mph	0.0 mph	30.00 in	0.00 in	0.00 in	0	0 w/m <sup>2</sup>
1:49 AM	64.5 °F	50.9 °F	61 %	SE	0.0 mph	0.0 mph	30.00 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
1:54 AM	64.8 °F	51.3 °F	62 %	West	0.7 mph	1.1 mph	30.00 in	0.00 in	0.00 in	0	0 w/m <sup>2</sup>
1:59 AM	65.1 °F	51.4 °F	61 %	West	0.5 mph	0.9 mph	30.00 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
2:04 AM	64.7 °F	51.5 °F	62 %	NW	0.1 mph	0.6 mph	29.99 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
2:09 AM	63.9 °F	51.4 °F	64 %	South	0.1 mph	0.4 mph	30.00 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
2:14 AM	63.3 °F	51.5 °F	66 %	SSW	0.1 mph	0.3 mph	30.00 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
2:19 AM	62.8 °F	51.6 °F	67 %	SE	0.0 mph	0.1 mph	30.00 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
2:24 AM	62.3 °F	51.5 °F	68 %	East	0.0 mph	0.0 mph	30.00 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
2:29 AM	62.3 °F	51.9 °F	69 %	NNE	0.0 mph	0.1 mph	30.00 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
2:34 AM	62.9 °F	52.0 °F	68 %	NE	0.6 mph	0.9 mph	30.00 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
2:39 AM	62.8 °F	52.1 °F	68 %	NNE	0.3 mph	0.3 mph	30.00 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
2:44 AM	63.0 °F	52.0 °F	67 %	NE	0.6 mph	1.0 mph	30.00 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
2:49 AM	63.0 °F	52.2 °F	68 %	NNE	1.3 mph	1.8 mph	30.00 in	0.00 in	0.00 in	0	0 w/m <sup>2</sup>
2:54 AM	62.8 °F	52.2 °F	68 %	NE	1.1 mph	1.6 mph	29.99 in	0.00 in	0.00 in	0	0 w/m <sup>2</sup>
2:59 AM	62.7 °F	52.2 °F	69 %	NE	0.4 mph	0.6 mph	29.99 in	0.00 in	0.00 in	0	0 w/m <sup>2</sup>
3:04 AM	62.6 °F	52.3 °F	69 %	North	0.0 mph	0.0 mph	29.99 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
3:09 AM	62.8 °F	52.4 °F	69 %	North	1.5 mph	1.8 mph	29.99 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
3:14 AM	62.6 °F	52.1 °F	68 %	NE	1.3 mph	1.8 mph	29.99 in	0.00 in	0.00 in	0	0 w/m <sup>2</sup>
3:19 AM	62.5 °F	52.4 °F	69 %	NNE	1.4 mph	1.9 mph	29.99 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
3:24 AM	62.5 °F	52.4 °F	69 %	NE	0.4 mph	0.7 mph	29.99 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
3:29 AM	62.6 °F	52.7 °F	70 %	NE	1.2 mph	1.5 mph	29.99 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
3:34 AM	62.4 °F	52.6 °F	70 %	NNE	1.7 mph	2.0 mph	29.99 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
3:39 AM	62.4 °F	52.7 °F	71 %	North	1.4 mph	1.8 mph	29.99 in	0.00 in	0.00 in	0	0 w/m <sup>2</sup>
3:44 AM	62.4 °F	52.5 °F	70 %	NE	1.4 mph	1.8 mph	29.98 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
3:49 AM	62.2 °F	52.6 °F	71 %	NE	1.1 mph	1.7 mph	29.99 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
3:54 AM	62.1 °F	53.0 °F	72 %	ESE	0.6 mph	0.9 mph	29.99 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
3:59 AM	61.5 °F	52.6 °F	72 %	SSW	0.5 mph	1.0 mph	29.99 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
4:04 AM	60.9 °F	52.3 °F	73 %	East	0.0 mph	0.1 mph	29.99 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
4:09 AM	60.8 °F	52.4 °F	74 %	WNW	0.5 mph	0.8 mph	29.99 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
4:14 AM	61.1 °F	52.4 °F	73 %	North	0.0 mph	0.0 mph	29.99 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
4:19 AM	61.4 °F	52.4 °F	72 %		0.7 mph	1.1 mph	29.99 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
4:24 AM	61.4 °F	52.5 °F	73 %	NNW	0.8 mph	1.1 mph	29.99 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
4:29 AM	61.4 °F	52.6 °F	73 %	ENE	0.3 mph	0.6 mph	29.99 in	0.00 in	0.00 in	0	0 w/m <sup>2</sup>
4:34 AM	61.3 °F	52.6 °F	73 %	NNE	1.0 mph	1.4 mph	29.99 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
4:39 AM	61.2 °F	52.5 °F	73 %	NE	0.8 mph	1.2 mph	29.99 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
4:44 AM	61.1 °F	52.7 °F	74 %	NE	1.6 mph	2.1 mph	29.99 in	0.00 in	0.00 in	1	0 w/m <sup>2</sup>
4:49 AM	61.2 °F	52.9 °F	74 %	NNE	1.5 mph	2.0 mph	29.99 in	0.00 in	0.00 in	0	0 w/m <sup>2</sup>
4:52 AM	60.9 °F	52.9 °F	75 %	SSW	0.4 mph	0.8 mph	29.99 in	0.00 in	0.00 in	1	0.1 w/m <sup>2</sup>
4:59 AM	60.7 °F	52.7 °F	75 %	SSW	0.8 mph	1.0 mph	29.98 in	0.00 in	0.00 in	0	0.2 w/m <sup>2</sup>
5:04 AM	60.7 °F	52.7 °F	75 %	SE	0.4 mph	1.0 mph	29.98 in	0.00 in	0.00 in	1	0.4 w/m <sup>2</sup>

Time	Temperature	Dew Point	Humidity	Wind	Speed	Gust	Pressure	Precip. Rate.	Precip. Accum.	UV	Solar
5:09 AM	61.0 °F	52.7 °F	74 %	NNW	0.7 mph	1.1 mph	29.99 in	0.00 in	0.00 in	1	0.8 w/m <sup>2</sup>
5:14 AM	61.1 °F	52.7 °F	74 %	NNE	1.2 mph	1.9 mph	29.99 in	0.00 in	0.00 in	1	1.6 w/m <sup>2</sup>
5:19 AM	61.2 °F	52.8 °F	74 %	ENE	1.3 mph	1.8 mph	29.99 in	0.00 in	0.00 in	1	2.9 w/m <sup>2</sup>
5:24 AM	61.5 °F	52.9 °F	73 %	NE	0.9 mph	1.6 mph	29.99 in	0.00 in	0.00 in	1	4.4 w/m <sup>2</sup>
5:29 AM	61.4 °F	52.8 °F	73 %	NE	1.5 mph	2.1 mph	29.98 in	0.00 in	0.00 in	1	6.5 w/m <sup>2</sup>
5:34 AM	61.6 °F	52.9 °F	73 %	NE	0.7 mph	1.2 mph	29.98 in	0.00 in	0.00 in	1	8.9 w/m <sup>2</sup>
5:39 AM	61.6 °F	52.9 °F	73 %	NNE	0.8 mph	1.2 mph	29.99 in	0.00 in	0.00 in	1	11.3 w/m <sup>2</sup>
5:44 AM	61.6 °F	52.9 °F	73 %	NNE	0.8 mph	0.9 mph	29.98 in	0.00 in	0.00 in	1	14.2 w/m <sup>2</sup>
5:49 AM	61.3 °F	52.6 °F	73 %	North	0.0 mph	0.0 mph	29.98 in	0.00 in	0.00 in	1	17.1 w/m <sup>2</sup>
5:54 AM	61.1 °F	52.7 °F	74 %	SSE	0.3 mph	0.5 mph	29.99 in	0.00 in	0.00 in	1	16.6 w/m <sup>2</sup>
5:59 AM	60.7 °F	52.8 °F	75 %	SSE	0.2 mph	0.4 mph	29.99 in	0.00 in	0.00 in	1	18.9 w/m <sup>2</sup>
6:04 AM	60.5 °F	52.5 °F	75 %	ESE	0.0 mph	0.1 mph	29.99 in	0.00 in	0.00 in	1	22.2 w/m <sup>2</sup>
6:09 AM	60.6 °F	52.7 °F	75 %	SSE	0.0 mph	0.0 mph	29.99 in	0.00 in	0.00 in	1	24.1 w/m <sup>2</sup>
6:14 AM	61.0 °F	53.0 °F	75 %	East	0.0 mph	0.0 mph	29.99 in	0.00 in	0.00 in	1	26.7 w/m <sup>2</sup>
6:19 AM	61.4 °F	53.1 °F	74 %	NE	0.0 mph	0.0 mph	29.99 in	0.00 in	0.00 in	1	29.6 w/m <sup>2</sup>
6:24 AM	61.9 °F	53.0 °F	73 %	ENE	0.0 mph	0.0 mph	29.99 in	0.00 in	0.00 in	1	32.4 w/m <sup>2</sup>
6:29 AM	62.7 °F	53.4 °F	72 %	ENE	0.1 mph	0.1 mph	29.99 in	0.00 in	0.00 in	1	35.5 w/m <sup>2</sup>
6:34 AM	63.3 °F	53.7 °F	71 %	NNE	0.0 mph	0.0 mph	29.99 in	0.00 in	0.00 in	1	39.3 w/m <sup>2</sup>
6:39 AM	63.7 °F	53.9 °F	70 %	NE	0.0 mph	0.0 mph	29.99 in	0.00 in	0.00 in	2	43.6 w/m <sup>2</sup>
6:44 AM	64.5 °F	54.0 °F	69 %	East	0.1 mph	0.1 mph	29.99 in	0.00 in	0.00 in	2	48.2 w/m <sup>2</sup>
6:49 AM	65.5 °F	54.7 °F	68 %	East	0.0 mph	0.0 mph	29.99 in	0.00 in	0.00 in	2	53.9 w/m <sup>2</sup>
6:54 AM	66.3 °F	55.4 °F	68 %	East	0.0 mph	0.0 mph	29.99 in	0.00 in	0.00 in	2	59.1 w/m <sup>2</sup>
6:59 AM	67.2 °F	56.3 °F	68 %	ENE	0.0 mph	0.0 mph	29.99 in	0.00 in	0.00 in	2	63.8 w/m <sup>2</sup>
7:04 AM	67.7 °F	56.3 °F	67 %	ENE	0.0 mph	0.0 mph	29.99 in	0.00 in	0.00 in	2	68.2 w/m <sup>2</sup>
7:09 AM	68.4 °F	56.5 °F	66 %	East	0.0 mph	0.0 mph	29.99 in	0.00 in	0.00 in	2	72.8 w/m <sup>2</sup>
7:14 AM	69.3 °F	56.8 °F	64 %	East	0.1 mph	0.3 mph	29.99 in	0.00 in	0.00 in	2	77.1 w/m <sup>2</sup>
7:19 AM	70.1 °F	56.4 °F	62 %	SE	0.1 mph	0.6 mph	29.99 in	0.00 in	0.00 in	2	82.2 w/m <sup>2</sup>
7:24 AM	71.0 °F	56.8 °F	61 %	SSE	0.2 mph	0.7 mph	29.99 in	0.00 in	0.00 in	2	87.1 w/m <sup>2</sup>
7:29 AM	71.6 °F	55.8 °F	58 %	SSE	0.7 mph	1.0 mph	29.98 in	0.00 in	0.00 in	2	91.9 w/m <sup>2</sup>
7:34 AM	72.4 °F	55.6 °F	56 %	East	0.1 mph	0.5 mph	29.99 in	0.00 in	0.00 in	2	97.1 w/m <sup>2</sup>
7:39 AM	73.1 °F	55.6 °F	54 %	SSW	0.4 mph	1.0 mph	29.98 in	0.00 in	0.00 in	2	103.6 w/m <sup>2</sup>
7:44 AM	73.5 °F	55.5 °F	53 %	ESE	0.3 mph	0.6 mph	29.98 in	0.00 in	0.00 in	2	109 w/m <sup>2</sup>
7:49 AM	74.0 °F	55.8 °F	53 %	SE	0.5 mph	0.9 mph	29.98 in	0.00 in	0.00 in	2	114.4 w/m <sup>2</sup>
7:54 AM	74.4 °F	55.7 °F	52 %	ESE	0.5 mph	0.9 mph	29.99 in	0.00 in	0.00 in	2	120.6 w/m <sup>2</sup>
7:59 AM	74.8 °F	55.6 °F	51 %	WSW	0.1 mph	0.1 mph	29.98 in	0.00 in	0.00 in	2	127.2 w/m <sup>2</sup>
8:04 AM	75.3 °F	54.3 °F	48 %	WNW	0.7 mph	1.3 mph	29.99 in	0.00 in	0.00 in	2	134.7 w/m <sup>2</sup>
8:09 AM	75.3 °F	54.0 °F	48 %	SW	0.8 mph	1.4 mph	29.98 in	0.00 in	0.00 in	2	142.3 w/m <sup>2</sup>
8:14 AM	75.7 °F	54.2 °F	47 %	South	1.4 mph	2.0 mph	29.99 in	0.00 in	0.00 in	2	151.4 w/m <sup>2</sup>
8:19 AM	75.3 °F	53.7 °F	47 %	SW	2.2 mph	3.0 mph	29.99 in	0.00 in	0.00 in	3	160.2 w/m <sup>2</sup>
8:24 AM	75.3 °F	53.7 °F	47 %	West	2.1 mph	3.1 mph	29.99 in	0.00 in	0.00 in	2	168.7 w/m <sup>2</sup>
8:29 AM	75.6 °F	53.8 °F	47 %	WSW	1.5 mph	1.9 mph	29.99 in	0.00 in	0.00 in	2	177 w/m <sup>2</sup>
8:34 AM	76.5 °F	53.7 °F	45 %	WSW	1.6 mph	2.4 mph	29.98 in	0.00 in	0.00 in	3	185.5 w/m <sup>2</sup>
8:39 AM	76.0 °F	53.3 °F	45 %	WSW	2.4 mph	3.0 mph	29.98 in	0.00 in	0.00 in	3	194 w/m <sup>2</sup>
8:44 AM	76.2 °F	53.1 °F	45 %	WSW	2.0 mph	2.8 mph	29.98 in	0.00 in	0.00 in	3	201.9 w/m <sup>2</sup>
8:49 AM	76.2 °F	52.8 °F	44 %	West	2.5 mph	3.6 mph	29.97 in	0.00 in	0.00 in	3	210.8 w/m <sup>2</sup>
8:54 AM	76.4 °F	53.1 °F	44 %	West	1.8 mph	2.3 mph	29.97 in	0.00 in	0.00 in	3	220.6 w/m <sup>2</sup>
8:59 AM	77.0 °F	53.9 °F	45 %	West	2.4 mph	2.8 mph	29.97 in	0.00 in	0.00 in	3	233 w/m <sup>2</sup>

Time	Temperature	Dew Point	Humidity	Wind	Speed	Gust	Pressure	Precip. Rate.	Precip. Accum.	UV	Solar
9:04 AM	78.6 °F	54.0 °F	43 %	SW	1.2 mph	1.9 mph	29.98 in	0.00 in	0.00 in	3	246.6 w/m <sup>2</sup>
9:09 AM	79.7 °F	53.4 °F	40 %	SE	1.6 mph	2.8 mph	29.97 in	0.00 in	0.00 in	3	259.4 w/m <sup>2</sup>
9:14 AM	80.2 °F	53.0 °F	39 %	NNW	1.7 mph	2.8 mph	29.97 in	0.00 in	0.00 in	3	270.7 w/m <sup>2</sup>
9:19 AM	80.7 °F	52.7 °F	38 %	SSW	1.8 mph	3.1 mph	29.97 in	0.00 in	0.00 in	3	280.9 w/m <sup>2</sup>
9:24 AM	81.0 °F	53.2 °F	38 %	WSW	2.2 mph	2.8 mph	29.98 in	0.00 in	0.00 in	3	292 w/m <sup>2</sup>
9:29 AM	80.1 °F	53.2 °F	39 %	WNW	2.2 mph	3.0 mph	29.98 in	0.00 in	0.00 in	3	302.8 w/m <sup>2</sup>
9:34 AM	79.9 °F	52.7 °F	39 %	West	3.2 mph	4.3 mph	29.97 in	0.00 in	0.00 in	3	313.6 w/m <sup>2</sup>
9:39 AM	80.5 °F	52.9 °F	39 %	WNW	2.8 mph	3.6 mph	29.97 in	0.00 in	0.00 in	3	337.4 w/m <sup>2</sup>
9:44 AM	79.8 °F	52.6 °F	39 %	West	3.0 mph	4.0 mph	29.97 in	0.00 in	0.00 in	4	460.3 w/m <sup>2</sup>
9:49 AM	80.4 °F	53.3 °F	39 %	WSW	1.5 mph	2.1 mph	29.97 in	0.00 in	0.00 in	5	604.2 w/m <sup>2</sup>
9:54 AM	82.1 °F	53.2 °F	37 %	SSE	0.7 mph	1.4 mph	29.98 in	0.00 in	0.00 in	5	747.2 w/m <sup>2</sup>
9:59 AM	81.4 °F	52.6 °F	37 %	West	2.2 mph	2.9 mph	29.98 in	0.00 in	0.00 in	5	864.8 w/m <sup>2</sup>
10:04 AM	83.2 °F	53.1 °F	36 %	SW	1.1 mph	1.9 mph	29.97 in	0.00 in	0.00 in	5	898.2 w/m <sup>2</sup>
10:09 AM	84.0 °F	53.4 °F	35 %	SE	0.6 mph	1.2 mph	29.97 in	0.00 in	0.00 in	5	944.9 w/m <sup>2</sup>
10:14 AM	82.6 °F	51.6 °F	34 %	West	3.2 mph	4.0 mph	29.96 in	0.00 in	0.00 in	5	978.5 w/m <sup>2</sup>
10:19 AM	81.7 °F	51.4 °F	35 %	WSW	2.4 mph	3.3 mph	29.96 in	0.00 in	0.00 in	5	971.8 w/m <sup>2</sup>
10:24 AM	82.0 °F	51.3 °F	35 %	NW	3.4 mph	4.3 mph	29.97 in	0.00 in	0.00 in	7	980.1 w/m <sup>2</sup>
10:29 AM	82.0 °F	51.1 °F	34 %	West	3.8 mph	4.6 mph	29.96 in	0.00 in	0.00 in	7	986.4 w/m <sup>2</sup>
10:34 AM	82.9 °F	51.8 °F	34 %	West	2.5 mph	3.4 mph	29.96 in	0.00 in	0.00 in	7	974.8 w/m <sup>2</sup>
10:39 AM	83.5 °F	52.5 °F	34 %	SSW	2.7 mph	3.6 mph	29.96 in	0.00 in	0.00 in	7	939.7 w/m <sup>2</sup>
10:44 AM	84.3 °F	52.5 °F	34 %	SW	2.2 mph	3.5 mph	29.96 in	0.00 in	0.00 in	7	951.8 w/m <sup>2</sup>
10:49 AM	84.9 °F	53.4 °F	34 %	West	2.0 mph	2.8 mph	29.96 in	0.00 in	0.00 in	7	995.9 w/m <sup>2</sup>
10:54 AM	85.5 °F	53.4 °F	33 %	WNW	2.0 mph	3.1 mph	29.96 in	0.00 in	0.00 in	7	1294.1 w/m <sup>2</sup>
10:59 AM	86.4 °F	53.8 °F	33 %	WNW	1.7 mph	2.9 mph	29.96 in	0.00 in	0.00 in	7	1309.6 w/m <sup>2</sup>
11:04 AM	86.2 °F	54.0 °F	33 %	ENE	2.6 mph	3.6 mph	29.96 in	0.00 in	0.00 in	7	1301.9 w/m <sup>2</sup>
11:09 AM	85.3 °F	53.6 °F	34 %	West	2.0 mph	2.5 mph	29.95 in	0.00 in	0.00 in	7	1305.8 w/m <sup>2</sup>
11:14 AM	86.3 °F	54.4 °F	34 %	West	1.8 mph	2.7 mph	29.95 in	0.00 in	0.00 in	7	1301.9 w/m <sup>2</sup>
11:19 AM	85.6 °F	53.8 °F	34 %	West	3.3 mph	4.0 mph	29.95 in	0.00 in	0.00 in	7	1294.1 w/m <sup>2</sup>
11:24 AM	85.7 °F	54.0 °F	34 %	SW	1.8 mph	2.7 mph	29.95 in	0.00 in	0.00 in	7	1305.8 w/m <sup>2</sup>
11:29 AM	85.4 °F	54.3 °F	35 %	WSW	2.6 mph	4.0 mph	29.95 in	0.00 in	0.00 in	7	1301.9 w/m <sup>2</sup>
11:34 AM	85.1 °F	54.5 °F	35 %	SW	3.0 mph	4.3 mph	29.95 in	0.00 in	0.00 in	7	1294.1 w/m <sup>2</sup>
11:39 AM	86.7 °F	55.6 °F	35 %	SSW	2.3 mph	4.1 mph	29.95 in	0.00 in	0.00 in	7	1294.1 w/m <sup>2</sup>
11:44 AM	84.8 °F	54.1 °F	35 %	WNW	3.2 mph	4.4 mph	29.95 in	0.00 in	0.00 in	7	27.8 w/m <sup>2</sup>
11:49 AM	86.3 °F	55.4 °F	35 %	WSW	1.7 mph	2.4 mph	29.94 in	0.00 in	0.00 in	7	98 w/m <sup>2</sup>
11:54 AM	88.6 °F	55.8 °F	33 %	West	1.5 mph	2.2 mph	29.95 in	0.00 in	0.00 in	7	127.9 w/m <sup>2</sup>
11:59 AM	87.6 °F	55.2 °F	33 %	West	2.6 mph	3.6 mph	29.94 in	0.00 in	0.00 in	8	117.9 w/m <sup>2</sup>
12:04 PM	85.9 °F	55.0 °F	35 %	NNW	3.7 mph	4.2 mph	29.94 in	0.00 in	0.00 in	7	117.2 w/m <sup>2</sup>
12:09 PM	86.0 °F	55.2 °F	35 %	SW	1.9 mph	2.7 mph	29.94 in	0.00 in	0.00 in	8	112.1 w/m <sup>2</sup>
12:14 PM	88.1 °F	55.5 °F	33 %	SSE	1.9 mph	2.6 mph	29.95 in	0.00 in	0.00 in	8	105.4 w/m <sup>2</sup>
12:19 PM	87.3 °F	54.8 °F	33 %	West	4.0 mph	5.1 mph	29.94 in	0.00 in	0.00 in	8	95.9 w/m <sup>2</sup>
12:24 PM	86.4 °F	55.0 °F	34 %	West	4.4 mph	6.2 mph	29.94 in	0.00 in	0.00 in	8	115.6 w/m <sup>2</sup>
12:29 PM	87.2 °F	55.5 °F	34 %	WSW	3.4 mph	4.5 mph	29.94 in	0.00 in	0.00 in	7	110 w/m <sup>2</sup>
12:34 PM	88.1 °F	55.9 °F	34 %	SW	2.8 mph	4.0 mph	29.94 in	0.00 in	0.00 in	7	124.2 w/m <sup>2</sup>
12:39 PM	87.0 °F	55.2 °F	34 %	West	2.7 mph	3.7 mph	29.94 in	0.00 in	0.00 in	8	128 w/m <sup>2</sup>
12:44 PM	87.4 °F	55.5 °F	34 %	NW	1.7 mph	2.5 mph	29.93 in	0.00 in	0.00 in	8	129.1 w/m <sup>2</sup>
12:49 PM	88.3 °F	56.0 °F	34 %	North	2.3 mph	3.4 mph	29.94 in	0.00 in	0.00 in	8	134.5 w/m <sup>2</sup>
12:54 PM	88.7 °F	56.2 °F	33 %	WSW	2.7 mph	3.8 mph	29.93 in	0.00 in	0.00 in	8	133.2 w/m <sup>2</sup>

Time	Temperature	Dew Point	Humidity	Wind	Speed	Gust	Pressure	Precip. Rate.	Precip. Accum.	UV	Solar
12:59 PM	90.3 °F	56.4 °F	32 %	SE	1.2 mph	1.6 mph	29.93 in	0.00 in	0.00 in	8	131.6 w/m <sup>2</sup>
1:04 PM	89.0 °F	55.9 °F	33 %	WNW	2.5 mph	3.4 mph	29.94 in	0.00 in	0.00 in	8	151.2 w/m <sup>2</sup>
1:09 PM	88.8 °F	55.9 °F	33 %	WSW	3.3 mph	4.2 mph	29.93 in	0.00 in	0.00 in	8	158.9 w/m <sup>2</sup>
1:14 PM	88.9 °F	55.7 °F	33 %	West	3.6 mph	4.7 mph	29.93 in	0.00 in	0.00 in	8	170.1 w/m <sup>2</sup>
1:19 PM	88.2 °F	54.9 °F	32 %	NNW	3.6 mph	4.7 mph	29.92 in	0.00 in	0.00 in	8	158.9 w/m <sup>2</sup>
1:24 PM	89.1 °F	54.7 °F	31 %	NW	1.7 mph	2.4 mph	29.93 in	0.00 in	0.00 in	8	147.3 w/m <sup>2</sup>
1:29 PM	89.2 °F	55.1 °F	32 %	WNW	3.0 mph	4.1 mph	29.92 in	0.00 in	0.00 in	8	130.4 w/m <sup>2</sup>
1:34 PM	89.5 °F	55.9 °F	32 %	WNW	3.6 mph	5.4 mph	29.92 in	0.00 in	0.00 in	8	119 w/m <sup>2</sup>
1:39 PM	89.6 °F	55.8 °F	32 %	NW	2.9 mph	3.7 mph	29.92 in	0.00 in	0.00 in	8	87.3 w/m <sup>2</sup>
1:44 PM	91.6 °F	55.9 °F	30 %	East	1.5 mph	2.1 mph	29.91 in	0.00 in	0.00 in	8	51.2 w/m <sup>2</sup>
1:49 PM	91.9 °F	55.6 °F	30 %	WSW	2.8 mph	4.0 mph	29.91 in	0.00 in	0.00 in	8	27.5 w/m <sup>2</sup>
1:54 PM	91.4 °F	56.0 °F	30 %	WNW	3.2 mph	3.8 mph	29.91 in	0.00 in	0.00 in	8	17.6 w/m <sup>2</sup>
1:59 PM	90.7 °F	55.2 °F	30 %	NNW	2.0 mph	3.1 mph	29.92 in	0.00 in	0.00 in	8	43.9 w/m <sup>2</sup>
2:04 PM	91.3 °F	55.9 °F	30 %	West	3.4 mph	4.6 mph	29.91 in	0.00 in	0.00 in	7	68.5 w/m <sup>2</sup>
2:09 PM	90.0 °F	55.8 °F	32 %	NNE	2.8 mph	3.2 mph	29.91 in	0.00 in	0.00 in	7	71 w/m <sup>2</sup>
2:14 PM	91.3 °F	56.0 °F	31 %	NW	2.7 mph	3.2 mph	29.91 in	0.00 in	0.00 in	6	24.1 w/m <sup>2</sup>
2:19 PM	90.6 °F	55.2 °F	30 %	North	3.3 mph	4.1 mph	29.91 in	0.00 in	0.00 in	7	1286.3 w/m <sup>2</sup>
2:24 PM	89.6 °F	54.8 °F	31 %	NE	5.7 mph	7.4 mph	29.90 in	0.00 in	0.00 in	7	1305.8 w/m <sup>2</sup>
2:29 PM	89.2 °F	54.6 °F	31 %	North	3.2 mph	4.4 mph	29.90 in	0.00 in	0.00 in	7	1301.9 w/m <sup>2</sup>
2:34 PM	89.6 °F	54.0 °F	30 %	WNW	6.2 mph	8.1 mph	29.90 in	0.00 in	0.00 in	7	1313.5 w/m <sup>2</sup>
2:39 PM	89.7 °F	53.9 °F	30 %	NNW	4.3 mph	6.0 mph	29.90 in	0.00 in	0.00 in	7	14.1 w/m <sup>2</sup>
2:44 PM	90.1 °F	53.7 °F	29 %		5.4 mph	6.7 mph	29.90 in	0.00 in	0.00 in	7	1298 w/m <sup>2</sup>
2:49 PM	90.1 °F	53.7 °F	29 %	North	6.1 mph	8.1 mph	29.90 in	0.00 in	0.00 in	7	1301.9 w/m <sup>2</sup>
2:54 PM	90.1 °F	54.3 °F	30 %		5.5 mph	7.2 mph	29.90 in	0.00 in	0.00 in	7	1290.2 w/m <sup>2</sup>
2:59 PM	90.0 °F	54.1 °F	30 %		5.6 mph	7.1 mph	29.90 in	0.00 in	0.00 in	6	1278.6 w/m <sup>2</sup>
3:04 PM	90.0 °F	54.3 °F	30 %	North	5.5 mph	7.8 mph	29.89 in	0.00 in	0.00 in	6	1282.5 w/m <sup>2</sup>
3:09 PM	89.5 °F	54.3 °F	30 %	North	6.4 mph	7.7 mph	29.89 in	0.00 in	0.00 in	7	1290.2 w/m <sup>2</sup>
3:14 PM	89.3 °F	53.9 °F	30 %	NNW	6.4 mph	8.9 mph	29.89 in	0.00 in	0.00 in	6	1255.3 w/m <sup>2</sup>
3:19 PM	89.2 °F	53.9 °F	30 %	NNE	8.1 mph	9.8 mph	29.89 in	0.00 in	0.00 in	6	1274.7 w/m <sup>2</sup>
3:24 PM	89.3 °F	53.9 °F	30 %	NNE	7.1 mph	9.0 mph	29.89 in	0.00 in	0.00 in	6	1270.8 w/m <sup>2</sup>
3:29 PM	88.7 °F	53.7 °F	30 %		6.9 mph	8.0 mph	29.88 in	0.00 in	0.00 in	6	1263.1 w/m <sup>2</sup>
3:34 PM	89.3 °F	53.8 °F	30 %	NW	5.0 mph	7.2 mph	29.89 in	0.00 in	0.00 in	6	1259.2 w/m <sup>2</sup>
3:39 PM	90.4 °F	54.2 °F	29 %	WNW	3.9 mph	5.0 mph	29.88 in	0.00 in	0.00 in	6	1251.4 w/m <sup>2</sup>
3:44 PM	90.3 °F	54.3 °F	30 %	WNW	4.6 mph	5.6 mph	29.88 in	0.00 in	0.00 in	6	1239.8 w/m <sup>2</sup>
3:49 PM	89.9 °F	54.4 °F	30 %	NW	4.8 mph	6.2 mph	29.88 in	0.00 in	0.00 in	5	1197 w/m <sup>2</sup>
3:54 PM	90.3 °F	54.7 °F	30 %	NW	5.2 mph	7.0 mph	29.88 in	0.00 in	0.00 in	5	1232 w/m <sup>2</sup>
3:59 PM	90.5 °F	54.2 °F	29 %	WNW	4.6 mph	6.1 mph	29.88 in	0.00 in	0.00 in	6	1228.1 w/m <sup>2</sup>
4:04 PM	90.3 °F	54.6 °F	30 %	North	5.1 mph	5.9 mph	29.88 in	0.00 in	0.00 in	6	1255.3 w/m <sup>2</sup>
4:09 PM	90.5 °F	54.2 °F	29 %	North	5.9 mph	7.1 mph	29.88 in	0.00 in	0.00 in	5	1025 w/m <sup>2</sup>
4:14 PM	90.3 °F	54.3 °F	30 %		4.4 mph	5.6 mph	29.88 in	0.00 in	0.00 in	5	1239.8 w/m <sup>2</sup>
4:19 PM	90.0 °F	53.8 °F	29 %	North	6.0 mph	7.5 mph	29.87 in	0.00 in	0.00 in	5	881 w/m <sup>2</sup>
4:24 PM	90.2 °F	54.3 °F	30 %	NE	4.3 mph	5.6 mph	29.87 in	0.00 in	0.00 in	5	882.8 w/m <sup>2</sup>
4:29 PM	91.3 °F	54.0 °F	28 %	NW	3.5 mph	4.4 mph	29.87 in	0.00 in	0.00 in	5	856.8 w/m <sup>2</sup>
4:34 PM	91.5 °F	54.0 °F	28 %		4.0 mph	5.2 mph	29.87 in	0.00 in	0.00 in	5	808.1 w/m <sup>2</sup>
4:39 PM	90.8 °F	54.1 °F	29 %	NNE	3.2 mph	4.7 mph	29.87 in	0.00 in	0.00 in	4	783 w/m <sup>2</sup>
4:44 PM	90.7 °F	53.7 °F	29 %	NNE	6.5 mph	7.5 mph	29.86 in	0.00 in	0.00 in	4	578.3 w/m <sup>2</sup>
4:49 PM	90.1 °F	53.7 °F	29 %	NNE	5.5 mph	6.5 mph	29.87 in	0.00 in	0.00 in	3	478.1 w/m <sup>2</sup>

Time	Temperature	Dew Point	Humidity	Wind	Speed	Gust	Pressure	Precip. Rate.	Precip. Accum.	UV	Solar
4:54 PM	90.0 °F	53.4 °F	29 %	NNE	5.8 mph	6.8 mph	29.86 in	0.00 in	0.00 in	3	326.2 w/m <sup>2</sup>
4:59 PM	89.5 °F	53.6 °F	30 %	NNE	5.2 mph	6.4 mph	29.86 in	0.00 in	0.00 in	3	307 w/m <sup>2</sup>
5:04 PM	89.8 °F	54.2 °F	30 %	NE	5.7 mph	6.8 mph	29.86 in	0.00 in	0.00 in	3	286.5 w/m <sup>2</sup>
5:09 PM	89.7 °F	53.9 °F	30 %	NNE	6.4 mph	7.2 mph	29.86 in	0.00 in	0.00 in	3	278.1 w/m <sup>2</sup>
5:14 PM	89.5 °F	54.3 °F	30 %	NE	3.5 mph	5.0 mph	29.86 in	0.00 in	0.00 in	3	256.5 w/m <sup>2</sup>
5:19 PM	89.0 °F	54.2 °F	31 %	ENE	4.9 mph	6.6 mph	29.86 in	0.00 in	0.00 in	3	237.3 w/m <sup>2</sup>
5:24 PM	89.2 °F	54.6 °F	31 %	NE	5.6 mph	7.3 mph	29.86 in	0.00 in	0.00 in	3	224.2 w/m <sup>2</sup>
5:29 PM	89.8 °F	54.7 °F	31 %	NE	4.0 mph	5.1 mph	29.86 in	0.00 in	0.00 in	3	211.7 w/m <sup>2</sup>
5:34 PM	89.3 °F	53.9 °F	30 %	East	4.5 mph	5.9 mph	29.86 in	0.00 in	0.00 in	3	202.2 w/m <sup>2</sup>
5:39 PM	88.6 °F	54.1 °F	31 %	East	5.0 mph	7.1 mph	29.86 in	0.00 in	0.00 in	3	200.8 w/m <sup>2</sup>
5:44 PM	89.0 °F	54.4 °F	31 %	ENE	4.9 mph	6.9 mph	29.86 in	0.00 in	0.00 in	3	193 w/m <sup>2</sup>
5:49 PM	89.2 °F	54.7 °F	31 %	NE	4.4 mph	5.4 mph	29.86 in	0.00 in	0.00 in	3	179.2 w/m <sup>2</sup>
5:54 PM	89.3 °F	55.0 °F	31 %	NE	5.3 mph	7.1 mph	29.85 in	0.00 in	0.00 in	2	135.2 w/m <sup>2</sup>
5:59 PM	88.9 °F	54.3 °F	31 %	East	4.8 mph	6.2 mph	29.85 in	0.00 in	0.00 in	2	114.8 w/m <sup>2</sup>
6:04 PM	88.6 °F	53.9 °F	31 %	NE	3.6 mph	5.5 mph	29.85 in	0.00 in	0.00 in	2	91 w/m <sup>2</sup>
6:09 PM	88.2 °F	53.6 °F	31 %	NE	7.2 mph	8.7 mph	29.85 in	0.00 in	0.00 in	2	82 w/m <sup>2</sup>
6:14 PM	88.1 °F	53.8 °F	31 %	NE	5.0 mph	6.5 mph	29.85 in	0.00 in	0.00 in	2	78.7 w/m <sup>2</sup>
6:19 PM	87.5 °F	53.3 °F	31 %	ENE	4.0 mph	5.6 mph	29.85 in	0.00 in	0.00 in	2	79.3 w/m <sup>2</sup>
6:24 PM	87.5 °F	53.1 °F	31 %	ENE	4.8 mph	6.1 mph	29.85 in	0.00 in	0.00 in	2	74.5 w/m <sup>2</sup>
6:29 PM	87.1 °F	53.1 °F	31 %	ENE	5.1 mph	6.5 mph	29.85 in	0.00 in	0.00 in	2	78.3 w/m <sup>2</sup>
6:34 PM	87.1 °F	53.6 °F	32 %	ENE	3.9 mph	5.6 mph	29.84 in	0.00 in	0.00 in	2	81.3 w/m <sup>2</sup>
6:39 PM	87.4 °F	53.9 °F	32 %	NE	5.1 mph	6.9 mph	29.84 in	0.00 in	0.00 in	2	80.7 w/m <sup>2</sup>
6:44 PM	87.2 °F	53.7 °F	32 %	NE	4.6 mph	6.5 mph	29.84 in	0.00 in	0.00 in	2	82.9 w/m <sup>2</sup>
6:49 PM	86.6 °F	54.1 °F	33 %	NE	5.7 mph	7.7 mph	29.84 in	0.00 in	0.00 in	2	89.5 w/m <sup>2</sup>
6:54 PM	86.3 °F	54.6 °F	34 %	ENE	5.3 mph	7.5 mph	29.83 in	0.00 in	0.00 in	2	94.8 w/m <sup>2</sup>
6:59 PM	86.3 °F	54.5 °F	34 %	ENE	5.2 mph	7.4 mph	29.84 in	0.00 in	0.00 in	2	94.6 w/m <sup>2</sup>
7:04 PM	86.4 °F	55.0 °F	34 %	ENE	6.1 mph	7.6 mph	29.84 in	0.00 in	0.00 in	2	85.8 w/m <sup>2</sup>
7:09 PM	85.8 °F	55.0 °F	35 %	NE	4.9 mph	6.1 mph	29.84 in	0.00 in	0.00 in	2	84.4 w/m <sup>2</sup>
7:14 PM	85.4 °F	54.6 °F	35 %	NE	4.7 mph	6.6 mph	29.84 in	0.00 in	0.00 in	2	76.6 w/m <sup>2</sup>
7:19 PM	85.5 °F	54.5 °F	35 %	NE	4.5 mph	6.2 mph	29.84 in	0.00 in	0.00 in	2	72.1 w/m <sup>2</sup>
7:24 PM	85.5 °F	53.9 °F	34 %	NE	4.6 mph	6.5 mph	29.84 in	0.00 in	0.00 in	2	68.8 w/m <sup>2</sup>
7:29 PM	84.9 °F	53.4 °F	34 %	NNE	5.8 mph	7.2 mph	29.84 in	0.00 in	0.00 in	2	64.6 w/m <sup>2</sup>
7:34 PM	84.3 °F	53.1 °F	34 %	NE	6.1 mph	8.1 mph	29.84 in	0.00 in	0.00 in	2	57.8 w/m <sup>2</sup>
7:39 PM	84.0 °F	53.5 °F	35 %	ENE	5.4 mph	6.8 mph	29.85 in	0.00 in	0.00 in	2	56.7 w/m <sup>2</sup>
7:44 PM	83.8 °F	53.9 °F	36 %	ENE	5.2 mph	7.1 mph	29.85 in	0.00 in	0.00 in	2	53.8 w/m <sup>2</sup>
7:49 PM	83.5 °F	53.7 °F	36 %	NNE	5.2 mph	7.1 mph	29.84 in	0.00 in	0.00 in	2	48.4 w/m <sup>2</sup>
7:54 PM	83.1 °F	53.7 °F	36 %	ENE	4.8 mph	6.4 mph	29.84 in	0.00 in	0.00 in	2	45.3 w/m <sup>2</sup>
7:59 PM	82.8 °F	53.9 °F	37 %	ENE	5.5 mph	7.6 mph	29.84 in	0.00 in	0.00 in	1	41.9 w/m <sup>2</sup>
8:04 PM	82.2 °F	53.3 °F	37 %	NE	6.8 mph	8.8 mph	29.84 in	0.00 in	0.00 in	2	39.3 w/m <sup>2</sup>
8:09 PM	81.7 °F	52.9 °F	37 %	NE	5.5 mph	6.6 mph	29.84 in	0.00 in	0.00 in	2	36 w/m <sup>2</sup>
8:14 PM	81.4 °F	52.6 °F	37 %	ENE	5.2 mph	7.1 mph	29.84 in	0.00 in	0.00 in	2	31.9 w/m <sup>2</sup>
8:19 PM	81.2 °F	52.4 °F	37 %	NE	5.8 mph	7.3 mph	29.84 in	0.00 in	0.00 in	1	29.6 w/m <sup>2</sup>
8:24 PM	80.8 °F	52.2 °F	37 %	NE	5.3 mph	6.4 mph	29.84 in	0.00 in	0.00 in	1	26.5 w/m <sup>2</sup>
8:29 PM	80.4 °F	51.7 °F	37 %	NE	6.0 mph	8.0 mph	29.84 in	0.00 in	0.00 in	1	23 w/m <sup>2</sup>
8:34 PM	80.0 °F	51.4 °F	37 %	NNE	7.2 mph	8.3 mph	29.84 in	0.00 in	0.00 in	1	20.3 w/m <sup>2</sup>
8:39 PM	79.6 °F	51.0 °F	37 %	NNE	4.5 mph	5.6 mph	29.84 in	0.00 in	0.00 in	1	16.8 w/m <sup>2</sup>
8:44 PM	79.1 °F	51.2 °F	38 %	NE	3.8 mph	4.8 mph	29.84 in	0.00 in	0.00 in	1	16.2 w/m <sup>2</sup>

Time	Temperature	Dew Point	Humidity	Wind	Speed	Gust	Pressure	Precip. Rate.	Precip. Accum.	UV	Solar
8:49 PM	78.5 °F	50.8 °F	38 %	NE	4.5 mph	5.3 mph	29.84 in	0.00 in	0.00 in	1	14.7 w/m²
8:54 PM	77.7 °F	51.0 °F	39 %	ENE	7.1 mph	8.4 mph	29.84 in	0.00 in	0.00 in	1	12.3 w/m²
8:59 PM	76.9 °F	51.0 °F	40 %	NE	5.4 mph	7.4 mph	29.84 in	0.00 in	0.00 in	1	9.4 w/m²
9:04 PM	76.1 °F	51.3 °F	42 %	NE	5.2 mph	7.7 mph	29.84 in	0.00 in	0.00 in	1	6.6 w/m²
9:09 PM	75.3 °F	51.5 °F	43 %	NE	7.4 mph	9.4 mph	29.84 in	0.00 in	0.00 in	1	4.5 w/m²
9:14 PM	74.6 °F	51.2 °F	44 %	ENE	7.1 mph	9.0 mph	29.85 in	0.00 in	0.00 in	1	2.8 w/m²
9:19 PM	74.2 °F	51.4 °F	45 %	NE	4.5 mph	6.0 mph	29.85 in	0.00 in	0.00 in	1	1.7 w/m²
9:24 PM	73.7 °F	51.3 °F	45 %	NE	5.5 mph	7.2 mph	29.85 in	0.00 in	0.00 in	1	0.9 w/m²
9:29 PM	73.2 °F	51.3 °F	46 %	NE	4.3 mph	5.9 mph	29.85 in	0.00 in	0.00 in	1	0.5 w/m²
9:34 PM	72.7 °F	51.4 °F	47 %	ENE	4.1 mph	5.2 mph	29.85 in	0.00 in	0.00 in	1	0.2 w/m²
9:39 PM	72.2 °F	50.8 °F	47 %	ENE	6.9 mph	8.6 mph	29.85 in	0.00 in	0.00 in	1	0.1 w/m²
9:44 PM	71.8 °F	51.0 °F	48 %	ENE	5.4 mph	7.8 mph	29.85 in	0.00 in	0.00 in	1	0 w/m²
9:49 PM	71.6 °F	50.8 °F	48 %	NE	5.0 mph	6.5 mph	29.85 in	0.00 in	0.00 in	1	0 w/m²
9:54 PM	71.3 °F	50.9 °F	49 %	NE	5.2 mph	6.8 mph	29.85 in	0.00 in	0.00 in	1	0 w/m²
9:59 PM	71.3 °F	51.1 °F	49 %	ENE	5.0 mph	6.6 mph	29.85 in	0.00 in	0.00 in	1	0 w/m²
10:04 PM	71.2 °F	50.5 °F	48 %	NE	3.9 mph	5.3 mph	29.85 in	0.00 in	0.00 in	1	0 w/m²
10:09 PM	71.1 °F	50.5 °F	48 %	NE	5.9 mph	7.1 mph	29.85 in	0.00 in	0.00 in	0	0 w/m²
10:14 PM	70.8 °F	50.7 °F	49 %	NE	5.9 mph	7.6 mph	29.86 in	0.00 in	0.00 in	1	0 w/m²
10:19 PM	70.5 °F	50.5 °F	49 %	NE	3.6 mph	4.4 mph	29.86 in	0.00 in	0.00 in	1	0 w/m²
10:24 PM	70.3 °F	50.8 °F	50 %	NE	4.6 mph	5.6 mph	29.86 in	0.00 in	0.00 in	0	0 w/m²
10:29 PM	70.2 °F	50.7 °F	50 %	NE	4.7 mph	5.8 mph	29.86 in	0.00 in	0.00 in	1	0 w/m²
10:34 PM	69.9 °F	50.7 °F	51 %	NE	4.3 mph	5.9 mph	29.86 in	0.00 in	0.00 in	1	0 w/m²
10:39 PM	69.7 °F	50.7 °F	51 %	NE	6.4 mph	7.3 mph	29.86 in	0.00 in	0.00 in	0	0 w/m²
10:44 PM	69.8 °F	50.3 °F	50 %	NNE	8.0 mph	9.9 mph	29.86 in	0.00 in	0.00 in	1	0 w/m²
10:49 PM	69.7 °F	50.0 °F	50 %	NNE	6.2 mph	7.7 mph	29.86 in	0.00 in	0.00 in	0	0 w/m²
10:54 PM	69.5 °F	50.0 °F	50 %	NNE	4.0 mph	6.1 mph	29.86 in	0.00 in	0.00 in	1	0 w/m²
10:59 PM	69.1 °F	49.8 °F	50 %	NE	4.5 mph	5.3 mph	29.86 in	0.00 in	0.00 in	0	0 w/m²
11:04 PM	68.9 °F	49.9 °F	51 %	North	5.0 mph	6.1 mph	29.86 in	0.00 in	0.00 in	1	0 w/m²
11:09 PM	68.7 °F	49.8 °F	51 %	NE	6.0 mph	7.8 mph	29.86 in	0.00 in	0.00 in	1	0 w/m²
11:14 PM	68.8 °F	49.9 °F	51 %	NNE	6.4 mph	8.1 mph	29.86 in	0.00 in	0.00 in	1	0 w/m²
11:19 PM	68.5 °F	50.0 °F	52 %	NNE	6.1 mph	7.4 mph	29.86 in	0.00 in	0.00 in	0	0 w/m²
11:24 PM	68.1 °F	50.1 °F	53 %	NE	6.9 mph	8.6 mph	29.86 in	0.00 in	0.00 in	1	0 w/m²
11:29 PM	67.8 °F	50.3 °F	54 %	NNE	5.7 mph	6.9 mph	29.86 in	0.00 in	0.00 in	1	0 w/m²
11:34 PM	67.7 °F	50.4 °F	54 %	NE	5.1 mph	6.2 mph	29.86 in	0.00 in	0.00 in	0	0 w/m²
11:39 PM	67.5 °F	50.4 °F	54 %	NNE	5.4 mph	6.7 mph	29.86 in	0.00 in	0.00 in	1	0 w/m²
11:44 PM	67.2 °F	50.5 °F	55 %	NE	5.7 mph	7.2 mph	29.86 in	0.00 in	0.00 in	1	0 w/m²
11:49 PM	66.8 °F	50.6 °F	56 %	ENE	3.4 mph	4.3 mph	29.86 in	0.00 in	0.00 in	1	0 w/m²
11:54 PM	66.6 °F	50.9 °F	57 %	NE	2.4 mph	3.1 mph	29.86 in	0.00 in	0.00 in	1	0 w/m²
11:59 PM	66.5 °F	50.8 °F	57 %	NE	3.0 mph	4.5 mph	29.86 in	0.00 in	0.00 in	1	0 w/m²

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**Attachment 3**  
**Draft: Vapor Intrusion:**  
**Individual Chemical and Additive Hazard and Risk**

## Vapor Intrusion Individual Chemical and Additive Hazard and Risk

### Individual Chemical Noncancer Hazard and Additive Chemical Hazard

- *Individual Chemical Hazard*

$$\text{Hazard Quotient (HQ)} = \frac{\text{Indoor Air Exposure Concentration}}{\text{Indoor Air Noncancer Cleanup Level}} * \text{noncancer hazard}$$

- Noncancer risk = 1
- **HQ = or < 1** indicates adverse effects from the individual chemical are **not likely**
- **HQ > 1** indicates adverse effects from the individual chemical **may be present**

- *Additive Chemical Hazard*

Hazard Index (HI) = HQ1 + HQ2 + HQ3 ...

- Add up all individual chemical HQs for chemicals that cause the same noncancer health effect.
  - Example: Add up all HQs for chemicals that effect the kidney. Do not include those that effect other organs or systems, such as nervous system, liver, etc. Those should be added up separately. If a chemical is listed as effecting more than one organ or system, include it in both.
  - The result should be HIs for each organ or system that is impacted by the chemicals present at the site.
    - For example,
      - HI (Kidney) = #
      - HI (Liver) = #
- **HI = or < 1** indicates adverse effects from all of the chemicals that have a noncancer effect on that same organ or system are **not likely**
- **HI > 1** indicates adverse effects from all of the chemicals that have a noncancer effect on that same organ or system **may be present**

- *Additional Information*

- Calculate the HQ and HI for each sample location for a given sampling event.
  - If you have 6 samples, calculate HQ for each chemical detected in all 6 samples.
  - Then calculate HI for each of the 6 samples for each organ or system that the chemicals effect.
- Indoor air exposure concentration = detected air concentration for that sample location
- Indoor air noncancer cleanup level = CLARC vapor intrusion indoor air **noncancer** cleanup level
- Health effects are listed in CLARC “Noncancer Effects Table” worksheet, “Noncancer Organ/System Affected Inhalation Route” column.

## Vapor Intrusion Individual Chemical and Additive Hazard and Risk

- Use 2 significant figure to determine if the HQ or HI of 1 is exceeded
  - For example,
    - An HQ of 1.1 or greater exceeds
    - 1.05 should be rounded up to 1.1
    - 1.04 should be rounded down to 1.0

### Individual Chemical Cancer Risk and Additive Cancer Risk

- *Individual Chemical Risk*

$$\text{Excess Lifetime Cancer Risk (ELCR)} = \frac{\text{Indoor Air Exposure Concentration}}{\text{Indoor Air Cancer Cleanup Level}} * \text{cancer risk}$$

- **Cancer risk = 1E-06**
- ELCR = or < 1E-06 indicates that the individual chemical presents an **acceptable cancer risk**
- ELCR > 1E-06 indicates that the individual chemical presents an **unacceptable cancer risk**

- *Additive Chemical Risk*

$$\text{Additive Excess Lifetime Cancer Risk (AELCR)} = \text{ELCR1} + \text{ELCR2} + \text{ELCR3} \dots$$

- Add up all individual chemical ELCRs regardless of the type of cancer.
- AELCR = or < 1E-05 indicates that all of the chemicals that cause a cancer risk present an **acceptable cancer risk**
- AELCR > 1E-05 indicates that all of the chemicals that cause a cancer risk present an **unacceptable cancer risk**

- *Additional Information*

- Calculate the ELCR and AELCR for each sample location for a given sampling event.
  - If you have 6 samples, calculate ELCR for each chemical detected in all 6 samples.
  - Then calculate AELCR for each of the 6 samples.
- Indoor air exposure concentration = detected air concentration for that sample location
- Indoor air cancer cleanup level = CLARC vapor intrusion indoor air **cancer** cleanup level
- You do not need to know the type of cancer because you add up all the ELCRs regardless of what type of cancer is caused by the chemical.
- Use 2 significant figure to determine if the ELCR of 1E-06 or an AELCR of 1E-05 is exceeded
  - For example,
    - An ELCR of 1.1E-06 or greater exceeds
    - An AELCR of 1.1E-05 or greater exceeds
    - 1.05E-06 should be rounded up to 1.1E-06

## Vapor Intrusion Individual Chemical and Additive Hazard and Risk

- 1.04E-06 should be rounded down to 1.0E-6

### NonDetects

- Use ½ the detection limit as an indoor air concentration for any chemicals that are not detected if they have been detected in previous sampling events. This is especially important when it is a chemical that is not detected in upwind ambient outdoor air and is detected in the subslab since that implies it is only being released inside the building or intruding from the subsurface.
  - It is appropriate in some cases to provide 2 calculations: one using ½ the detection limit and another using 0 for the nondetects to provide an additional line of evidence. This is appropriate when there are upwind ambient outdoor air concentrations of this chemical and/or it is not detected in the subslab. In these cases, a site-specific decision can be made with all of the data taken into consideration based on sufficient rationale.

### TPH Specific Information

- If TPH is present at the site, use the aliphatic and aromatic fractions in the additivity calculations along with the other chemicals present at the site. CLARC does not contain indoor air cleanup levels for the aliphatic and aromatics. Please use the ones in the table below. When there is a (minus ...) next to an aliphatic or aromatic, subtract the concentration of the chemical listed from the aliphatic or aromatic concentrations.
  - For example, for aliphatics EC>5-8 (minus hexane), take the concentration of hexane and subtract it from the concentration for the aliphatics EC>5-8 and use that adjusted concentration as your exposure concentration.

Chemical	Method B		Method C		Commercial Worker	
	Noncancer CUL (ug/m3)	Cancer CUL (ug/m3)	Noncancer CUL (ug/m3)	Cancer CUL (ug/m3)	Noncancer CUL (ug/m3)	Cancer CUL (ug/m3)
Aliphatics EC>5-8 (minus hexane)	2.74E+03	NA	5.99E+03	NA	2.33E+04	NA
Aliphatics EC>8-12 *	4.58E+01	NA	1.00E+02	NA	3.90E+02	NA
Aliphatics EC>12-16	4.58E+01	NA	1.00E+02	NA	3.90E+02	NA
Aromatics EC>9-10 (minus xylene, ethylbenzene)	1.82E+02	NA	3.99E+02	NA	1.55E+03	NA
Aromatics EC>10-12 (minus naphthalene)	1.37E+00	NA	3.00E+00	NA	1.17E+01	NA
Aromatics EC>12-16 (minus 1-methylnaphthalene)	1.82E-01	NA	3.99E-01	NA	1.55E+00	NA

CUL – Cleanup level

\* Use the EC>8-12 CUL for the laboratory reported aliphatics range of EC>9-12

NA – not applicable; there is no cancer cleanup level

**Vapor Intrusion**  
**Individual Chemical and Additive Hazard and Risk**

- As an additional line of evidence, additive cancer and noncancer hazard for petroleum chemicals (listed below) may be provided. This is not intended to replace total site additive cancer risk and noncancer hazard calculations. Total site additive cancer risk and noncancer hazard, which includes all the chemicals present at the site, must still be provided. The purpose of this additional line of evidence is to provide the risk present from petroleum chemicals only.
  - Aliphatics EC>5-8 (**minus hexane**)
  - Aliphatics EC>8-12
  - Aliphatics EC>12-16
  - Aromatics EC>9-10 (**minus xylene, ethylbenzene**)
  - Aromatics EC>10-12 (**minus naphthalene**)
  - Aromatics EC>12-16 (**minus 1-methylnaphthalene**)
  - Benzene
  - Ethylbenzene
  - Toluene
  - Total xylenes
  - Hexane
  - Naphthalene
  - 1-Methylnaphthalene
  - 1,2-Dichlorethane (EDC)
  - Ethylene dibromide (EDB)
  - Methyl tert-butyl ether (MTBE)