Geosyntec consultants

engineers | scientists | innovators

2025 ANNUAL REPORT

Remedy Implementation
Crownhill Elementary School Site

Prepared for

Bremerton School District
134 North Marion Avenue
Bremerton, WA 98312

Prepared by

Geosyntec Consultants, Inc.
801 5th Avenue, Suite 2200
Seattle, WA 98104

Project: AS100094J

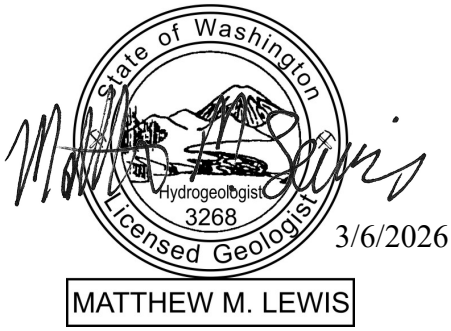
March 6, 2026

2025 Annual Report

Remedy Implementation
Crownhill Elementary School

Prepared for

Bremerton School District



Matthew M. Lewis, LHG
Project Hydrogeologist
matthew.lewis@geosyntec.com

Peter Bannister, PE
Principal Engineer
peter.bannister@geosyntec.com

Project Number: AS100094J

March 6, 2026

EXECUTIVE SUMMARY

Geosyntec Consultants, Inc. (Geosyntec; formerly Aspect Consulting) has completed the 2025 annual monitoring report documenting remedy implementation activities, completed by Bremerton School District (BSD) for the calendar year, for submission to Ecology. This report documents activities completed in 2025 as required in Groundwater/Light Non-Aqueous Phase Liquid (LNAPL) Monitoring and Contingency Plan (Plan; Aspect 2015a), as well as any non-routine work performed at the Crownhill Elementary School site (Site).

Locations of groundwater monitoring wells and LNAPL monitoring/recovery wells are shown on Figure 1. Table 1 lists which Site wells are included in the monitoring program, which of those wells contain LNAPL, and the updated contaminants of concern (COCs) analyzed in groundwater samples collected from the wells that do not contain LNAPL.

Activities Performed in 2025

Below, a summary of routine activities completed in 2025 is listed:

- Groundwater sampling was conducted at all wells specified in the Plan (MW-5, MW-6, MW-9, MW-10, MW-12, and MW-16). Results for the 2025 groundwater monitoring are summarized below, and historical groundwater sampling results since 2013 are presented in Table 2:

    - **Diesel-Range TPH and Motor-Oil-Range** exceeded Site cleanup levels (CULs) in wells MW-5 and MW-12, but remain within historical levels, as is typical. Diesel-Range-TPH was detected below CULs in MW-15 but does not indicate signs of LNAPL migration.

    - **Trichloroethene (TCE)** concentrations exceeded CULs at well MW-9, as is typical, and remains within historical levels. TCE was not detected in the McKinney residential well or any other monitoring well on Site in 2025.

    - **Total arsenic** in groundwater exceeded Site CUL's at MW-6, as is typical, and MW-15 for the first time. However, dissolved arsenic concentrations in MW-15 were below laboratory detection levels (1 µg/L), indicating that the total arsenic levels are resultant of elevated turbidity in the samples. Due to low groundwater levels in MW-15 preventing collection in October 2024 and April 2025, samples were collected by bailer in July, resulting in elevated turbidity.

      Total arsenic in MW-10 remained below CULs, as is typical. The contingency threshold (40 µg/L) was not exceeded in 2025. Figure 2 shows arsenic concentrations measured at MW-6 and MW-10 since those wells were installed.

    - **Dissolved arsenic, iron, manganese, and alkalinity** were within historical **levels** in 2025.

- LNAPL thickness monitoring and recovery activities were conducted according to the Plan in 2025:

  - **LNAPL** was detected in five wells (MW-8, MW-13, MW-14, MW-16, and EW-17), consistent with previous monitoring rounds, with thicknesses ranging from between 0.1 feet in MW-14 to 0.9 feet in EW-17. Table 3 summarizes LNAPL thicknesses measured in these wells since they were installed and Figure 3 plots cumulative LNAPL removal on an annual basis.

- **Subslab Soil Vapor Monitoring** was conducted on November 11, 2025, in general accordance with the requirements of the July 2010 "Soil Vapor Intrusion Assessment Work Plan" (Aspect 2010) to evaluate whether the potential exists for the school's indoor air to be unacceptably impacted by vapor intrusion (VI). None of the detections exceed the corresponding screening level and all laboratory reporting limits for potential contaminants of concern (PCOCs) that were not detected are also below the corresponding screening levels. Results for all five subslab soil vapor sampling events completed to date are summarized in Table 5.

Below is a summary of non-routine activities completed in 2025:

- **A Vapor Intrusion Assessment** sampling and analysis plan (Aspect 2025b) was designed in cooperation with Ecology and implemented by Geosyntec to assess the risk of TCE vapor intrusion in residences within 100 lateral feet of the impacted groundwater as discussed in the 2024 Annual Monitoring Report (Aspect 2025a). During the initial two of four quarterly events, neither TCE nor methane have been detected at the shallow soil vapor probes, as summarized in Table 6. Two remaining quarterly sampling and monitoring events are scheduled for February and May 2026.

Recommendations for 2026

The following remedy implementation activities are planned for 2026:

- Perform maintenance on the dedicated bladder pump in MW-15, extending the tubing in order to lower the pump in the well column and make low-flow sampling possible. This will reduce the likelihood of elevated turbidity in samples, providing more representative total arsenic results.
- Conduct semiannual rounds of groundwater/LNAPL monitoring and LNAPL removal (scheduled for April and October 2026)[1]
- Discontinue sampling MW-6 and MW-10 on a quarterly basis (starting July 2026), as discussed in Section 2.1.1, and resume just semi-annual sampling in April and October.
- Conduct semiannual Site inspections (scheduled for June and December 2026).
- Continue to remove the well caps on select project wells during the dry season, and retain the caps for replacement in October.

[1] If an LNAPL thickness greater than 4 feet is measured in the April monitoring round, an LNAPL removal round will also be required in July 2026.

- Continue two quarterly sampling events for the TCE vapor intrusion assessment (still in progress) as requested by Ecology.

Other activities, as specified in the remedy implementation work plans, may also be required based on monitoring and/or inspection results.

Geosyntec consultants

TABLE OF CONTENTS

1. INTRODUCTION 1
   1.1 Project Background 2

2. ROUTINE ACTIVITIES COMPLETED IN 2025 5
   2.1 Periodic Monitoring Activities 5
      2.1.1 Groundwater Sampling Results and Interpretation 5
      2.1.2 NAPL Thickness Monitoring 8
      2.1.3 SubSlab Soil Vapor Sampling 8
   2.2 LNAPL Removal 9
   2.3 Site Inspections 10

3. NONROUTINE ACTIVITIES COMPLETED IN 2025 11
   3.1 Vapor Intrusion Assessment 11
      3.1.1 Drilling and Installation of Temporary Soil Vapor Probes 11
      3.1.2 Soil Vapor Sampling and Results 11

4. STATEMENT OF COMPLIANCE 13

5. PLANS FOR 2026 14

6. REFERENCES 15

LIST OF TABLES

Table 1: 2025 Well Monitoring Summary
Table 2: Groundwater Monitoring Data Summary
Table 3: LNAPL Thickness Measurements and Removal Summary
Table 4: Cleanup Levels and Screening Levels for Vapor-Phase PCOC's
Table 5: Summary of Subslab Vapor Sampling Results
Table 6: Summary of Soil Vapor Probe Monitoring Results

LIST OF FIGURES

Figure 1: Site Plan
Figure 2: Arsenic in Wells MW-6 and MW-10
Figure 3: Cumulative LNAPL Removal Over Time
Figure 4: Subslab Vapor Sampling Locations

LIST OF APPENDICES

Appendix A: June 2025 Inspection Record and Photos
Appendix B: December 2025 Inspection Record and Photos
Appendix C: Laboratory Reports, 2025 Groundwater Sampling
Appendix D: Laboratory Reports, 2025 Subslab Soil Vapor Sampling
Appendix E: Laboratory Reports, 2025 Soil Vapor Sampling
Appendix F: Soil Vapor Probe Drilling Logs
Appendix G: Report Limitation and Guidelines for Use

1. INTRODUCTION

Historical landfill activities at the Bremerton School District (BSD) Crownhill Elementary School site (Site) have resulted in soil and groundwater contamination, including the presence of light nonaqueous-phase liquid (LNAPL) floating on the water table. The Washington State Department of Ecology (Ecology) and BSD entered into two Agreed Orders (AOs) to provide for remedial action at the Site. The first AO (No. DE7916) required BSD to conduct a Remedial Investigation (RI) and Feasibility Study (FS) in accordance with the Washington State Model Toxics Control Act (MTCA) Cleanup Regulation (Washington Administrative Code [WAC] 173-340). Upon completion of those activities in 2014, Ecology selected a cleanup remedy and prepared a Cleanup Action Plan (CAP) for the Site (Ecology 2014). As documented in the CAP, requirements of the selected remedy include the following:

- Periodic monitoring of groundwater quality and LNAPL layer thickness.
- Periodic removal and off-Site recycling/disposal of LNAPL from existing wells.
- Periodic inspection and maintenance of the existing cover system to prevent direct contact exposures to landfilled materials and impacted soils.
- Running the HVAC system in the main school building continuously during the school day (to address the soil vapor intrusion pathway).
- Periodic subslab soil vapor and/or indoor air sampling to reconfirm that vapor intrusion is not a concern[2].
- Defining requirements for performing invasive work in soil[3].

The second AO (No. DE11107) required BSD to develop Site-specific work plans addressing the above requirements and to implement the cleanup remedy in accordance with those work plans. The following remedy implementation work plans were prepared by BSD and approved by Ecology in 2015:

- "Groundwater/LNAPL Monitoring and Contingency Plan" (Plan; Aspect 2015a)
- "LNAPL Removal Work Plan" (Aspect 2015b)
- "Cover System Inspection and Maintenance Plan" (Aspect 2015c)

In October 2018, Ecology provided a letter to BSD (Ecology 2018) stating that,

[2] Requirements for sampling subslab soil vapor are specified in the Cover System Inspection and Maintenance Plan (Aspect 2015c). Subslab soil vapor sampling was last conducted in November 2020 and is next required in November 2025. If subslab sampling indicates a potential vapor intrusion concern, then follow-up indoor air sampling may be warranted.

[3] Requirements for performing invasive work in soil are specified in Appendix A of the Cover System Inspection and Maintenance Plan (Aspect 2015c).

> *…no further remedial action is necessary to clean up contamination at the Site, other than further operation and maintenance of the final remedy (including removal of LNAPL, continuous operation of the HVAC system during school hours, and institutional controls and monitoring) and periodically reviewing conditions at the Site.*

As described in the 2024 Annual Report (Aspect 2025), Ecology provided a letter to BSD (Ecology 2024) September 2024 stating that due to trichloroethylene (TCE) concentrations at MW-9 exceeding the Method B groundwater screening level for vapor intrusion,

> *Ecology request that the PLP install additional monitoring wells between MW-9 and the north and east fence lines…* to *…better delineate TCE contamination at the Site and determine whether environmental contamination at the site has resulted in TCE concentrations from vapor intrusion above the short-term indoor air action levels off-Property.*

However, in cooperation with Ecology, Aspect (now Geosyntec) designed and installed three shallow soil vapor probes to monitor potential vapor-phase TCE concentrations at the property boundary. The installation and sampling of these soil-gas probes are detailed in section 3.1 and construction diagrams are presented in Appendix F.

Annual reports documenting remedy implementation activities completed by BSD for the calendar year are submitted to Ecology in January of the following year. Annual reports for 2015 through 2024 (Aspect 2016 through Aspect 2025) are referenced in Section 6 of this report. This report documents activities completed in 2025.

1.1 Project Background

Located in Bremerton, Washington, the Site includes both the Crownhill Elementary School (School) property at 1500 Rocky Point Road and the northern portion of the Bremerton United Methodist Church (BUMC) property at 1150 Marine Drive. A Site Plan is provided as Figure 1. The Site was used for sand and gravel mining until the 1930s, and the mined area was backfilled with municipal and industrial wastes in the 1930s and 1940s. The original school building was constructed in 1956 and partially burned down in 1993. A series of environmental investigations were conducted during the period between that fire and construction of the current school building, which was completed in 1996. Additional investigations were conducted beginning in 2009, culminating in preparation of the "Remedial Investigation Report" (Aspect 2014a; herein referred to as the RI report).

The purpose of the RI was to collect data necessary to adequately characterize the nature and extent of Site contamination. Using multiple lines of evidence (e.g., historical photographs, Site assessment activity, construction observations), the RI identified two generalized areas of landfill accumulation, designated the 'north' and 'south' landfill areas. Figure 1 shows the interpreted boundaries of these two areas. Landfilled materials were found at up to a 40-foot depth in the north landfill area, and at up to a 20-foot depth in the south landfill area. Extensive sampling identified the following constituents of potential concern (COPCs) in Site soils:

- Total petroleum hydrocarbon (TPH) in the diesel and motor-oil ranges
- Trichloroethene (TCE)
- Carcinogenic polycyclic aromatic hydrocarbons (cPAHs)
- The metals/metalloids antimony, arsenic, chromium III, copper, lead, and zinc

Three monitoring wells (MW-1 through MW-3) were installed at the Site in December 1994 and January 1995, and another 13 wells (MW-4 through MW-16) during the RI (between March 2011 and October 2012; refer to Figure 1 for well locations). This network of 2-inch-diameter wells was used to periodically monitor groundwater, which is encountered beneath the Site at roughly 110 feet below ground surface, for a wide range of contaminants. Monitoring identified TPH in the diesel and motor oil ranges, TCE, arsenic, and lead as COPCs dissolved in groundwater in the northern portion of the Site.

In addition to dissolved contaminants, separate-phase oil was observed floating on the groundwater table (as LNAPL) in well MW-8, which is installed in the north landfill area. The primary reason for installing the last five RI monitoring wells (MW-12 through MW-16) was to investigate the areal extent and thickness of the LNAPL accumulation. LNAPL was observed in three of these wells (MW-13, MW-14, and MW-16), and periodic removal of LNAPL via bailing began in November 2012. At the recommendation of Ecology, a 4-inch-diameter well designed specifically for LNAPL extraction (EW-17) was installed in October 2015.

Site cleanup alternatives were developed and comparatively evaluated with respect to MTCA-specified criteria in the "Feasibility Study" report (FS; Aspect 2014b). Based on the information provided in the RI report and on the FS evaluation, the CAP (Ecology 2014) then established Site-specific cleanup levels (CULs) for constituents of concern (COCs) in Site soil, groundwater, and air, and selected a cleanup remedy for implementation. Figure 1 shows the estimated TPH, TCE, and arsenic plumes[4] (i.e., areas where concentrations in groundwater exceed the respective groundwater CULs) as depicted in the CAP. Refer to the CAP for a full description of the selected cleanup remedy for the Site.

In April 2022, the total arsenic threshold of 40 micrograms per liter (µg/L) was exceeded at MW-6, triggering a response memo (Aspect 2022c) detailing how BSD would address the arsenic exceedance. As a result of this response, Aspect submitted an addendum to the Groundwater/LNAPL Monitoring and Contingency Plan (Addendum; Aspect 2022d) to supplement characterization by including turbidity with other field parameters to be collected during sampling procedures, collecting additional analytes to supplement the project list of COCs (Table 1), and describing procedures for conducting a soil-gas survey from groundwater monitoring wells.

[4] Lead is also a COC in groundwater. However, as discussed in the "Groundwater/LNAPL Monitoring and Contingency Plan" (Aspect 2015a), compliance with the groundwater CUL for lead has been demonstrated. Therefore, lead is not included in the groundwater monitoring program.

In September 2024, Ecology provided a letter to BSD (Ecology 2024) requesting that BSD perform a vapor intrusion evaluation for off-property receptors along the northeast property boundary. The request was triggered by TCE concentrations at upgradient monitoring well MW-9 exceeding the MTCA Method B groundwater screening level for vapor intrusion (1.4 µg/L) and the short-term screening level for residential receptors (8 µg/L). In cooperation with Ecology, Aspect (now Geosyntec) developed a vapor intrusion assessment sampling and analysis plan (VIA SAP; Aspect 2025b) to assess the risk of TCE vapor intrusion for parcels within 100 lateral feet of the impacted groundwater. Details of the VIA SAP and implementation within the reporting period are described in Section 3.

2. ROUTINE ACTIVITIES COMPLETED IN 2025

This section documents routine cleanup-related activities completed by BSD during the 2025 calendar year. Periodic monitoring of groundwater and LNAPL thickness is documented in Section 2.1, LNAPL removal in Section 2.2, and Site inspections in Section 2.3.

2.1 Periodic Monitoring Activities

The Plan (Aspect 2015b) requires periodic monitoring activities during the second and fourth quarters of the year and specifies contingency actions that will be taken if total arsenic is detected above 40 µg/L at MW-6 or above 4.5 µg/L at MW-10. Following exceedance of the threshold at MW-6 in 2022, the Addendum (Aspect 2022d) was prepared that requires additional groundwater monitoring during the first and third quarters of the year, and sample collection to support a better understanding of groundwater conditions leading to arsenic mobilization.

Locations of groundwater monitoring wells and LNAPL monitoring/recovery wells are shown on Figure 1. Table 1 lists which Site wells are included in the monitoring program, which of those wells contain LNAPL, and the updated COCs analyzed in groundwater samples collected from the wells that do not contain LNAPL.

2.1.1 Groundwater Sampling Results and Interpretation

Semiannual groundwater monitoring was conducted by Geosyntec on April 30, 2025, and October 13, 2025, in accordance with the Plan and Addendum. Additional groundwater monitoring was conducted at MW-6 and MW-10 on January 31, 2025, and July 22, 2025, in accordance with the Addendum. MW-15 could not be sampled during the April round due to low water levels, so a sample was collected in July using a bailer. Low groundwater levels occasionally prevent sampling at MW-15, so we are recommending purchasing longer pump tubing and re-installing the dedicated bladder pump slightly lower in the well column to help ensure successful sample collection. This is discussed in Section 5.

Samples were collected in laboratory-supplied containers and submitted for analysis to analytical laboratory Friedman & Bruya, Inc. under chain-of-custody procedures. Results for the 2025 groundwater monitoring are discussed below and historical groundwater sampling results since 2013 are summarized in Table 2. Refer to the RI report for results prior to December 2013 and for information on Site wells not included in the monitoring program. Laboratory reports for groundwater samples submitted for analysis are provided in Appendix C.

Diesel-range TPHs were detected in groundwater at concentrations above the Site CUL of 500 µg/L at monitoring wells MW-5 (2,400 µg/L) and MW-12 (3,200 µg/L). Diesel-range TPHs were detected at concentrations below the Site CUL at MW-15 (81 µg/L in October). MW-15, located immediately downgradient of the LNAPL area, is the conditional point of compliance for LNAPL migration and serves as a sentinel well for TPH plume migration[5]. The laboratory qualified all diesel-range TPH detections with "sample chromatographic pattern does not resemble the fuel standard used for quantitation."

Motor Oil-range TPHs were detected in groundwater at concentrations above the Site CUL of 500 µg/L at monitoring wells MW-5 (760 µg/L) and MW-12 (1,100 µg/L). Motor oil-range TPHs were detected at concentrations below the Site CUL at MW-15 (310 µg/L in October). The laboratory qualified all motor oil-range TPH detections with "sample chromatographic pattern does not resemble the fuel standard used for quantitation." Consistent with previous years, motor oil-range TPHs were not detected above the reporting limit (200 µg/L) at MW-10.

TCE was detected in groundwater at a concentration above the Site CUL of 5 µg/L at monitoring well MW-9 (7.3 µg/L in April and 8.8 µg/L in October). TCE was not detected at the reporting limit (0.5 µg/L) at MW-10 or the McKinney domestic well.

MW-9 is the only well with TCE CUL exceedances. TCE concentrations measured at this well remained consistent from 2024 to 2025 and within the range of previous measurements.

Water samples collected from the McKinney domestic well (sampled twice in 2025) are analyzed for TCE only. As shown in Table 2, TCE has never been detected in any of the water samples collected from the McKinney well.

Total Arsenic was detected in groundwater at a concentration above the Site CUL of 5 µg/L at monitoring well MW-6 (31.0 µg/L in January, 35.0 µg/L in April, 25.0 µg/L in July, and 30.0 µg/L in October), but did not exceed the 40 µg/L threshold in 2025, and MW-15 (5.6 µg/L in July). However, dissolved arsenic was not detected at MW-15, as noted below. Total arsenic was detected in groundwater below the Site CUL at MW-10 (1.6 µg/L in January, 2.4 µg/L in April, 1.9 µg/L in July, and 1.7 in October), MW-12 (2.3 µg/L in October), and MW-15 (4.9 µg/L in October). Total arsenic was not detected at the reporting limit (1.0 µg/L) at MW-5 and MW-9 in 2024.

Figure 2 shows arsenic concentrations measured at MW-6 and MW-10 since those wells were installed. Well MW-6 has had the highest arsenic concentrations and is located approximately 130 feet upgradient of MW-10 that serves as a sentinel well for dissolved contaminant plume migration. The presence of arsenic in groundwater is thought to be caused by local, complex geochemical mechanisms mobilizing naturally occurring arsenic in aquifer materials, as opposed to releases of arsenic from materials within the waste.

From 2011 through April 2022, arsenic concentrations at MW-6 increased by approximately 2.5 µg/L per year and had seasonal range of approximately 6.2 µg/L, on average. A significant shift between April and July 2022 reduced arsenic concentrations at MW-6 by about half. Since April

[5] Well MW-15 is also the conditional point of compliance for LNAPL migration.

2022, total arsenic concentrations at MW-6 resumed an increase of approximately 2.5 µg/L per year with a seasonal range of approximately 10.6 µg/L, on average. If trends continue (without a downward shift), then arsenic concentrations are projected to exceed the 40 µg/L threshold by the end of 2027.

Meanwhile, the total arsenic concentrations at MW-10 have been below the contingency action level of 4.5 µg/L since 2012 and appear to have stabilized around 2 µg/L. Therefore, total arsenic concentrations have met the cleanup level (5 µg/L) within the Site.

Dissolved Arsenic was detected above CULs in MW-6 (between 24.0 and 33.0 µg/L) and below CULs in MW-10 (between 1.5 and 1.9 µg/L) and MW-12 (2.1 µg/L). Dissolved arsenic concentrations are similar to or below the total arsenic concentrations at each respective well. This indicates that using low-flow sampling protocols has minimized sample turbidity, thereby providing reliable total arsenic results. The only exception is MW-15 discussed below.

Although total arsenic was detected above CULs (5 µg/L) at MW-15 in July, the dissolved arsenic fraction was not detected above reporting limits (1 µg/L) indicating some turbidity impacts. We attribute this to the sampling method (bailing) producing turbidity in the samples which artificially elevated total arsenic concentrations. Therefore, due to frequently low water levels in MW-15, we recommend lowering the dedicated pump in the well column prior to sampling in April, so that low-flow sampling protocols may be resumed.

Dissolved Iron was detected across a range of concentrations, supporting the conceptual model of local, complex geochemical mechanisms mobilizing metals that occur naturally in the aquifer. Dissolved iron is listed as a secondary contaminant (WAC 173-200), and concentrations were observed above the groundwater standards[6] of 0.30 milligrams per liter (mg/L) (300 µg/L) in one or both semi-annual sampling events at MW-5, MW-6, MW-10, and MW-12 as indicated by results in Table 2 with bold format. Dissolved iron was detected below secondary groundwater standards in two sampling events at MW-9 and MW-15.

Dissolved Manganese was also detected across a range of concentrations, again supporting the conceptual model of local, complex geochemical mechanisms mobilizing metals that occur naturally in the aquifer. Dissolved manganese is listed as a secondary contaminant (WAC 173-200), and concentrations were observed above the groundwater standard of 0.05 mg/L (50 µg/L) in MW-5 (April), MW-6 (January, April, July, and October), MW-10 (January, April, July, and October), and MW-12 (October). Dissolved manganese was not detected above reporting limits (2 µg/L) at MW-9 in 2025 but was detected in MW-15 (12 µg/L). See Table 2 for specific concentration values.

Total Alkalinity is a measure of groundwater buffering changes in acidity, one of the geochemical mechanisms. At this Site, groundwater acidity is affected by dissolved carbon dioxide which is generated by waste decomposition. The lowest concentrations of total alkalinity were generally detected in MW-9 (220 to 285 mg/L as CaCO3 [calcium carbonate]), upgradient of the LNAPL

[6] The criteria for metals as primary and secondary contaminants are defined according in WAC 173-200-040 and are applicable to total metals concentrations only. Based on the use of low-flow sampling protocols at this Site, dissolved metals concentrations are considered approximate proxies for the total metals concentrations.

plume and the wells showing exceedances of dissolved metals. However, MW-6 had one sample at an anomalously low concentration (48.6 mg/L in July) before returning to historical norms. Total alkalinity in downgradient wells was detected at higher concentrations in wells within and downgradient of the LNAPL plume, as shown in Table 2. In the event that additional contingency actions are triggered, these total alkalinity data may be used in conjunction with other groundwater and soil vapor monitoring data to design an appropriate remedial response.

Recommended Change in Sampling Frequency: To reduce costs, Geosyntec recommends amending the Addendum (Aspect 2022d) to eliminate the first and third quarter sampling events at MW-6 and MW-10. The semi-annual sampling events during second and fourth quarters have been found to be sufficient to establish trends and seasonal ranges at these key wells. We do not recommend changing any groundwater COCs, only to resume the original semi-annual sampling schedule.

2.1.2 NAPL Thickness Monitoring

LNAPL thickness monitoring was conducted on May 21, 2025, and October 13, 2025. Consistent with previous monitoring rounds, LNAPL was detected in five wells (MW-8, MW-13, MW-14, MW-16, and EW-17). Table 3 summarizes LNAPL thicknesses measured in these wells since they were installed. Thicknesses measured in 2025 ranged from 0.1 feet in MW-14 to 0.9 feet in EW-17.

2.1.3 SubSlab Soil Vapor Sampling

Soil vapor samples were collected from probes below the school structure on November 11, 2025, in general accordance with the requirements of the July 2010 “Soil Vapor Intrusion Assessment Work Plan” (Aspect 2010) which is included as Appendix B of the Cover System Inspection and Maintenance Plan. The purpose of soil vapor monitoring is to evaluate whether the potential exists for the school’s indoor air to be unacceptably impacted by vapor intrusion (VI). This represents the fifth round of subslab vapor sampling using six permanent sampling points (SSV-1 through SSV-6) installed in the floor slab of the main school building at the locations shown on Figure 4. Previous rounds were conducted in August and November 2010, November 2015, and November 2020 as documented in the Soil Vapor Intrusion Assessment Work Plan and “2015 Annual Report” (Aspect 2016).

Results for all five subslab soil vapor sampling events completed to date are summarized in Table 5. PCOCs detections are bolded. None of the detections exceed the corresponding screening level. In addition, all laboratory reporting limits for PCOCs that were not detected are also below the corresponding screening levels.

Table 4 lists the 16 compounds (15 volatile organic compounds [VOCs] and hydrogen sulfide) that were identified in 2010 as PCOCs in soil vapor at the Site. Laboratory-supplied evacuated 1-liter Summa canisters were used to collect 5-minute time-integrated samples for analysis of VOCs, and samples for hydrogen sulfide analysis were collected in 1-liter Tedlar® bags. The School’s HVAC system is always operated during the school day (a CAP requirement) and was operated during the sampling period. The filled canisters and Tedlar® bags were delivered to Friedman & Bruya, Inc., in Seattle, for analysis of the PCOCs using EPA Method TO-15. The laboratory report is provided as Appendix D.

Sampling and leak testing were conducted in accordance with the *SOP for Installing and Sampling Permanent Subslab Soil Vapor Monitoring Points (November 2015 Revision)*, which is provided in Appendix C of the Cover System Inspection and Maintenance Plan. Each sample was analyzed for helium, which was not detected in any subslab vapor sample, having a reporting limit of 0.6 % He. This indicates that cross-contamination from indoor air is negligible. Refer to Appendices B and C of the Cover System Inspection and Maintenance Plan for additional details regarding sampling methodology and leak testing.

MTCA Method B air CULs (for both carcinogens and non-carcinogens) and subslab screening levels for the PCOCs are listed in Table 4. Sampling results were compared against "current" subslab screening levels as described in the CLARC Master Table[7] for Subslab Soil Gas, if possible, or were obtained by dividing the most stringent current Method B CULs for air by 0.03 to conservatively account for soil vapor attenuation across the floor slab in accordance with Ecology guidance. Table 4 also lists the subslab screening levels that sampling results were compared to in 2020. At that time, Ecology guidance specified that a cross-slab attenuation factor of 0.03 be used to calculate screening levels, rather than listing them explicitly, so some screening levels have changed slightly.

As documented in the Soil Vapor Intrusion Assessment Work Plan, the HVAC system was not operated during the August 2010 sampling round, and several screening level exceedances were detected in that round (chloroform at SSV-5 and hydrogen sulfide at SSV-1 and SSV-6).[8] Based on current screening levels; however, none of the three sampling rounds completed to date has indicated a potential for the school's indoor air to be unacceptably impacted by VI.

The next subslab soil vapor sampling round is scheduled for late 2030.

2.2 LNAPL Removal

Bottom-filling bailers are used to periodically remove LNAPL from Site wells. LNAPL removal is attempted whenever an LNAPL layer thickness of at least 0.3 foot is measured in a well (prior to bailing). In 2025, LNAPL removal was conducted concurrent with the two LNAPL thickness/groundwater monitoring rounds discussed above, in general accordance with the requirements of the LNAPL Removal Work Plan (Aspect 2015b). Bailing was attempted from all five LNAPL-containing wells (MW-8, MW-13, MW-14, MW-16, and EW-17) in both the April and October rounds, except for MW-14 in October because the LNAPL thickness was less than 0.3 feet. Table 3 shows estimated LNAPL volumes bailed from each well during each removal event, and Figure 3 plots cumulative LNAPL removal on an annual basis. An estimated total of 2.0 liters of LNAPL was bailed in 2025. Since bailing began in 2012, an estimated total of about 45 liters of LNAPL have been removed.

[7] Cleanup Levels and Risk Calculation (CLARC) Master Table was updated in February 2025.

[8] As a result, the CAP includes a requirement that the HVAC system be operated continuously during the school day.

2.3 Site Inspections

Semiannual Site inspections were conducted on June 25 and December 22, 2025, in accordance with the requirements of the Cover System Inspection and Maintenance Plan (Aspect 2015c). The completed inspection records are provided in Appendices A and B, along with photos taken during the inspections. The photos were taken from four specific vantage points, identified on Figure 1, to provide photo-documentation of the following cover features:

- **Photo Location 1 –** Pavement in the parking area along Bertha Avenue NW, where an RI soil sample collected from beneath the pavement (composite sample to 3-foot depth) contained lead at a concentration exceeding the CUL.
- **Photo Locations 2 and 4 –** Soil/sod covers next to the portable classroom building and in the southeast corner of the School property, where lead CUL exceedances were identified in soil samples collected from the 1- to 3-foot depth range. In summer 2013, these two areas were covered with a geotextile fabric (placed directly on the undisturbed ground surface) and an additional 1-foot thickness of fill soil was imported and hydroseeded to supplement the pre-existing clean soil cover layer.
- **Photo Location 3 –** A soil/sod cover in the northwest corner of the BUMC property (and extending approximately 10 feet onto the School property), where an interim action was completed in spring 2012. During the interim action, contaminated surface soils were removed to a 1-foot depth, a geotextile fabric was placed on remaining contaminated soils, and a 1-foot thickness of fill soil was imported and hydroseeded.

In July 2018, asphalt repairs were completed at three locations in the Bertha Avenue NW parking area (Photo Location 1) after potholes were observed (documented in Aspect 2019). The parking area appeared to be in good condition, except for the pothole observed in December 2024 that has not been repaired. The soil/sod cover (Photo Locations 2 through 4) appeared to be in excellent condition during both 2025 inspection events. The 2025 inspections did not identify any cover system deficiencies in other areas of the Site or other action items.

3. NONROUTINE ACTIVITIES COMPLETED IN 2025

3.1 Vapor Intrusion Assessment

Geosyntec implemented the VIA SAP to assess the risk of TCE vapor intrusion within 100 lateral feet of the impacted groundwater. The installation of the soil vapor probes and the first two sampling rounds are discussed below.

3.1.1 Drilling and Installation of Temporary Soil Vapor Probes

In June 2025, three soil vapor probes were installed by Holt Services, Inc. using a Geoprobe direct-push drill rig and in accordance with well installation regulations (WAC 173-160). The probes were constructed of 0.75-inch-inner diameter polyvinyl chloride (PVC) casing screened from approximately 5 to 10 feet below ground surface. Each probe was completed using a silica sand filter pack placed from the bottom of the boring to 6 inches above the top of the screen, with an annular seal of bentonite placed above the filter pack to 2 feet below ground surface. Probes were finished with a concrete surface seal and flush-mounted monument above the bentonite seal. Soil vapor probe locations are presented in Figure 1, and as-built construction logs for each probe are compiled in Appendix F.

Soil cuttings were field screened during drilling for signs of VOC impacts using visual and olfactory methods, and by headspace analysis using a photoionization detector (PID). The geology was logged in general accordance with the ASTM International (ASTM) standard D2488 for visual classification of soils using the Unified Soil Classification System (USCS). Drill cuttings generated during drilling were collected and stored off-Site in a labeled and sealed Department of Transportation-approved steel drum at the BSD bus barn, located at 5520 Burwell Street, Bremerton, Washington.

3.1.2 Soil Vapor Sampling and Results

Passive soil vapor samplers were deployed on a quarterly basis for approximately 30 days to allow for method reporting limits below the subslab screening level of 11 $\mu g/m^3$. One field duplicate sample were collected each monitoring round for quality assurance and quality control. During each sampling round soil vapor conditions were monitored using a calibrated GEM-5000 field meter. Passive soil vapor samplers were handled under chain-of-custody procedures and shipped to the Eurofins Air Toxics, LLC laboratory in Folsom, California for analysis of TCE (only) using modified EPA Method TO-17.

TCE was not detected in soil vapor at concentrations above the laboratory reporting limits[9] (6.4 µg/m^3 in August and 3.1 µg/m^3 in November) at any of the temporary soil vapor probes in 2025. Additionally, no methane and low carbon dioxide concentrations were measured during the corresponding monitoring event. There is little to no risk of vapor intrusion to parcels surrounding the BSD property based on the first two rounds of monitoring and sampling results, summarized in Table 6. The two remaining rounds of quarterly soil vapor sampling are scheduled for February and May 2026.

[9] Reporting limits are calculated by the laboratory using the length of time the passive samplers are deployed. Sufficiently long deployment times are selected to ensure reporting limits are below the soil gas screening level of 11 µg/m^3.

4. STATEMENT OF COMPLIANCE

On behalf of BSD, Geosyntec certifies that the remedy implementation activities completed at the Site in 2025 complied with the requirements of the CAP, Agreed Order No. DE11107, and the remedy implementation work plans approved by Ecology.

5. PLANS FOR 2026

The following remedy implementation activities are planned for 2026:

- Perform maintenance on the dedicated bladder pump in MW-15, extending the tubing in order to lower the pump in the well column and make low-flow sampling possible. This will reduce the likelihood of elevated turbidity in samples, providing more representative total arsenic results.
- Conduct semiannual rounds of groundwater/LNAPL monitoring and LNAPL removal (scheduled for April and October 2026)[10]
- Discontinue sampling MW-6 and MW-10 on a quarterly basis (starting July 2026), as discussed in Section 2.1.1, and resume only the semi-annual sampling in April and October.
- Conduct semiannual Site inspections (scheduled for June and December 2026).
- Continue to remove the well caps on select project wells during the dry season, and retain well caps for replacement in October.
- Continue quarterly sampling for the TCE vapor intrusion assessment (still in progress) as requested by Ecology.

Other activities, as specified in the remedy implementation work plans, may also be required based on monitoring and/or inspection results.

[10] If an LNAPL thickness greater than 4 feet is measured in the April monitoring round, an LNAPL removal round will also be required in July 2026.

6. REFERENCES

Aspect Consulting, LLC (Aspect). 2010. Soil Vapor Intrusion Assessment, November 2010 Sub-Slab Sampling, Crownhill Elementary School, prepared for Bremerton School District, dated December 22, 2010.

Aspect Consulting, LLC (Aspect). 2014a. Remedial Investigation, Crownhill Elementary School, prepared for Bremerton School District, November 2014.

Aspect Consulting, LLC (Aspect). 2014b. Feasibility Study, Crownhill Elementary School, prepared for Bremerton School District, October 21, 2014.

Aspect Consulting, LLC (Aspect). 2015a. Groundwater/LNAPL Monitoring and Contingency Plan, Crownhill Elementary School Site, prepared for Bremerton School District, November 19, 2015.

Aspect Consulting, LLC (Aspect). 2015b. LNAPL Removal Work Plan, Crownhill Elementary School Site, prepared for Bremerton School District, November 19, 2015.

Aspect Consulting, LLC (Aspect). 2015c. Cover System Inspection and Maintenance Plan, Crownhill Elementary School Site, prepared for Bremerton School District, December 17, 2015.

Aspect Consulting, LLC (Aspect). 2016. 2015 Annual Report, Remedy Implementation, Crownhill Elementary School Site, prepared for Bremerton School District, January 14, 2016.

Aspect Consulting, LLC (Aspect). 2017. 2016 Annual Report, Remedy Implementation, Crownhill Elementary School Site, prepared for Bremerton School District, January 9, 2017.

Aspect Consulting, LLC (Aspect). 2018. 2017 Annual Report, Remedy Implementation, Crownhill Elementary School Site, prepared for Bremerton School District, January 29, 2018.

Aspect Consulting, LLC (Aspect). 2019. 2018 Annual Report, Remedy Implementation, Crownhill Elementary School Site, prepared for Bremerton School District, January 22, 2019.

Aspect Consulting, LLC (Aspect). 2020. 2019 Annual Report, Remedy Implementation, Crownhill Elementary School Site, prepared for Bremerton School District, January 14, 2020.

Aspect Consulting, LLC (Aspect). 2021. 2020 Annual Report, Remedy Implementation, Crownhill Elementary School Site, prepared for Bremerton School District, March 3, 2021.

Aspect Consulting, LLC (Aspect). 2022a. Crownhill Elementary School Site: Garden Inspection, prepared for Bremerton School District, January 24, 2022.

Aspect Consulting, LLC (Aspect). 2022b. 2021 Annual Report, Remedy Implementation, Crownhill Elementary School Site, prepared for Bremerton School District, June 14, 2022.

Aspect Consulting, LLC (Aspect). 2022c. Crownhill Elementary Exceedance Response Memorandum, prepared for Bremerton School District, July 5, 2022.

Aspect Consulting, LLC (Aspect). 2022d. Crownhill Elementary: Addendum to the Groundwater/LNAPL Monitoring and Contingency Plan, prepared for Bremerton School District, November 21, 2022.

Aspect Consulting, LLC (Aspect). 2024. 2023 Annual Report, Remedy Implementation, Crownhill Elementary School Site, prepared for Bremerton School District, March 21, 2024.

Aspect Consulting, LLC (Aspect). 2025a. 2024 Annual Report, Remedy Implementation, Crownhill Elementary School Site, prepared for Bremerton School District, January 28, 2025.

Aspect Consulting, LLC (Aspect). 2025b. Crownhill Elementary: Proposed Vapor Intrusion Assessment Sampling and Analysis Plan Crownhill, January 29, 2025.

Washington State Department of Ecology (Ecology). 2014. Cleanup Action Plan, Bremerton School District, Crownhill Elementary School Site, December 10, 2014.

Washington State Department of Ecology (Ecology). 2018. Letter to D. Herrington, Bremerton School District, regarding Status of Agreed Order No. DE11107 and No Further Action to complete Cleanup of the Crownhill Elementary School Site, October 15, 2018.

Washington State Department of Ecology (Ecology). 2024.- Letter to John Fisher, Bremerton School District, regarding Request for Evaluation of Trichloroethylene Risks at Crownhill Elementary, September 30, 2024.

TABLES

Table 1. 2025 Well Monitoring Program Summary
DRAFT 2025 Annual Report
Crownhill Elementary, Bremerton, Washington

Well Included in Monitoring Program[1]	LNAPL Present in Well[3]	Groundwater Samples Collected for Analysis of COCs[1]			Additional Diagnostic Analytes[2]		Additional Notes
		TPH[4]	Total Arsenic[5]	TCE[6]	Dissolved As, Fe, Mn	Alkalinity	
MW-5		spring	spring		spring	spring	
MW-6			quarterly		quarterly	quarterly	7
MW-8	X						
MW-9			spring/fall	spring/fall	spring/fall	spring/fall	
MW-10		quarterly	quarterly	quarterly	quarterly	quarterly	8
MW-12		fall	fall		fall	fall	
MW-13	X						
MW-14	X						
MW-15		spring/fall	spring/fall		spring/fall	spring/fall	9
MW-16	X						
EW-17	X						
McKinney				spring/fall			10

COC	constituent of concern
LNAPL	light non-aqueous-phase liquid
TCE	trichloroethene
TPH	total petroleum hydrocarbon

Notes:

1) The *Groundwater/LNAPL Monitoring and Contingency Plan* (Aspect, 2015a) provides the rationale for including a well in the monitoring program, and for selecting well-specific COC analytes. Refer to Table 2 for groundwater monitoring results.

2) The *Addendum to the Groundwater/LNAPL Monitoring and Contingency Plan* (Aspect, 2022c) provides the rationale for adding these analytes to the list of project COCs.

3) All wells except McKinney are monitored for LNAPL. If LNAPL is detected, its thickness is measured (refer to Table 3) and groundwater samples are not collected for analysis.

4) TPH is analyzed for using Method NWTPH-Dx. Both diesel-range TPH and motor-oil-range TPH are COCs.

5) Analyzed for using EPA Method 6010.

6) TCE is analyzed for using EPA Method 8260.

7) Well MW-6 provides early warning of potential arsenic migration.

8) Well MW-10 is the conditional point of compliance for achieving groundwater cleanup levels.

9) Well MW-15 is the conditional point of compliance for LNAPL migration.

10) The McKinney domestic well water sample is collected from the outdoor faucet on the north side of the residence at 1724 Dora Ave NW.

Table 2. Groundwater Monitoring Data Summary
DRAFT 2025 Annual Report
Crownhill Elementary, Bremerton, Washington

Well ID and Top-of-Casing Elevation[1,2]	Top-of-Casing Elevation (feet)	Date	Depth to Water (feet below top-of-casing)	Groundwater Elevation (feet)[2]	Constituent of Concern/Concentration[3]				Additional Diagnostic Analytes			
					Diesel-Range TPH	Motor-Oil-Range TPH	TCE	Total Arsenic	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	Total Alkalinity (as CaCO3) in mg/L
MW-5 136.95 ft	136.95	12/18/13	117.36	19.59	**2,100 x**	**750 x**	1.8	1.0	na	na	na	na
		04/03/14	117.17	19.78	**2,400 x**	**770 x**	na	1.2	na	na	na	na
		07/01/14	116.23	20.72	**2,000 x**	490 x	na	1.0	na	na	na	na
		10/13/14	117.56	19.39	**1,300**	260 x	na	1.0	na	na	na	na
		04/07/15	116.49	20.46	**2,000**	430 x	na	na	na	na	na	na
		04/05/16	113.41	23.54	**1,800**	**600 x**	na	na	na	na	na	na
		04/04/17	112.13	24.82	**2,200 x**	**750 x**	na	na	na	na	na	na
		04/05/18	113.16	23.79	**2,600 x**	**1,100 x**	na	na	na	na	na	na
		04/04/19	116.24	20.71	**1,600 x**	**520 x**	na	na	na	na	na	na
		04/10/20	117.97	18.98	**2,400 x**	**660 x**	na	na	na	na	na	na
		04/14/21	116.92	20.03	**1,300 x**	490 x	na	na	na	na	na	na
		04/27/22	115.35	21.60	**1,000 x**	310 x	na	na	1 U	**487**	**4,090**	794
		04/04/23	116.39	20.56	**3,000 x**	**2,100** x	na	1 U	1 U	**384**	**4,860**	802
		04/04/24	115.47	21.48	**1,900 x**	**950** x	na	1 U	1 U	**420**	**4,300**	732
		04/30/25	nm[4]	--	**2,400 x**	**760** x	na	1 U	1 U	**390**	**5,600**	723
MW-6 133.87 ft	133.87	12/18/13	124.36	9.51	50 U	250 U	1 U	**16.6**	na	na	na	na
		04/03/14	124.70	9.17	50 U	250 U	na	**20.5**	na	na	na	na
		07/01/14	124.40	9.47	50 U	250 U	na	**19.9**	na	na	na	na
		10/13/14	124.54	9.33	50 U	250 U	na	**20.4**	na	na	na	na
		04/07/15	124.61	9.26	na	na	na	**26.7**	na	na	na	na
		10/28/15	124.84	9.03	na	na	na	**22.8**	na	na	na	na
		04/05/16	124.54	9.33	na	na	na	**29.1**	na	na	na	na
		10/28/16	123.70	10.17	na	na	na	**23.3**	na	na	na	na
		04/04/17	123.21	10.66	na	na	na	**12.5**	na	na	na	na
		10/27/17	122.79	11.08	na	na	na	**29.3**	na	na	na	na
		04/05/18	123.31	10.56	na	na	na	**29.7**	na	na	na	na
		10/26/18	123.71	10.16	na	na	na	**23.0**	na	na	na	na
		04/04/19	124.14	9.73	na	na	na	**19.4**	na	na	na	na
		10/14/19	124.77	9.10	na	na	na	**21.9**	na	na	na	na
		04/10/20	125.10	8.77	na	na	na	**28.5**	na	na	na	na
		10/15/20	125.45	8.42	na	na	na	**35.3**	na	na	na	na
		04/14/21	125.13	8.74	na	na	na	**28.6**	na	na	na	na
		11/22/21	125.15	8.72	na	na	na	**37.1**	na	na	na	na
		04/27/22	124.70	9.17	na	na	na	**40.6**	**28.0**	**10,400**	**1,760**	342
		07/25/22	124.22	9.65	na	na	na	**24.2**	**23.5**	**9,800**	**1,700**	322
		10/11/22	124.47	9.40	na	na	na	**23.6**	**10.0**	**2,730**	**459**	315
		01/30/23	124.74	9.13	na	na	na	**20.0**	**19.4**	**7,580**	**2,030**	350
		04/04/23	124.67	9.20	na	na	na	**22.5**	**23.5**	**7,440**	**1,980**	357
		07/11/23	124.53	9.34	na	na	na	**20.3**	**21.2**	**6,030**	**1,820**	334
		10/26/23	124.93	8.94	na	na	na	**25.7**	**23.9**	**8,770**	**1,940**	327
		01/15/24	125.09	8.78	na	na	na	**31.8**	**32.3**	**9,490**	**1,880**	309
		04/04/24	124.55	9.32	na	na	na	**31.0**	**28.0**	**9,100**	**2,000**	298
		07/02/24	124.52	9.35	na	na	na	**24.0**	**23.0**	**6,400**	**2,000**	304
		10/14/24	124.53	9.34	na	na	na	**22.0**	**22.0**	**7,700**	**1,900**	356
		01/31/25	124.76	9.11	na	na	na	**31.0**	**33.0**	**9,400**	**2,600**	365
		04/30/25	124.46	9.41	na	na	na	**35.0**	**27.0**	**11,000**	**2,700**	329
		07/22/25	125.00	8.87	na	na	na	**25.0**	**24.0**	**7,000**	**2,300**	49
		10/13/25	125.18	8.69	na	na	na	**30.0**	**31.0**	**9,200**	**2,300**	317
MW-9 134.39 ft	134.39	12/17/13	114.49	19.90	110 x	250 U	**11**	1 U	na	na	na	na
		04/03/14	114.35	20.04	210 x	280 x	**11**	1 U	na	na	na	na
		07/01/14	113.44	20.95	180 x	250 U	**12**	1 U	na	na	na	na
		10/13/14	114.71	19.68	180 x	250 U	**10**	1 U	na	na	na	na
		04/07/15	114.50	19.89	na	na	**11**	na	na	na	na	na
		10/28/15	115.30	19.09	na	na	**10**	na	na	na	na	na
		04/05/16	110.60	23.79	na	na	**11**	na	na	na	na	na
		10/28/16	112.35	22.04	na	na	**8.6**	na	na	na	na	na
		04/04/17	109.23	25.16	na	na	**9.5**	na	na	na	na	na
		10/27/17	110.58	23.81	na	na	**6.8**	na	na	na	na	na
		05/02/18	110.35	24.04	na	na	**7.1**	na	na	na	na	na
		10/26/18	112.98	21.41	na	na	**7.9**	na	na	na	na	na
		04/04/19	113.39	21.00	na	na	**9.7**	na	na	na	na	na
		10/14/19	nm[4]	--	na	na	**8.0**	na	na	na	na	na
		04/10/20	nm[4]	--	na	na	**7.1**	na	na	na	na	na
		10/15/20	nm[4]	--	na	na	**5.0**	na	na	na	na	na
		04/21/21	114.00	20.39	na	na	**7.2**	na	na	na	na	na
		11/11/21	nm[4]	--	na	na	**5.4**	na	na	na	na	na
		04/27/22	112.50	21.89	na	na	**11.0**	na	1 U	95	3.1	113
		10/11/22	113.55	20.84	na	na	**8.2**	1 U	1 U	100 U	1.8 U	137
		04/04/23	113.54	20.85	na	na	**8.8**	1 U	1 U	179	1 U	273
		10/26/23	113.54	20.85	na	na	**9.5**	1 U	1 U	177	2.0	257
		04/04/24	113.11	21.28	na	na	**8.8**	1 U	1 U	290	2 U	285
		10/14/24	nm[4]	--	na	na	**9.7**	1 U	1 U	210	2 U	250
		04/30/25	nm[4]	--	na	na	**7.3**	1 U	1 U	290	1 U	332
		10/13/25	nm[4]	--	na	na	**8.8**	1 U	1 U	370	1 U	308

Table 2. Groundwater Monitoring Data Summary
DRAFT 2025 Annual Report
Crownhill Elementary, Bremerton, Washington

Well ID and Top-of-Casing Elevation[1,2]	Top-of-Casing Elevation (feet)	Date	Depth to Water (feet below top-of-casing)	Groundwater Elevation (feet)[2]	Constituent of Concern/Concentration[3]				Additional Diagnostic Analytes			
					Diesel-Range TPH	Motor-Oil-Range TPH	TCE	Total Arsenic	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	Total Alkalinity (as CaCO3) in mg/L
MW-10 132.33 ft	132.33	12/18/13	120.87	11.46	50 U	250 U	1 U	3.3	na	na	na	na
		04/03/14	121.21	11.12	50 U	250 U	1 U	3.9	na	na	na	na
		07/01/14	120.55	11.78	50 U	250 U	1 U	3.0	na	na	na	na
		10/13/14	121.48	10.85	50 U	250 U	1 U	3.0	na	na	na	na
		04/07/15	120.60	11.73	50 U	250 U	1 U	2.8	na	na	na	na
		10/28/15	121.30	11.03	80 U	400 U	1 U	2.7	na	na	na	na
		04/05/16	119.33	13.00	50 U	250 U	1 U	2.6	na	na	na	na
		10/28/16	120.35	11.98	50 U	250 U	1 U	2.6	na	na	na	na
		04/04/17	118.58	13.75	50 U	250 U	1 U	2.2	na	na	na	na
		10/27/17	119.30	13.03	50 U	250 U	1 U	2.1	na	na	na	na
		04/05/18	122.04	10.29	50 U	250 U	1 U	1.9	na	na	na	na
		10/26/18	120.62	11.71	50 U	250 U	1 U	1.8	na	na	na	na
		04/04/19	120.85	11.48	50 U	250 U	1 U	2.0	na	na	na	na
		10/14/19	121.79	10.54	50 U	250 U	1 U	2.1	na	na	na	na
		04/10/20	121.68	10.65	50 U	250 U	1 U	2.0	na	na	na	na
		10/15/20	121.66	10.67	50 U	250 U	1 U	2.4	na	na	na	na
		04/14/21	120.80	11.53	50 U	250 U	1 U	2.0	na	na	na	na
		11/11/21	121.20	11.13	55 x	250 U	0.5 U	1.9	na	na	na	na
		04/27/22	120.07	12.26	50 U	250 U	0.5 U	1.3	1.7	**1,850**	**1,080**	196
		07/25/22	120.15	12.18	50 U	250 U	0.5 U	1.5	1.4	**2,280**	**1,230**	241
		10/11/22	120.71	11.62	50 U	250 U	0.5 U	2.0	1.7	**1,990**	**1,280**	218
		01/30/23	120.74	11.59	50 U	250 U	0.5 U	1.8	1.7	**2,420**	**1,430**	253
		04/04/23	120.96	11.37	50 U	250 U	0.5 U	1.6	1.6	**2,520**	**1,360**	261
		07/11/23	120.81	11.52	50 U	250 U	0.5 U	1.6	1.6	**2,240**	**1,440**	249
		10/26/23	121.46	10.87	58 x	250 U	0.5 U	1.6	1.5	**2,530**	**1,410**	237
		01/15/24	121.28	11.05	50 U	250 U	0.5 U	1.7	1.9	**2,360**	**1,310**	241
		04/04/24	120.56	11.77	50 U	250 U	0.5 U	1.9	1.7	**2,100**	**1,300**	241
		07/02/24	120.44	11.89	50 U	250 U	0.5 U	1.6	1.6	**2,800**	**1,300**	244
		10/14/24	121.62	10.71	73 x	250 U	0.5 U	1.7	1.6	**1,900**	**1,300**	262
		01/31/25	121.36	10.97	50 U	250 U	0.5 U	1.6	1.6	**2,400**	**1,400**	256
		04/30/25	nm[4]	#N/A	50 U	250 U	0.5 U	2.4	1.9	**2,000**	**1,500**	246
		07/22/25	121.35	10.98	50 U	200 U	0.1 U	1.9	1.5	**2,000**	**1,500**	236
		10/13/25	121.65	10.68	50 U	200 U	0.05 U	1.7	1.8	**2,400**	**1,300**	240
MW-12 133.87 ft	133.87	12/17/13	114.24	19.63	**2,000 x**	**800 x**	1.0 U	1.5	na	na	na	na
		04/03/14	114.11	19.76	**2,800 x**	**850 x**	na	1.4	na	na	na	na
		07/01/14	113.17	20.70	**1,800 x**	420 x	na	1.7	na	na	na	na
		10/13/14	114.45	19.42	**1,600**	250 U	na	1.7	na	na	na	na
		10/28/15	115.02	18.85	**2,400 x**	**620 x**	na	na	na	na	na	na
		10/28/16	112.19	21.68	**1,500 x**	**680 x**	na	na	na	na	na	na
		10/27/17	110.40	23.47	**1,700 x**	**570 x**	na	na	na	na	na	na
		10/26/18	112.76	21.11	**2,200 x**	**510 x**	na	na	na	na	na	na
		10/14/19	115.37	18.50	**1,900 x**	**1,200 x**	na	na	na	na	na	na
		10/15/20	116.54	17.33	**1,600 x**	**1,400 x**	na	na	na	na	na	na
		11/11/21	115.60	18.27	**1,900 x**	**990 x**	na	na	na	na	na	na
		10/11/22	113.33	20.54	**1,600 x**	430 **x**	na	2.0	2.2	**309**	**5,340**	725
		10/26/23	114.86	19.01	**2,100 x**	**880 x**	na	1.9	1.6	**613**	**5,260**	759
		10/14/24	114.51	19.36	**1,800 x**	**690 x**	na	1.6	1.6	**820**	**5,100**	900
		10/13/25	115.83	18.04	**3,200 x**	**1,100 x**	na	2.3	2.1	**970**	**5,300**	763
MW-15 133.37 ft	133.37	12/17/13	nm[4]	#N/A	50 U	250 U	1 U	4.6	na	na	na	na
		04/03/14	nm[4]	#N/A	50 U	250 U	na	1.2	na	na	na	na
		07/01/14	nm[4]	#N/A	50 U	250 U	na	1 U	na	na	na	na
		10/13/14	nm[4]	#N/A	50 U	250 U	na	1.1	na	na	na	na
		04/07/15	nm[4]	#N/A	50 U	250 U	na	na	na	na	na	na
		10/28/15	nm[4]	#N/A	50 U	250 U	na	na	na	na	na	na
		04/05/16	109.88	23.49	50 U	250 U	na	na	na	na	na	na
		10/28/16	111.65	21.72	50 U	250 U	na	na	na	na	na	na
		04/04/17	109.61	23.76	50 U	250 U	na	na	na	na	na	na
		10/27/17	109.90	23.47	50 U	250 U	na	na	na	na	na	na
		04/05/18	109.65	23.72	53 x	250 U	na	na	na	na	na	na
		10/26/18	nm[4]	#N/A	60 U	300 U	na	na	na	na	na	na
		04/04/19	nm[4]	#N/A	61 x	250 U	na	na	na	na	na	na
		10/14/19	nm[4]	#N/A	50 U	250 U	na	na	na	na	na	na
		04/10/20	nm[4]	#N/A	64 x	260 U	na	na	na	na	na	na
		10/15/20	nm[4]	#N/A	nm[6]	nm[6]	na	na	na	na	na	na
		04/14/21	nm[4]	#N/A	50 x	250 U	na	na	na	na	na	na
		11/11/21	nm[4]	#N/A	95 U	480 U	na	na	na	na	na	na
		04/27/22	110.70	22.67	53 x	250 U	na	na	1 U	126	1 U	307
		10/11/22	nm[4]	#N/A	87 x	250 U	na	1 U	1.2	100 U	1.8 U	308
		04/04/23	nm[4]	#N/A	50 U	250 U	na	1 U	1 U	142	1 U	351
		10/26/23	nm[4]	#N/A	67 x	250 U	na	1 U	1 U	129	1 U	313
		04/04/24	nm[4]	#N/A	170 x	300 U	na	1 U	1 U	190	2 U	286
		10/14/24	113.95	19.42	na[6]	na[6]	na[6]	na[6]	na[6]	na[6]	na[6]	na[6]
		04/30/25	nm[4]	#N/A	na[6]	na[6]	na[6]	na[6]	na[6]	na[6]	na[6]	na[6]
		07/22/25	114.31	19.06	50 U	200 U	na[6]	5.6	1 U	470	12	217
		10/13/25	115.15	18.22	81 x	310 x	na[6]	4.9	1 U	180	1 U	265

Table 2. Groundwater Monitoring Data Summary
DRAFT 2025 Annual Report
Crownhill Elementary, Bremerton, Washington

Well ID and Top-of-Casing Elevation[1,2]	Top-of-Casing Elevation (feet)	Date	Depth to Water (feet below top-of-casing)	Groundwater Elevation (feet)[2]	Constituent of Concern/Concentration[3]				Additional Diagnostic Analytes			
					Diesel-Range TPH	Motor-Oil-Range TPH	TCE	Total Arsenic	Dissolved Arsenic	Dissolved Iron	Dissolved Manganese	Total Alkalinity (as CaCO3) in mg/L
McKinney (domestic well)		10/6/14[5]	nm	--	100 U	200 U	0.2 U	0.4	na	na	na	na
		2/19/15[5]	nm	--	100 U	200 U	0.2 U	0.4	na	na	na	na
		6/1/2015[5]	nm	--	100 U	200 U	0.2 U	0.3	na	na	na	na
		10/28/15	nm	--	na	na	1.0 U	na	na	na	na	na
		04/05/16	nm	--	na	na	1.0 U	na	na	na	na	na
		10/28/16	nm	--	na	na	1.0 U	na	na	na	na	na
		04/04/17	nm	--	na	na	1.0 U	na	na	na	na	na
		10/27/17	nm	--	na	na	1.0 U	na	na	na	na	na
		04/04/18	nm	--	na	na	1.0 U	na	na	na	na	na
		10/26/18	nm	--	na	na	1.0 U	na	na	na	na	na
		04/04/19	nm	--	na	na	1.0 U	na	na	na	na	na
		10/14/19	nm	--	na	na	1.0 U	na	na	na	na	na
		04/10/20	nm	--	na	na	1.0 U	na	na	na	na	na
		10/15/20	nm	--	na	na	1.0 U	na	na	na	na	na
		04/14/21	nm	--	na	na	1.0 U	na	na	na	na	na
		11/11/21	nm	--	na	na	0.5 U	na	na	na	na	na
		04/27/22	nm	--	na	na	0.5 U	na	na	na	na	na
		10/11/22	nm	--	na	na	0.5 U	na	na	na	na	na
		04/04/23	nm	--	na	na	0.5 U	na	na	na	na	na
		10/26/23	nm	--	na	na	0.5 U	na	na	na	na	na
		04/04/24	nm	--	na	na	0.5 U	na	na	na	na	na
		10/14/24	nm	--	na	na	0.5 U	na	na	na	na	na
		04/30/25	nm	--	na	na	0.5 U	na	na	na	na	na
		10/13/25	nm	--	na	na	0.5 U	na	na	na	na	na

na not analyzed
nm not measured
TCE trichloroethene
TPH total petroleum hydrocarbons
U analyte not detected at or above the reported result
x sample chromatographic pattern does not resemble the fuel standard used for quantitation

Notes:

1) Only wells included in the current monitoring program that do not contain LNAPL are shown in this table. Refer to Table 3 for wells containing LNAPL. Refer to the *Remedial Investigation Report* (Aspect, 2014a) for data prior to December 2013 and for information on other wells.
2) Elevations are based on NAVD88 vertical datum.
3) All concentrations are in micrograms per liter (µg/L) unless otherwise noted. Cleanup levels are 500 µg/L for diesel- and motor-oil-range TPH, and 5 µg/L for TCE and total arsenic. Cleanup level exceedances are bolded.
4) Water level was below top of pump and could not be measured.
5) Samples from McKinney well were initially collected for analysis by the Kitsap Public Health District and analyzed by Analytical Resources, Inc.
6) Water level was below pump intake and sample could not be collected.

Table 3. LNAPL Thickness Measurements and Removal Summary
DRAFT 2025 Annual Report
Crownhill Elementary, Bremerton, Washington

Well ID	Date	Initial Thickness in ft[(1)]	LNAPL Removal in Liters[(2)]	Notes
MW-8	10/26/12	0.20		Well installed on 12/20/11.
	11/21/12	#N/A		
	01/31/13	0.10		
	05/03/13	0.03		
	08/07/13	0.23		
	12/17/13	0.86		
	04/02/14	0.39	0.18	(Note 5)
	05/23/14	0.38	0.11	(Note 4)
	07/01/14	0.23		
	10/13/14	0.28		
	04/07/15	0.27		Not bailed because initial thickness was <0.3 feet.
	10/28/15	0.90	0.36	(Note 4)
	01/18/16	0.10		Not bailed because initial thickness was <0.3 feet.
	04/05/16	0.01		Not bailed because initial thickness was <0.3 feet.
	10/28/16	0.40	0.01	(Note 4)
	04/04/17	0.13		Not bailed because initial thickness was <0.3 feet.
	10/27/17	0.15		Not bailed because initial thickness was <0.3 feet.
	04/03/18	#N/A	0.02	(Note 4), (Note 6)
	10/26/18	1.70	0.75	(Note 4)
	04/04/19	0.40	0.23	(Note 4)
	10/14/19	1.15	0.18	(Note 4)
	04/10/20	0.95	0.38	(Note 4)
	10/15/20	1.08	0.16	(Note 4)
	04/15/21	1.20	0.19	(Note 4)
	11/11/21	1.20	0.34	(Note 4)
	04/27/22	1.00	0.57	(Note 4)
	10/11/22	1.70	1.78	(Note 4)
	04/04/23	0.34	0.35	(Note 4)
	10/26/23	0.89	0.25	(Note 4)
	04/04/24	0.16	0.21	(Note 4)
	10/14/24	1.32	0.28	(Note 4)
	05/21/25	0.34	0.07	(Note 4)
	10/13/25	0.35	0.30	(Note 4)
Cumulative LNAPL Removal			6.71	
MW-13	11/01/12	1.46		Well installed on 10/25/12.
	11/21/12	0.99	0.90	(Note 4)
	01/31/13	0.10		
	05/03/13	0.31		
	08/07/13	0.49		
	12/17/13	4.90		
	04/02/14	1.35	0.02	Water detected above LNAPL. (Note 4)
	05/23/14	2.08	0.18	Water detected above LNAPL. (Note 4)
	07/01/14	0.84		
	10/13/14	3.39		
	04/07/15	1.00	0.17	(Note 4)
	10/28/15	4.15	0.02	(Note 4)
	01/18/16	1.39	0.52	(Note 4)
	04/05/16	1.31	0.26	(Note 4)
	10/28/16	0.05		Not bailed because initial thickness was <0.3 feet.
	04/04/17	0.20		Not bailed because initial thickness was <0.3 feet.
	10/27/17	0.04		Not bailed because initial thickness was <0.3 feet.
	04/03/18	1.70	0.35	(Note 4)
	10/26/18	2.00	1.05	(Note 4)
	04/04/19	1.70	0.22	(Note 4)
	10/14/19	1.10	0.10	(Note 4)
	04/10/20	2.95	0.13	(Note 4)
	10/15/20	1.22	0.38	(Note 4)
	04/15/21	1.00	0.33	(Note 4)
	11/11/21	1.80	0.37	(Note 4)
	04/27/22	1.76	0.00	Bailing attempt abandoned, obstruction in well.
	10/11/22	0.42	0.40	(Note 4)
	04/04/23	1.20	0.57	(Note 4)
	10/26/23	0.13	0.00	Not bailed because initial thickness was <0.3 feet.
	04/04/24	1.93	0.53	(Note 4)
	10/14/24	0.12		Not bailed because initial thickness was <0.3 feet.
	05/21/25	0.16		Not bailed because initial thickness was <0.3 feet.
	10/13/25	0.85	0.17	Not bailed because initial thickness was <0.3 feet.
Cumulative LNAPL Removal			6.65	

Table 3. LNAPL Thickness Measurements and Removal Summary
DRAFT 2025 Annual Report
Crownhill Elementary, Bremerton, Washington

Well ID	Date	Initial Thickness in ft[(1)]	LNAPL Removal in Liters[(2)]	Notes
MW-14	11/01/12	nd		Well installed on 10/26/12.
	01/31/13	nd		
	05/03/13	nd		
	08/07/13	0.12		
	12/17/13	0.10		
	04/02/14	0.08		Not bailed because initial thickness was <0.1 feet.
	05/23/14	0.09		Not bailed because initial thickness was <0.1 feet.
	07/01/14	0.46		
	10/13/14	0.71		
	04/07/15	0.23		Not bailed because initial thickness was <0.3 feet.
	10/28/15	1.48	0.35	(Note 4)
	01/18/16	0.32	0.20	(Note 4)
	04/05/16	0.01	0.00	Not bailed because initial thickness was <0.3 feet.
	10/28/16	0.37	0.03	(Note 5)
	04/04/17	0.77	0.32	(Note 4)
	10/27/17	0.60	0.64	(Note 5)
	04/03/18	0.70	0.06	(Note 5)
	10/26/18	2.40	1.65	(Note 5)
	04/04/19	1.20	0.71	(Note 4)
	10/14/19	2.90	0.27	(Note 4)
	04/10/20	0.15	0.00	Not bailed because initial thickness was <0.3 feet.
	10/15/20	0.45	0.24	(Note 4)
	04/15/21	0.90	0.39	(Note 4)
	11/11/21	0.80	0.34	(Note 4)
	04/27/22	1.30	0.70	(Note 4)
	10/11/22	1.78	0.85	(Note 4)
	04/04/23	0.10	0.04	(Note 4)
	10/26/23	1.33	1.10	(Note 4)
	04/04/24	0.05	0.07	(Note 4)
	10/14/24	-	0.05	(Note 6)
	05/21/25	-	0.09	(Note 6)
	10/13/25	0.11	0.09	Not bailed because initial thickness was <0.3 feet.
Cumulative LNAPL Removal			8.17	
MW-16	11/01/12	nd		Well installed on 10/26/12.
	01/31/13	0.50		
	05/03/13	0.48		
	08/07/13	2.61		
	12/17/13	2.83		
	04/02/14	3.02	0.85	(Note 5)
	05/23/14	4.25	2.06	(Note 5)
	07/01/14	3.79		
	10/13/14	3.25		
	04/07/15	2.64	1.19	(Note 5)
	10/28/15	2.18	0.35	(Note 4)
	01/18/16	0.45	0.17	Bailing was stopped after measuring <0.01 foot LNAPL thickness.
	04/05/16	0.39	0.00	Four bailing attempts recovered only a trace of LNAPL.
	10/28/16	0.87	0.10	Third bailing attempt recovered only 20 ml of LNAPL.
	04/04/17	0.24		Not bailed because initial thickness was <0.3 feet.
	10/27/17	2.15	1.35	(Note 4)
	04/03/18	#N/A	0.30	(Note 4), (Note 6)
	10/26/18	3.25	1.55	(Note 5)
	04/04/19	2.30	0.27	(Note 4)
	10/14/19	1.10	0.15	(Note 4)
	04/10/20	2.30	0.16	(Note 4)
	10/15/20	2.46	0.40	(Note 4)
	04/15/21	0.80	0.60	(Note 4)
	11/11/21	0.80	0.40	(Note 4)
	04/27/22	0.69	0.85	(Note 4)
	10/11/22	2.92	0.27	(Note 4)
	04/04/23	0.26	0.10	(Note 4)
	10/26/23	0.24	0.33	(Note 4)
	04/04/24	0.29	0.17	(Note 4)
	10/14/24	0.26		Not bailed because initial thickness was <0.3 feet.
	05/21/25	0.90	0.13	(Note 4)
	10/13/25	0.32	0.12	(Note 4)
Cumulative LNAPL Removal			11.86	

Table 3. LNAPL Thickness Measurements and Removal Summary
DRAFT 2025 Annual Report
Crownhill Elementary, Bremerton, Washington

Well ID	Date	Initial Thickness in ft[(1)]	LNAPL Removal in Liters[(2)]	Notes
EW-17	10/28/15	0.45	0.03	Well installed on 10/13/15.
	01/18/16	0.40	0.21	LNAPL observed to be much more viscous (sludge-like) than in other wells. (Note 4)
	04/05/16	0.44	1.66	LNAPL appears to be less viscous than in previous rounds. (Note 4)
	10/28/16	0.47	0.11	Fourth bailing attempt recovered only 5 ml of LNAPL.
	04/04/17	1.95	0.52	Initial thickness measurements ranged from 0.23 to 3.45 ft. (Note 4)
	10/27/17	0.85	0.12	(Note 4)
	04/03/18	#N/A	0.60	(Note 4), (Note 6)
	10/26/18	1.90	1.11	(Note 5)
	04/04/19	3.00	0.18	(Note 4)
	10/14/19	1.30	0.14	(Note 4)
	04/10/20	0.40	0.13	(Note 4)
	10/15/20	0.60	0.32	(Note 4)
	04/15/21	0.50	0.25	(Note 4)
	11/11/21	0.60	0.23	(Note 4)
	04/27/22	1.60	0.50	(Note 4)
	10/11/22	4.08	2.45	(Note 4)
	04/04/23	0.67	0.17	(Note 4)
	10/26/23	2.88	0.53	(Note 4)
	04/04/24	1.12	0.95	(Note 4)
	10/14/24	3.12	0.63	(Note 4)
	05/21/25	1.86	0.43	(Note 4)
	10/13/25	0.70	0.64	(Note 4)
Cumulative LNAPL Removal			11.89	
TOTAL LNAPL REMOVED			**45.3**	**(ALL WELLS)**

LNAPL = light non-aqueous-phase liquid nd = no detectable LNAPL thickness nm = not measured

Notes:

1) The viscous, sticky nature of the LNAPL results in inconsistent readings of the interface probe (used to measure depth-to-LNAPL and depth-to-water). Therefore, the reported LNAPL thicknesses can only be regarded as estimates.
2) Water has been observed to separate out from LNAPL samples over a period of months. Therefore, actual volumes of non-aqueous-phase liquid removed from the subsurface are likely less than the LNAPL volumes reported in this table.
3) Well EW-17 (4-inch ID) has a unit volume of approximately 2.5 liters per vertical foot of well casing. All other wells are 2-inch ID and have unit volumes of approximately 0.62 liter per vertical foot of well casing.
4) Bailing was stopped after bailer retrieved a relatively large volume of water with little or no LNAPL.
5) Bailing was stopped because bailer would no longer go down well due to LNAPL buildup on inside well casing.
6) Unable to determine initial thickness of LNAPL. Bailing was attempted.

Table 4. Cleanup Levels and Screening Levels for Vapor-Phase PCOCs
Draft 2025 Annual Report
Crownhill Elementary School, Bremerton, Washington

Potential Compound of Concern (PCOC)	Current (February 2025) MTCA Method B Sub-Slab Soil Gas Screening Levels[2]		Previous (August 2020) MTCA Method B Sub-Slab Soil Gas Screening Levels[2]	
	Non-Carcinogen	Carcinogen	Non-Carcinogen	Carcinogen
Freon 12	1500	--	1500	--
Vinyl chloride	1500	9.5	1500	9.5
1,1-Dichloroethene	3000	--	3000	--
trans-1,2-Dichloroethene[5]	610	--	--	--
1,1-Dichloroethane	--	52	--	52
cis-1,2-Dichloroethene[5]	610	--	--	--
Chloroform	30	3.6	1500	3.6
Benzene	460	11	460	11
1,2-Dichloroethane (EDC)	110	3.2	110	3.2
Trichloroethene (TCE)	30	11	30	11
Tetrachloroethene (PCE)	610	320	610	320
Ethylbenzene	15,000	--	15,000	--
Xylenes (total)	1500	--	1500	--
1,2,4-Trimethylbenzene	910	--	910	--
Naphthalene	46.0	2.5	46.0	2.5
Hydrogen sulfide[4]	30.0	--	30.0	--

Notes

1) All concentrations are in units of micrograms per cubic meter (ug/m^3).

2) Current (August 2025) MTCA Method B sub-slab soil gas screening levels were obtained from the CLARC Master Table in January 2026.

3) When sub-slab sampling was conducted in November 2020, results were compared to the sub-slab screening levels in this column.

4) Current (August 2020) sub-slab screening levels for hydrogen sulfide were obtained by dividing the most stringent MTCA Method B air cleanup level (0.91 ug/m^3) by 0.03, to conservatively account for soil vapor attenuation across the floor slab in accordance with Ecology guidance.

5) Chemical has been removed from Ecology's vapor intrusion (VI) list because toxicity values are no longer available in CLARC.

Table 5. Summary of Sub-Slab Vapor Sampling Results
Draft 2025 Annual Report
Crownhill Elementary School, Bremerton, Washington

Confidential Attorney Client Privilege

Potential Compound of Concern (PCOC)	Current Screening Level (3)	Sub-Slab Vapor Sampling Location[2]																					
		SSV-1										SSV-2										SSV-3									
		8/19/2010		11/17/2010		11/11/2015		1/27/2021		11/11/2025		8/19/2010		11/17/2010		11/11/2015		1/27/2021		11/11/2025		8/19/2010		11/17/2010		11/11/2015		1/27/2021		11/11/2025	
Freon 12	1500	**2.8**		**0.71**		**3.5**		**2.6**		17	U	**3**		**0.58**		**3.6**		**2.9**		5.2	U	**2.4**		**0.47**		**3.5**		**2.2**		5.5	U
Vinyl Chloride	9.5	0.42	U	0.47	U	0.51	U	0.89	U	2.2	U	0.4	U	0.46	U	0.51	U	0.87	U	0.68	U	0.39	U	0.47	U	0.51	U	0.82	U	0.72	U
1,1-Dichloroethene	3000	0.65	U	0.72	U	0.79	U	1.4	U	6.7	U	0.61	U	0.71	U	0.79	U	1.3	U	2.1	U	0.6	U	0.72	U	0.79	U	1.3	U	2.2	U
trans-1,2-Dichloroethene	610	0.65	U	0.72	U	0.79	U	1.4	U	6.7	U	0.61	U	0.71	U	0.79	U	1.3	U	2.1	U	0.6	U	0.72	U	0.79	U	1.3	U	2.2	U
1,1-Dichloroethane	52	0.66	U	0.74	U	0.81	U	1.4	U	6.9	U	0.63	U	0.72	U	0.81	U	1.4	U	2.1	U	0.62	U	0.74	U	0.81	U	1.3	U	2.3	U
cis-1,2-Dichloroethene	610	0.65	U	0.72	U	0.79	U	1.4	U	6.7	U	0.61	U	0.71	U	0.79	U	1.3	U	2.1	U	0.6	U	0.72	U	0.79	U	1.3	U	2.2	U
Chloroform	3.6	0.8	U	0.89	U	0.98	U	0.17	U	0.83	U	**1.1**		0.87	U	0.98	U	0.17	U	0.26	U	0.74	U	0.89	U	0.98	U	0.16	U	0.27	U
Benzene	11	0.52	U	0.58	U	0.64	U	1.1	U	2.7	U	0.5	U	0.57	U	**0.67**		1.1	U	1.2	U	0.48	U	0.58	U	0.64	U	1	U	1.4	U
1,2-Dichloroethane	3.2	0.66	U	0.74	U	0.81	U	0.14	U	0.69	U	0.63	U	0.72	U	0.81	U	0.14	U	0.21	U	0.62	U	0.74	U	0.81	U	0.13	U	0.23	U
Trichloroethene (TCE)	11	0.88	U	0.98	U	1.1	U	0.38	U	1.8	U	0.83	U	0.96	U	1.1	U	0.37	U	0.57	U	0.82	U	0.98	U	1.1	U	**0.48**		0.6	U
Tetrachloroethene (PCE)	320	1.1	U	1.2	U	1.4	U	24	U	120	U	**1.5**		**0.38**		**3.7**		23	U	36	U	1	U	1.2	U	**1.7**		22	U	38	U
Ethylbenzene	15,000	0.71	U	**0.21**		**0.87**		1.5	U	7.4	U	0.67	U	**0.33**		0.87	U	1.5	U	2.3	U	0.66	U	**0.6**		0.87	U	1.4	U	2.4	U
Total Xylenes	1500	--		--		**4.1**		**3.5**		7.4	U	--		--		2.6	U	**3.2**		2.3	U	--		--		2.6	U	**7.7**		2.4	U
1,2,4-Trimethylbenzene	910	0.81	U	0.9	U	**2.7**		8.6	U	84	U	0.76	U	**0.33**		**1.1**		8.4	U	26	U	0.75	U	0.9	U	**1.4**		7.9	U	28	U
Naphthalene	2.5	4.3	U	4.8	U	1	U	**1.1**		1.2	U	4.1	U	4.7	U	1	U	0.89	U	0.36	U	4	U	4.8	U	1	U	**0.92**		0.38	U
Hydrogen Sulfide	30.3	**17**		5.7	U	7	U	13.9	U	8.31	U	5.7	U	5.7	U	7	U	13.9	U	8.31	U	5.7	U	5.7	U	7	U	13.9	U	8.31	U

U analyte not detected at or above the reported result

Notes:

1) All concentrations are in micrograms per cubic meter (ug/m^3).
2) Refer to Figure 4 for sub-slab vapor sampling locations.
3) Refer to Table 4 for derivation of sub-slab screening levels.
4) Analyte detections are bolded.
5) None of the detections exceed the current screening levels.

Table 5. Summary of Sub-Slab Vapor Sampling Results
Draft 2025 Annual Report
Crownhill Elementary School, Bremerton, Washington

Potential Compound of Concern (PCOC)	Current Screening Level (3)	Sub-Slab Vapor Sampling Location[2]																					
		SSV-4										SSV-5										SSV-6									
		8/19/2010		11/17/2010		11/11/2015		1/27/2021		11/11/2025		8/19/2010		11/17/2010		11/11/2015		1/27/2021		11/11/2025		8/19/2010		11/17/2010		11/11/2015		1/27/2021		11/11/2025	
Freon 12	1500	**2.8**		**0.58**		**3.6**		**2.7**		5.2	U	**3.6**		**0.65**		**4.8**		**3.1**		5.5	U	**2.4**		**0.66**		**3.3**		**2.1**		5	U
Vinyl Chloride	9.5	0.39	U	0.47	U	0.51	U	0.89	U	0.68	U	0.48	U	0.47	U	0.51	U	0.87	U	0.72	U	0.43	U	0.43	U	0.51	U	0.84	U	0.65	U
1,1-Dichloroethene	3000	0.6	U	0.72	U	0.79	U	1.4	U	2.1	U	0.74	U	0.72	U	0.79	U	1.3	U	2.2	U	0.67	U	0.67	U	0.79	U	1.3	U	2	U
trans-1,2-Dichloroethene	610	0.6	U	0.72	U	0.79	U	1.4	U	2.1	U	0.74	U	0.72	U	0.79	U	1.3	U	2.2	U	0.67	U	0.67	U	0.79	U	1.3	U	2	U
1,1-Dichloroethane	52	0.62	U	0.74	U	0.81	U	1.4	U	2.1	U	0.76	U	0.74	U	0.81	U	1.4	U	2.3	U	0.68	U	0.68	U	0.81	U	1.3	U	2.1	U
cis-1,2-Dichloroethene	610	0.6	U	0.72	U	0.79	U	1.4	U	2.1	U	0.74	U	0.72	U	0.79	U	1.3	U	2.2	U	0.67	U	0.67	U	0.79	U	1.3	U	2	U
Chloroform	3.6	0.74	U	0.89	U	0.98	U	0.17	U	0.26	U	**1.5**		0.89	U	0.98	U	0.17	U	0.27	U	**0.97**		0.82	U	0.98	U	0.16	U	0.25	U
Benzene	11	**0.56**		0.58	U	0.64	U	1.1	U	2.7	U	**0.76**		0.58	U	0.64	U	1.1	U	0.99	U	0.54	U	**0.27**		**0.73**		1.1	U	1.7	U
1,2-Dichloroethane	3.2	0.62	U	0.74	U	0.81	U	0.14	U	0.21	U	0.76	U	0.74	U	0.81	U	0.14	U	0.23	U	0.68	U	0.68	U	0.81	U	0.13	U	0.21	U
Trichloroethene (TCE)	11	0.82	U	0.98	U	1.1	U	0.38	U	0.57	U	1	U	0.98	U	1.1	U	0.37	U	0.6	U	0.9	U	0.9	U	1.1	U	0.35	U	0.55	U
Tetrachloroethene (PCE)	320	**1.5**		**0.44**		**3.9**		24	U	36	U	1.3	U	**0.2**		**1.8**		23	U	38	U	1.1	U	**0.22**		1.4	U	22	U	35	U
Ethylbenzene	15,000	**0.71**		**0.2**		0.87	U	1.5	U	2.3	U	0.81	U	**2.5**		**1**		1.5	U	2.4	U	0.73	U	**0.28**		**8.2**		1.4	U	2.2	U
Total Xylenes	1500	--		--		2.6	U	**6**		**4.6**		--		--		**5**		**6.1**		2.4	U	--		--		**32**		**6.9**		2.2	U
1,2,4-Trimethylbenzene	910	0.75	U	0.9	U	**1.7**		8.6	U	26	U	0.92	U	**0.3**		**4.3**		8.4	U	28	U	0.82	U	**0.34**		**2.8**		8.1	U	25	U
Naphthalene	2.5	4	U	4.8	U	1	U	**1.2**		**0.63**		4.9	U	4.8	U	1	U	**1**		0.38	U	4.4	U	4.4	U	1	U	**1**		1.4	U
Hydrogen Sulfide	30.3	5.7	U	5.7	U	7	U	13.9	U	8.31	U	5.7	U	5.7	U	7	U	8.31	U	13.9	U	**6.7**		5.7	U	7	U	13.9	U	8.31	U

U analyte not detected at or above the reported result

Notes:

1) All concentrations are in micrograms per cubic meter (ug/m^3).
2) Refer to Figure 4 for sub-slab vapor sampling locations.
3) Refer to Table 4 for derivation of sub-slab screening levels.
4) Analyte detections are bolded.
5) None of the detections exceed the current screening levels.

Table 6. Summary of Soil Vapor Probe Monitoring Results
DRAFT 2025 Annual Report
Crownhill Elementary, Bremerton, Washington

Sample Date	Well ID	Laboratory Results	Field Gas Analyzer Results				
		TCE	CH_4	CO_2	O_2	CO	H_2S
		($\mu g/m^3$)	(% by vol.)	(% by vol.)	(% by vol.)	ppmv	ppmv
August 2025	VP-1	6.4 ND	0.0	1.7	19.5	1	0
	VP-2	6.4 ND	0.0	0.8	20.1	1	0
	VP-3	6.4 ND	0.0	1.9	18.5	0	0
November 2025	VP-1	3.1 ND	0.0	0.4	20.3	0	1
	VP-2	3.1 ND	0.0	0.2	20.6	0	1
	VP-3	3.1 ND	0.0	1.8	18.7	0	0

Notes:
Field gas analyzer was calibrated prior to monitoring.
TCE: trichloroethylene
CH_4: methane
CO_2: carbon dioxide
O_2: oxygen
CO: carbon monoxide
H_2S: hydrogen sulfide
$\mu g/m^3$: micrograms per cubic meter
% by vol.: percent by volume
ppmv: parts per million by volume
ND: non-detect, associated values are the reporting limit

FIGURES

1724 Dora Avenue NW (Note 2)

North Landfill Area

MW-2

VP-01

VP-02

Estimated Extent of TPH Cleanup Level Exceedance

MW-9

Estimated Extent of TCE Cleanup Level Exceedance

VP-03

BERTHA AVE NW

MW-16

(Note 1)

MW-14

EW-17

MW-13

MW-12

MW-8

MW-5

Geotextile at 1 Foot Below Ground Surface (Summer 2013 Interim Action)

MW-15

Estimated Extent of Arsenic Cleanup Level Exceedance

Bertha Ave NW Parking Area

PORTABLE CLASSROOM BUILDING

MW-4

ROCKY POINT RD

MW-6

MAIN SCHOOL BUILDING

MW-3

MW-10

South Landfill Area

MW-1

Geotextile at 1 Foot Below Ground Surface (Summer 2013 Interim Action)

MW-7

Geotextile at 1 Foot Below Ground Surface (Spring 2012 Interim Action)

MW-11

MARINE DR

DORA AVE

0 100 200 Feet

Well Locations:

- Extraction Well Included in Monitoring Program
- Monitoring Well Included in Monitoring Program
- Monitoring Well Not Included in Monitoring Program
- McKinney Domestic Well (Note 2)
- Vapor Probe Location
- Approximate photo location & orientation for semiannual cover system inspections

Other Site Features and Interpretation:

- Interpreted Extent of Landfill Activity
- Estimated Extent of Groundwater Cleanup Level Exceedances in 2014 (Ecology, 2014)
- Bremerton School District Property Boundary
- Bremerton United Methodist Church Property Boundary
- Inferred Direction of Groundwater Flow

Notes:

(1) LNAPL has been observed in Wells EW-17, MW-8, MW-13, MW-14, and MW-16.
(2) The McKinney well water sample is collected from the outdoor faucet on the north side of the residence at 1724 Dora Avenue NW.
(3) All values are for averaged dissolved fractions in ug/L.

Site Plan

2025 Annual Report
Crownhill Elementary
Bremerton, Washington

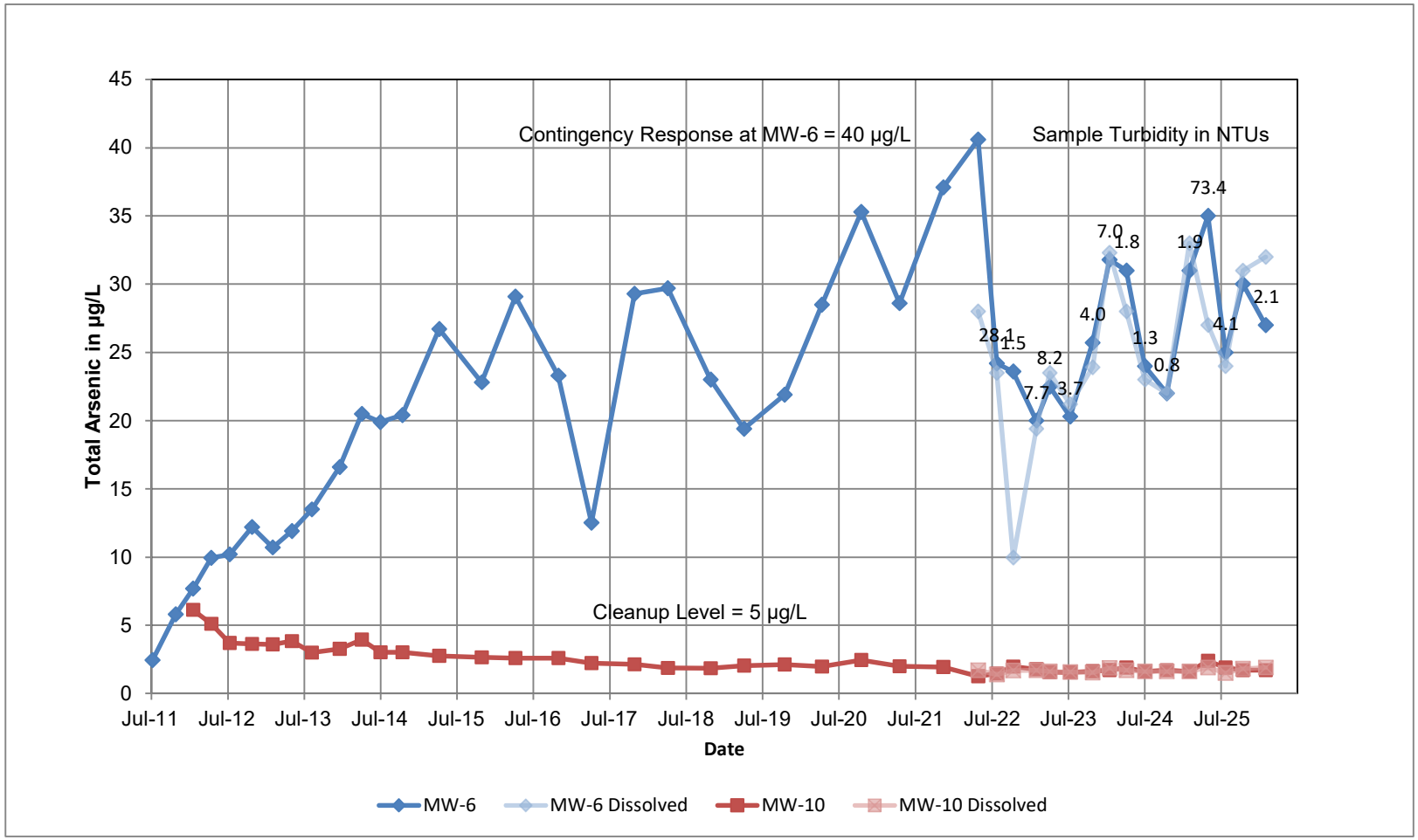
Aspect Consulting

MAR - 2026	BY: DLH / PPW	FIGURE NO. 1
PROJECT NO. 100094	REVISED BY: MML / KMJ	

GIS Path: T:\projects_8\CrownHillElementary\Delivered\Annual Report 2025\01-Site Plan.mxd || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 2/4/2026 || User: KristenJurica || Print Date: 2/4/2026

Figure 2. Arsenic in Wells MW-6 and MW-10

Project No. AS100094J, Crownhill Elementary, Bremerton, Washington



Notes:

1) Well MW-6, installed in March 2011, provides early warning of potential arsenic migration.

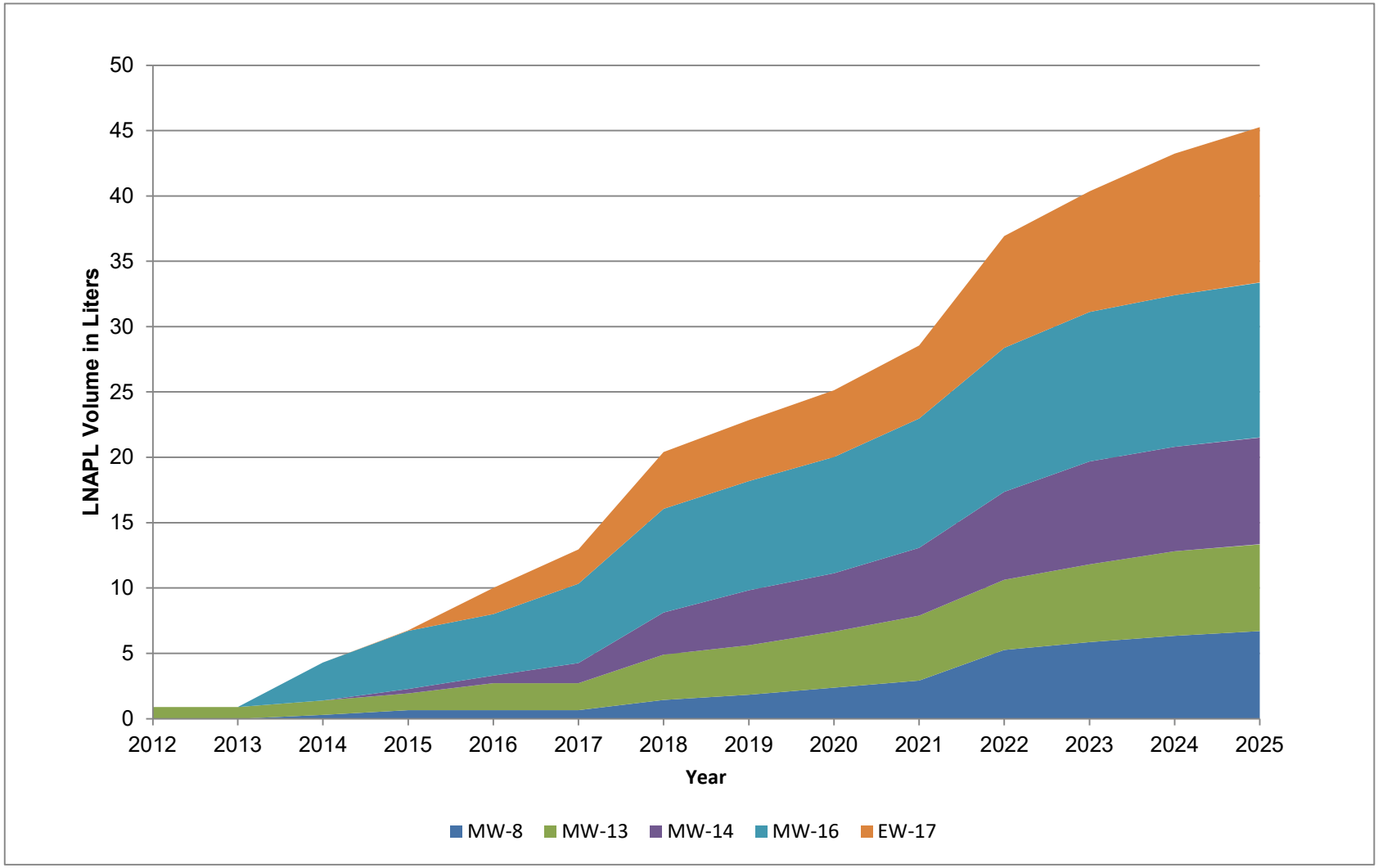
2) Well MW-10, installed in December 2011, is the conditional point of compliance for arsenic in groundwater.

3) Dissolved Arsenic was added to the constituents of concern in 2022 in response to the April 2022 arsenic exceedance in MW-6.

4) Turbidity measurements for MW-6 are included and use NTU units.

Figure 3. Cumulative LNAPL Removal Over Time

Project No. AS100094J, Crownhill Elementary, Bremerton, WA

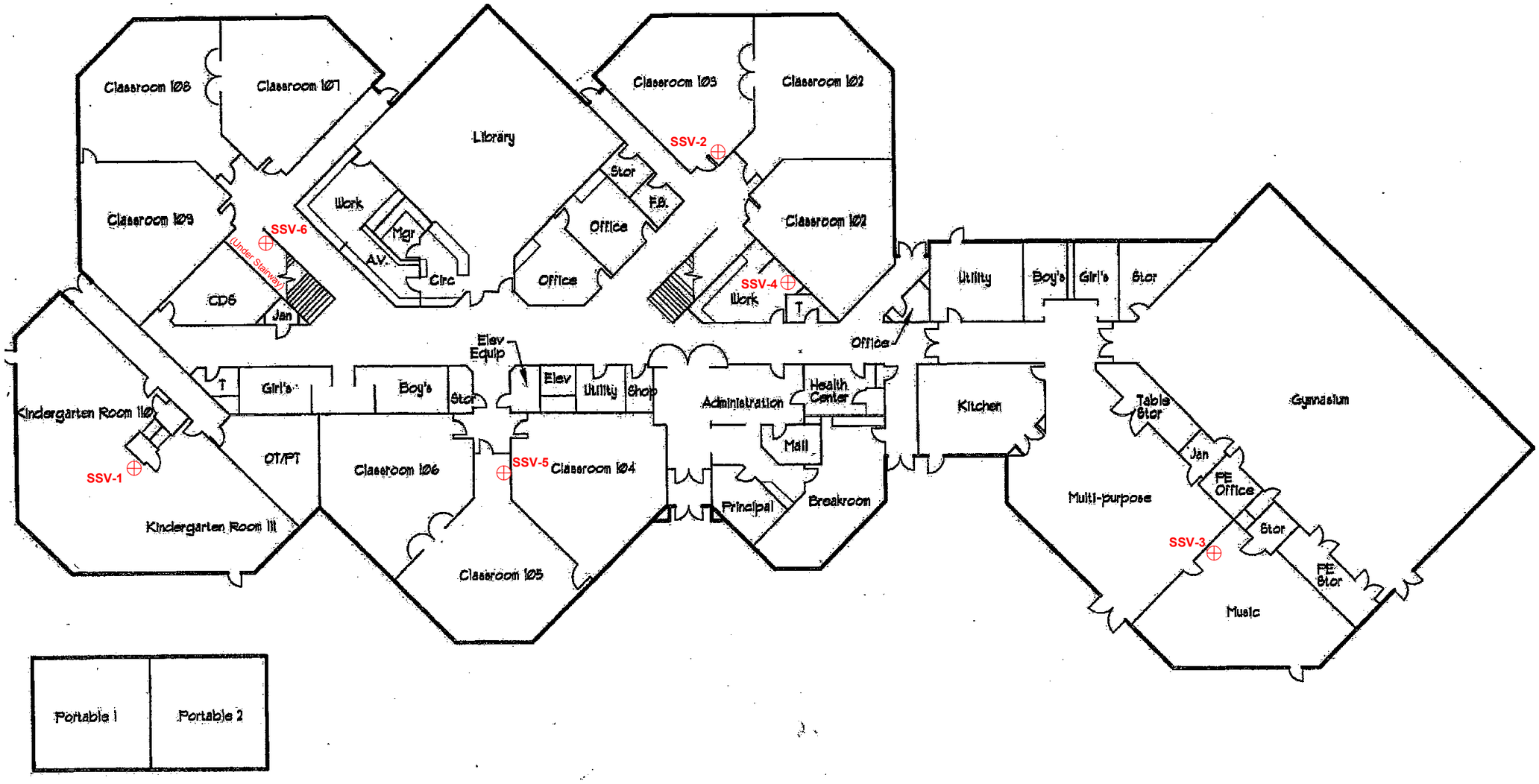


Geosyntec Consultants

3/6/2026

V:\100094 BSD Crownhill Elementary RIFS\Deliverables\Remediation Implementation\2025 Annual Report\Draft\Tables & Figures\Figure 2

Figure 3
Cumulative LNAPL Removal
2025 Annual Monitoring Report



⊕ Sub-Slab Vapor Sampling Location

0 25 50

Approximate Scale in Feet

Sub-Slab Vapor Sampling Locations

2025 Annual Report

Crownhill Elementary, Bremerton, Washington

Geosyntec consultants	MAR -2026	BY: DLH/SCC	FIGURE NO. 4
	PROJECT NO. 100094	REV BY: SCC	

CAD Path: Q:\Crown Hill Elementary\100067 Crown Hill Elementary School\2015-12 Annual Report\100094-02.dwg 1.1x17 Landscape || Coordinate System: NAD 1983 State Plane Washington North FIPS 4601 Feet || Date Saved: Dec 22, 2015 3:03pm || User: scudd

APPENDIX A
June 2025 Inspection Record and Photos

Aspect CONSULTING

Project Name: **Crownhill Elementary School**

Project No.: 100094J-014

Weather Conditions: Overcast 60°Fs

Date: 6/25/2025

Inspector's Name: Matthew Lewis

Inspector's Signature: Matthew M Lewis

Inspector's Title/Affiliation: Project Hydrogeologist

FORM 1 - INSPECTION RECORD

INSPECTION ITEM	YES	NO	COMMENTS/NOTES
1. North Environmental Covenant Area			
a. Building or pavement modifications since last inspection?		X	
b. Pavement deterioration/damage along Bertha Ave NW?[1]	X		a minor hole in asphalt
c. Evidence of soil disturbance?		X	
d. Geotextile fabric visible in interim action area?		X	
2. South Environmental Covenant Area			
a. Building or pavement modifications since last inspection?		X	
b. Evidence of soil disturbance?		X	
c. Geotextile fabric visible in interim action areas?		X	
3. Other Inspection Items			
a. Are all wells (MW-1 through EW-17) accessible?	X		
b. Evidence of well monument damage/tampering?		X	
c. HVAC system operates continuously during school day?[2]	X		Running continuously, heating/cooling as necessary

Deficient Action Items & Other Comments:

Notes

1. Item 1b refers to the paved parking area described in Section 1.3.
2. The inspector should describe under COMMENTS/NOTES how the determination is made regarding HVAC system operation.

Revision: December 2015



Photo Location 1. 6/25/2025 site inspection



Photo Location 2. 6/25/2025 site inspection



Photo Location 3. 6/25/2025 site inspection



Photo Location 4. 6/25/2025 site inspection

APPENDIX B
December 2025 Inspection Record and Photos

Aspect CONSULTING

Project Name: **Crownhill Elementary School**

Project No.: AS10004J

Weather Conditions: Overcast, 50 degrees F

Date: 12/22/2025

Inspector's Name: Matthew M Lewis

Inspector's Signature: Matthew M Lewis

Inspector's Title/Affiliation: Project Hydrogeologist

FORM 1 - INSPECTION RECORD

INSPECTION ITEM	YES	NO	COMMENTS/NOTES
1. North Environmental Covenant Area			
a. Building or pavement modifications since last inspection?		X	
b. Pavement deterioration/damage along Bertha Ave NW?[1]	X		a minor hole in the asphalt
c. Evidence of soil disturbance?		X	
d. Geotextile fabric visible in interim action area?		X	
2. South Environmental Covenant Area			
a. Building or pavement modifications since last inspection?		X	
b. Evidence of soil disturbance?		X	
c. Geotextile fabric visible in interim action areas?		X	
3. Other Inspection Items			
a. Are all wells (MW-1 through EW-17) accessible?	X		
b. Evidence of well monument damage/tampering?		X	
c. HVAC system operates continuously during school day?[2]	X		Air is running continuously, heating and cooling as necessary.

Deficient <u>Action Items</u> & Other Comments:

Notes

Revision: December 2015

1. Item 1b refers to the paved parking area described in Section 1.3.
2. The inspector should describe under COMMENTS/NOTES how the determination is made regarding HVAC system operation.



Photo Location 1. 12/22/2025 site inspection, pothole circled.



Photo Location 2. 12/22/2025 site inspection



Photo Location 3. 12/22/2025 site inspection



Photo Location 4. 12/22/2025 site inspection

Geosyntec consultants

APPENDIX C
Laboratory Reports, 2025 Groundwater Sampling

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

February 13, 2025

Matthew Lewis, Project Manager
Aspect Consulting
710 2nd Ave S, Suite 550
Seattle, WA 98104

Dear Mr Lewis:

Included are the results from the testing of material submitted on February 4, 2025 from the Crownhill Elementary AS100094, F&BI 502025 project. There are 19 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Aspect Data
ASP0213R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on February 4, 2025 by Friedman & Bruya, Inc. from the Aspect Consulting Crownhill Elementary AS100094, F&BI 502025 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting
502025 -01	MW-6-250131
502025 -02	MW-10-250131

The samples were sent to Alliance Technical Group for alkalinity testing. The report is enclosed.

All quality control requirements were acceptable.

Date of Report: 02/13/25
Date Received: 02/04/25
Project: Crownhill Elementary AS100094, F&BI 502025
Date Extracted: 02/05/25
Date Analyzed: 02/05/25

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
MW-10-250131 502025-02	<50	<250	122
Method Blank 05-335 MB	<50	<250	118

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW-10-250131	Client:	Aspect Consulting
Date Received:	02/04/25	Project:	Crownhill Elementary AS100094
Date Extracted:	02/05/25	Lab ID:	502025-02
Date Analyzed:	02/05/25	Data File:	020521.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	107	71	132
Toluene-d8	98	68	139
4-Bromofluorobenzene	105	62	136

Compounds:	Concentration ug/L (ppb)
Trichloroethene	<0.5

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Aspect Consulting
Date Received:	Not Applicable	Project:	Crownhill Elementary AS100094
Date Extracted:	02/05/25	Lab ID:	05-0274 mb
Date Analyzed:	02/05/25	Data File:	020508.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	71	132
Toluene-d8	101	68	139
4-Bromofluorobenzene	109	62	136

Compounds:	Concentration ug/L (ppb)
Trichloroethene	<0.5

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-6-250131	Client:	Aspect Consulting
Date Received:	02/04/25	Project:	Crownhill Elementary AS100094
Date Extracted:	02/04/25	Lab ID:	502025-01
Date Analyzed:	02/05/25	Data File:	502025-01.083
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	31

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-10-250131	Client:	Aspect Consulting
Date Received:	02/04/25	Project:	Crownhill Elementary AS100094
Date Extracted:	02/04/25	Lab ID:	502025-02
Date Analyzed:	02/05/25	Data File:	502025-02.084
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.6

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Aspect Consulting
Date Received:	NA	Project:	Crownhill Elementary AS100094
Date Extracted:	02/04/25	Lab ID:	I5-100 mb
Date Analyzed:	02/05/25	Data File:	I5-100 mb.039
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW-6-250131	Client:	Aspect Consulting
Date Received:	02/04/25	Project:	Crownhill Elementary AS100094
Date Extracted:	02/06/25	Lab ID:	502025-01
Date Analyzed:	02/07/25	Data File:	502025-01.278
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	33

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW-6-250131	Client:	Aspect Consulting
Date Received:	02/04/25	Project:	Crownhill Elementary AS100094
Date Extracted:	02/06/25	Lab ID:	502025-01 x10
Date Analyzed:	02/07/25	Data File:	502025-01 x10.276
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	2,600

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-6-250131	Client:	Aspect Consulting
Date Received:	02/04/25	Project:	Crownhill Elementary AS100094
Date Extracted:	02/06/25	Lab ID:	502025-01 x100
Date Analyzed:	02/12/25	Data File:	502025-01 x100.062
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	9,400

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW-10-250131	Client:	Aspect Consulting
Date Received:	02/04/25	Project:	Crownhill Elementary AS100094
Date Extracted:	02/06/25	Lab ID:	502025-02
Date Analyzed:	02/07/25	Data File:	502025-02.279
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.6

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW-10-250131	Client:	Aspect Consulting
Date Received:	02/04/25	Project:	Crownhill Elementary AS100094
Date Extracted:	02/06/25	Lab ID:	502025-02 x10
Date Analyzed:	02/07/25	Data File:	502025-02 x10.277
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	1,400

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-10-250131	Client:	Aspect Consulting
Date Received:	02/04/25	Project:	Crownhill Elementary AS100094
Date Extracted:	02/06/25	Lab ID:	502025-02 x25
Date Analyzed:	02/12/25	Data File:	502025-02 x25.074
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	2,400

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Aspect Consulting
Date Received:	NA	Project:	Crownhill Elementary AS100094
Date Extracted:	02/06/25	Lab ID:	I5-105 mb
Date Analyzed:	02/06/25	Data File:	I5-105 mb.135
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Iron	<50
Manganese	<1

Date of Report: 02/13/25
Date Received: 02/04/25
Project: Crownhill Elementary AS100094, F&BI 502025

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	108	100	65-151	8

Date of Report: 02/13/25
Date Received: 02/04/25
Project: Crownhill Elementary AS100094, F&BI 502025

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 502025-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Trichloroethene	ug/L (ppb)	10	<0.5	97	43-133

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Trichloroethene	ug/L (ppb)	10	89	94	70-130	5

Date of Report: 02/13/25
Date Received: 02/04/25
Project: Crownhill Elementary AS100094, F&BI 502025

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 502022-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	<1	97	98	75-125	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	98	80-120

Date of Report: 02/13/25
Date Received: 02/04/25
Project: Crownhill Elementary AS100094, F&BI 502025

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR DISSOLVED METALS USING EPA METHOD 6020B

Laboratory Code: 502040-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	<1	93	95	75-125	2
Iron	ug/L (ppb)	100	23,400	0 b	0 b	75-125	0
Manganese	ug/L (ppb)	20	183	51 b	40 b	75-125	24 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	95	80-120
Iron	ug/L (ppb)	100	93	80-120
Manganese	ug/L (ppb)	20	98	80-120

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.

502025

SAMPLE CHAIN OF CUSTODY

02/04/25

K2/VM/F2

Page # 1 of 1

Report To Matthew Lewis

Company Aspect Consulting

Address

City, State, ZIP

Phone 404-210-6437 Email Matthew.Lewis@aspectconsulting.com

SAMPLERS (*signature*)

PROJECT NAME: Crownhill Elementary

PO #: AS100094

REMARKS

Project specific RLs? - Yes / No

INVOICE TO

TURNAROUND TIME
- ☑ Standard turnaround
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Archive samples
- ☐ Other
- Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	TCE	Total Arsenic	Diss. As, Fe, Mn	Alkalinity	Notes
MW-6-250131	01A-C	1/31/25		W	3									X	X	X	
MW-10-250131	02A-B	↓		↓	7	X							X	X	X	X	
								Samples received at						Ø	°C		

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Carmen Tappero	Aspect Consulting	2/4	10:20
Received by:	VMH	FBI	2/4/25	10:20
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
5500 4th Ave S.
Seattle WA 98108
(206) 285-8282
office@friedmanandbruya.com

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 502025 CLIENT Aspect INITIALS/ DATE: AP 02/04/25

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

Cooler/Sample temperature Ø °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: AMB 2/4
*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory 4 days

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

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

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

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

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

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

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

Other comments (use a separate page if needed)

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

Number of unused TO15 canisters _____ **Number of unused TO17 tubes** _____

3600 Fremont Ave N
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Friedman & Bruya
Michael Erdahl
5500 4th Ave S
Seattle, WA 98108

RE: 502025,
Work Order Number: 2502045

February 11, 2025

Attention Michael Erdahl:

Alliance Technical Group, LLC - Seattle received 2 sample(s) on 2/4/2025 for the analyses presented in the following report.

Total Alkalinity by EPA 310.2

All analyses were performed according to our accredited Quality Assurance program. Please contact the laboratory if you should have any questions about the results.

Alliance Technical Group is committed to accuracy, speed, and customer service. Thank you for choosing Alliance Technical Group's Seattle laboratory team for your analytical needs. We appreciate this opportunity to serve you!

Sincerely,

Kelley Lovejoy
Project Manager

Date: *02/11/2025*

CLIENT: Friedman & Bruya
Project: 502025
Work Order: 2502045

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2502045-001	MW-6-250131	01/31/2025 12:00 PM	02/04/2025 4:03 PM
2502045-002	MW-10-50131	01/31/2025 12:15 PM	02/04/2025 4:03 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **2502045**

Date: **2/11/2025**

CLIENT: Friedman & Bruya

Project: 502025

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
DUP - Sample Duplicate
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MCL - Maximum Contaminant Level
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
REP - Sample Replicate
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Analytical Report

Work Order: **2502045**
Date Reported: **2/11/2025**

CLIENT: Friedman & Bruya
Project: 502025

Lab ID: 2502045-001 **Collection Date:** 1/31/2025 12:00:00 PM
Client Sample ID: **MW-6-250131** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Alkalinity by EPA 310.2				Batch ID: R97525		Analyst: NR
Alkalinity, Total (As CaCO3)	365	50.0	D	mg/L	20	2/10/2025 12:36:00 PM

Lab ID: 2502045-002 **Collection Date:** 1/31/2025 12:15:00 PM
Client Sample ID: **MW-10-50131** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Alkalinity by EPA 310.2				Batch ID: R97525		Analyst: NR
Alkalinity, Total (As CaCO3)	256	50.0	D	mg/L	20	2/10/2025 12:38:00 PM

Work Order: 2502045
CLIENT: Friedman & Bruya
Project: 502025

QC SUMMARY REPORT

Total Alkalinity by EPA 310.2

Sample ID: **MB-97525**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **2/10/2025**	RunNo: **97525**
Client ID: **MBLKW**	Batch ID: **R97525**		Analysis Date: **2/10/2025**	SeqNo: **2032124**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	2.50									

Sample ID: **LCS-97525**	SampType: **LCS**	Units: **mg/L**	Prep Date: **2/10/2025**	RunNo: **97525**
Client ID: **LCSW**	Batch ID: **R97525**		Analysis Date: **2/10/2025**	SeqNo: **2032125**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	28.6	2.50	25.00	0	114	83.8	121				

Sample ID: **2502045-002ADUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **2/10/2025**	RunNo: **97525**
Client ID: **MW-10-50131**	Batch ID: **R97525**		Analysis Date: **2/10/2025**	SeqNo: **2032128**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	57.3	2.50						57.66	0.696	20	E

Alliance TECHNICAL GROUP

Sample Log-In Check List

Client Name:	FB	Work Order Number:	2502045
Logged by:	Morgan Wilson	Date Received:	2/4/2025 4:03:00 PM

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Present ☑
4.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5.	Were all items received at a temperature of >2°C to 6°C *	Yes ☑	No ☐	NA ☐
6.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
7.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8.	Are samples properly preserved?	Yes ☑	No ☐	
9.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10.	Is there headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
11.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
12.	Does paperwork match bottle labels?	Yes ☑	No ☐	
13.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14.	Is it clear what analyses were requested?	Yes ☑	No ☐	
15.	Were all hold times (except field parameters, pH e.g.) able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

17. Additional remarks:

Item Information

Item #	Temp °C
Sample	5.3

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2502 045

Page # 1 of 1

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER ATG	
PROJECT NAME/NO. 502025	PO # F-54
REMARKS	

TURNAROUND TIME
☒ Standard TAT
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	ANALYSES REQUESTED: Alkalinity										Notes
MW-6-250131		1/31/2025	1200	water	1	x										
MW-10-50131		1/31/2025	1215	water	1	x										

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

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman & Bruya	2/4/25	1119
Received by:		Payton Cleven		2/4/25	4:03 PM
Relinquished by:					
Received by:					

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

May 13, 2025

Matthew Lewis,Project Manager
Aspect Consulting
801 5th Ave Suite 2200
Seattle, WA 98106

Dear Mr Lewis:

Included is the amended report from the testing of material submitted on May 1, 2025 from the Crownhill Elementary 100094, F&BI 505017 project. The sample IDs have been updated.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Aspect Data
ASP0509R.DOC

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

May 9, 2025

Matthew Lewis, Project Manager
Aspect Consulting
801 5th Ave Suite 2200
Seattle, WA 98106

Dear Mr Lewis:

Included are the results from the testing of material submitted on May 1, 2025 from the Crownhill Elementary 100094, F&BI 505017 project. There are 28 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Aspect Data
ASP0509R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on May 1, 2025 by Friedman & Bruya, Inc. from the Aspect Consulting Crownhill Elementary 100094, F&BI 505017 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Aspect Consulting
505017 -01	MW-6-043025
505017 -02	MW-05-043025
505017 -03	MW-09-043025
505017 -04	MW-10-043025
505017 -05	McKinney-043025
505017 -06	Trip Blank

Samples MW-6-043025, MW-05-043025, MW-09-043025, and MW-10-043025 were sent to Alliance Technical Group for alkalinity testing. The report is enclosed.

All quality control requirements were acceptable.

Date of Report: 05/09/25
Date Received: 05/01/25
Project: Crownhill Elementary 100094, F&BI 505017
Date Extracted: 05/02/25 11:24
Date Analyzed: 05/02/25 and 05/05/25

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
MW-05-043025 505017-02	2,400 x	760 x	102
MW-10-043025 505017-04	<50	<250	93
Method Blank 05-1105 MB	<50	<250	97
Method Blank 05-1121 MB	<50	<250	122

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW-09-043025	Client:	Aspect Consulting
Date Received:	05/01/25	Project:	Crownhill Elementary 100094
Date Extracted:	05/05/25	Lab ID:	505017-03
Date Analyzed:	05/05/25	Data File:	050534.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	78	126
Toluene-d8	96	84	115
4-Bromofluorobenzene	104	72	130

Compounds:	Concentration ug/L (ppb)
Trichloroethene	7.3

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW-10-043025	Client:	Aspect Consulting
Date Received:	05/01/25	Project:	Crownhill Elementary 100094
Date Extracted:	05/05/25	Lab ID:	505017-04
Date Analyzed:	05/05/25	Data File:	050535.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	78	126
Toluene-d8	98	84	115
4-Bromofluorobenzene	104	72	130

Compounds:	Concentration ug/L (ppb)
Trichloroethene	<0.05

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	McKinney-043025	Client:	Aspect Consulting
Date Received:	05/01/25	Project:	Crownhill Elementary 100094
Date Extracted:	05/05/25	Lab ID:	505017-05
Date Analyzed:	05/05/25	Data File:	050536.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	78	126
Toluene-d8	99	84	115
4-Bromofluorobenzene	100	72	130

Compounds:	Concentration ug/L (ppb)
Trichloroethene	<0.05

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Aspect Consulting
Date Received:	Not Applicable	Project:	Crownhill Elementary 100094
Date Extracted:	05/05/25	Lab ID:	05-1050 mb
Date Analyzed:	05/05/25	Data File:	050509.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	78	126
Toluene-d8	103	84	115
4-Bromofluorobenzene	103	72	130

Compounds:	Concentration ug/L (ppb)
Trichloroethene	<0.05

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	MW-6-043025	Client:	Aspect Consulting
Date Received:	05/01/25	Project:	Crownhill Elementary 100094
Date Extracted:	05/02/25	Lab ID:	505017-01
Date Analyzed:	05/02/25	Data File:	505017-04.251
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	35

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	MW-05-043025	Client:	Aspect Consulting
Date Received:	05/01/25	Project:	Crownhill Elementary 100094
Date Extracted:	05/02/25	Lab ID:	505017-02
Date Analyzed:	05/02/25	Data File:	505017-02.249
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	MW-09-043025	Client:	Aspect Consulting
Date Received:	05/01/25	Project:	Crownhill Elementary 100094
Date Extracted:	05/02/25	Lab ID:	505017-03
Date Analyzed:	05/02/25	Data File:	505017-03.250
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	MW-10-043025	Client:	Aspect Consulting
Date Received:	05/01/25	Project:	Crownhill Elementary 100094
Date Extracted:	05/02/25	Lab ID:	505017-04
Date Analyzed:	05/02/25	Data File:	505017-01.248
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	2.4

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	Method Blank	Client:	Aspect Consulting
Date Received:	NA	Project:	Crownhill Elementary 100094
Date Extracted:	05/02/25	Lab ID:	I5-373 mb2
Date Analyzed:	05/02/25	Data File:	I5-373 mb2.192
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-6-043025	Client:	Aspect Consulting
Date Received:	05/01/25	Project:	Crownhill Elementary 100094
Date Extracted:	05/02/25	Lab ID:	505017-01
Date Analyzed:	05/07/25	Data File:	505017-01.155
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	27

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-6-043025	Client:	Aspect Consulting
Date Received:	05/01/25	Project:	Crownhill Elementary 100094
Date Extracted:	05/02/25	Lab ID:	505017-01 x200
Date Analyzed:	05/06/25	Data File:	505017-01 x200.278
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	11,000
Manganese	2,700

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-05-043025	Client:	Aspect Consulting
Date Received:	05/01/25	Project:	Crownhill Elementary 100094
Date Extracted:	05/02/25	Lab ID:	505017-02
Date Analyzed:	05/06/25	Data File:	505017-02.289
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-05-043025	Client:	Aspect Consulting
Date Received:	05/01/25	Project:	Crownhill Elementary 100094
Date Extracted:	05/02/25	Lab ID:	505017-02 x2
Date Analyzed:	05/06/25	Data File:	505017-02 x2.067
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	390

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-05-043025	Client:	Aspect Consulting
Date Received:	05/01/25	Project:	Crownhill Elementary 100094
Date Extracted:	05/02/25	Lab ID:	505017-02 x500
Date Analyzed:	05/06/25	Data File:	505017-02 x500.281
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	5,600

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-09-043025	Client:	Aspect Consulting
Date Received:	05/01/25	Project:	Crownhill Elementary 100094
Date Extracted:	05/02/25	Lab ID:	505017-03
Date Analyzed:	05/06/25	Data File:	505017-03.291
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Manganese	<1

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-09-043025	Client:	Aspect Consulting
Date Received:	05/01/25	Project:	Crownhill Elementary 100094
Date Extracted:	05/02/25	Lab ID:	505017-03 x2
Date Analyzed:	05/06/25	Data File:	505017-03 x2.068
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	290

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-10-043025	Client:	Aspect Consulting
Date Received:	05/01/25	Project:	Crownhill Elementary 100094
Date Extracted:	05/02/25	Lab ID:	505017-04
Date Analyzed:	05/06/25	Data File:	505017-04.302
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.9

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-10-043025	Client:	Aspect Consulting
Date Received:	05/01/25	Project:	Crownhill Elementary 100094
Date Extracted:	05/02/25	Lab ID:	505017-04 x10
Date Analyzed:	05/06/25	Data File:	505017-04 x10.069
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	2,000

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-10-043025	Client:	Aspect Consulting
Date Received:	05/01/25	Project:	Crownhill Elementary 100094
Date Extracted:	05/02/25	Lab ID:	505017-04 x200
Date Analyzed:	05/06/25	Data File:	505017-04 x200.292
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	1,500

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	Method Blank	Client:	Aspect Consulting
Date Received:	NA	Project:	Crownhill Elementary 100094
Date Extracted:	05/02/25	Lab ID:	I5-378 mb
Date Analyzed:	05/02/25	Data File:	I5-378 mb.222
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Iron	<50
Manganese	<1

Date of Report: 05/09/25
Date Received: 05/01/25
Project: Crownhill Elementary 100094, F&BI 505017

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	112	108	65-151	4

Date of Report: 05/09/25
Date Received: 05/01/25
Project: Crownhill Elementary 100094, F&BI 505017

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	120	120	65-151	0

Date of Report: 05/09/25
Date Received: 05/01/25
Project: Crownhill Elementary 100094, F&BI 505017

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 504499-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Trichloroethene	ug/L (ppb)	10	<0.05	99	35-149

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Trichloroethene	ug/L (ppb)	10	97	95	70-130	2

Date of Report: 05/09/25
Date Received: 05/01/25
Project: Crownhill Elementary 100094, F&BI 505017

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 505009-01 x10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	89.1	0 b	0 b	75-125	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	93	85-115

Date of Report: 05/09/25
Date Received: 05/01/25
Project: Crownhill Elementary 100094, F&BI 505017

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR DISSOLVED METALS USING EPA METHOD 6020B

Laboratory Code: 504499-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	3.88	97 b	102 b	75-125	5 b
Iron	ug/L (ppb)	100	79.7	118 b	137 b	75-125	15 b
Manganese	ug/L (ppb)	20	112	90 b	114 b	75-125	24 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	96	80-120
Iron	ug/L (ppb)	100	101	80-120
Manganese	ug/L (ppb)	20	99	80-120

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.

505017

SAMPLE CHAIN OF CUSTODY

05/01/25 VW2/K2/I2

Page # 1 of 1

Report To Matthew Lewis
Company Aspect Consulting
Address 801 5th Ave, Suite 2200
City, State, ZIP Seattle, WA, 98104
Phone (206) 353-1617 Email Matthew.Lewis@Aspectconsulting.com

SAMPLERS (*signature*) Kelden Larsen

PROJECT NAME: Crownhill Elementary
PO #: 100094

REMARKS
Project specific RLs? - Yes / No

INVOICE TO

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

SAMPLE DISPOSAL
[ ] Archive samples
[ ] Other
Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Total Arsenic	Dissolved Arsenic (MW-6 Only)	Alkalinity	TCLE	Notes
MW-6-043025	01 A-C	04/30/25	1200	W	3								X	X	X		Turbidity = 73.9
MW-05-043025	02 A-D	0	1443		4	X							X	X	X		
MW-09-043025	03 A-F		1613		6								X	X	X	X	
MW-10-043025	04 A-G		1840		7	X							X	X	X	X	
McKinney-043025	05 A-C		1914		3											X	
Trip Blank	06 A-B	—	—	W	2												Added at lab (NP) 5/1/25
							Samples received at ∅ °C										

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: Kelden Larsen	Kelden Larsen	Aspect Consulting	05/01/25	1140
Received by:	VINH	FBI	5-1-25	11:40
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
5500 4th Ave S.
Seattle WA 98108
(206) 285-8282
office@friedmanandbruya.com

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 505017 CLIENT Aspect INITIALS/ DATE: AP 5/1/25

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

Cooler/Sample temperature Ø °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: (NA) 5/1
*or other representative documents, letters, and/or shipping memos

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

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

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

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

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

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

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

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

Other comments (use a separate page if needed)
- MW-10-043025, one FF poly bottle, no label on the container.
- Added Trip Blank to CoC

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

Number of unused TO15 canisters** _____ **Number of unused TO17 tubes** _____
**Fill out Green manifolds billing sheet

3600 Fremont Ave N
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Friedman & Bruya
Michael Erdahl
5500 4th Ave S
Seattle, WA 98108

RE: 505017,
Work Order Number: 2505026

May 08, 2025

Attention Michael Erdahl:

Alliance Technical Group, LLC - Seattle received 4 sample(s) on 5/1/2025 for the analyses presented in the following report.

Total Alkalinity by EPA 310.2

All analyses were performed according to our accredited Quality Assurance program. Please contact the laboratory if you should have any questions about the results.

Alliance Technical Group is committed to accuracy, speed, and customer service. Thank you for choosing Alliance Technical Group's Seattle laboratory team for your analytical needs. We appreciate this opportunity to serve you!

Sincerely,

Brianna Barnes
Project Manager

Date: *05/08/2025*

CLIENT: Friedman & Bruya
Project: 505017
Work Order: 2505026

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2505026-001	MW-6-043025	04/30/2025 12:00 PM	05/01/2025 12:55 PM
2505026-002	MW-05-043025	04/30/2025 2:43 PM	05/01/2025 12:55 PM
2505026-003	MW-09-043025	04/30/2025 4:13 PM	05/01/2025 12:55 PM
2505026-004	MW-10-043025	04/30/2025 6:40 PM	05/01/2025 12:55 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **2505026**

Date: **5/8/2025**

CLIENT: Friedman & Bruya

Project: 505017

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
DUP - Sample Duplicate
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MCL - Maximum Contaminant Level
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
REP - Sample Replicate
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

CLIENT: Friedman & Bruya
Project: 505017

Lab ID: 2505026-001 **Collection Date:** 4/30/2025 12:00:00 PM
Client Sample ID: **MW-6-043025** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Alkalinity by EPA 310.2					Batch ID: R99485	Analyst: NR
Alkalinity, Total (As CaCO3)	329	25.0	D	mg/L	10	5/5/2025 11:44:00 AM

Lab ID: 2505026-002 **Collection Date:** 4/30/2025 2:43:00 PM
Client Sample ID: **MW-05-043025** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Alkalinity by EPA 310.2					Batch ID: R99485	Analyst: NR
Alkalinity, Total (As CaCO3)	723	50.0	D	mg/L	20	5/5/2025 12:38:00 PM

Lab ID: 2505026-003 **Collection Date:** 4/30/2025 4:13:00 PM
Client Sample ID: **MW-09-043025** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Alkalinity by EPA 310.2					Batch ID: R99485	Analyst: NR
Alkalinity, Total (As CaCO3)	332	25.0	D	mg/L	10	5/5/2025 11:49:00 AM

Lab ID: 2505026-004 **Collection Date:** 4/30/2025 6:40:00 PM
Client Sample ID: **MW-10-043025** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Alkalinity by EPA 310.2					Batch ID: R99485	Analyst: NR
Alkalinity, Total (As CaCO3)	246	25.0	D	mg/L	10	5/5/2025 11:50:00 AM

Work Order: 2505026
CLIENT: Friedman & Bruya
Project: 505017

QC SUMMARY REPORT

Total Alkalinity by EPA 310.2

Sample ID: **LCS-99485**	SampType: **LCS**	Units: **mg/L**	Prep Date: **5/5/2025**	RunNo: **99485**
Client ID: **LCSW**	Batch ID: **R99485**		Analysis Date: **5/5/2025**	SeqNo: **2072290**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	26.8	2.50	25.00	0	107	79.4	136				

Sample ID: **2505026-001ADUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **5/5/2025**	RunNo: **99485**
Client ID: **MW-6-043025**	Batch ID: **R99485**		Analysis Date: **5/5/2025**	SeqNo: **2072292**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	335	25.0						328.8	1.93	20	D

Sample ID: **2505036-001ADUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **5/5/2025**	RunNo: **99485**
Client ID: **BATCH**	Batch ID: **R99485**		Analysis Date: **5/5/2025**	SeqNo: **2072303**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	246	25.0						227.3	7.73	20	D

Sample ID: **MB-99485**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **5/5/2025**	RunNo: **99485**
Client ID: **MBLKW**	Batch ID: **R99485**		Analysis Date: **5/5/2025**	SeqNo: **2072380**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	2.50									

Sample Log-In Check List

Client Name:	FB	Work Order Number:	2505026
Logged by:	Clare Griggs	Date Received:	5/1/2025 12:55:00 PM

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Present ☑
4.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5.	Were all items received at a temperature of >2°C to 6°C *	Yes ☑	No ☐	NA ☐
6.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
7.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8.	Are samples properly preserved?	Yes ☑	No ☐	
9.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10.	Is there headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
11.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
12.	Does paperwork match bottle labels?	Yes ☑	No ☐	
13.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14.	Is it clear what analyses were requested?	Yes ☑	No ☐	
15.	Were all hold times (except field parameters, pH e.g.) able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

17. Additional remarks:

Item Information

Item #	Temp °C
Sample	1.8

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

2505026

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Page # _____ of _____

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 3012 16th Ave W

City, State, ZIP Seattle, WA 98119

Phone # (206) 285-8282 Fax # (206) 283-5044

SUBCONTRACTER	
Alliance TG	
PROJECT NAME/NO.	PO #
505017	F-211
REMARKS	

TURNAROUND TIME
☒ Standard
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Alkalinity										Notes
MW-6-043025		4/30/2025	12:00	water	1	x										
MW-05-043025		4/30/2025	14:43	water	1	x										
MW-09-043025		4/30/2025	16:13	water	1	x										
MW-10-043025		4/30/2025	18:40	water	1	x										

Friedman & Bruya, Inc.
5500 4th Ave S
Seattle, WA 98115
Ph. (206) 285-8282
Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Mac Goldman	Friedman and Bruya	12:24	5/1/25
Received by:	gina gerard	ATG	12:55	5/1/25
Relinquished by:				
Received by:				

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 1, 2025

Matthew Lewis, Project Manager
Geosyntec Consultants
801 5th Ave, Suite 2200
Seattle, WA 98104

Dear Mr Lewis:

Included are the results from the testing of material submitted on July 24, 2025 from the Crownhill Elementary AS100094, F&BI 507422 project. There are 24 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Aspect Data, Carmen Tappero
GSY0801R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on July 24, 2025 by Friedman & Bruya, Inc. from the Geosyntec Consultants Crownhill Elementary AS100094, F&BI 507422 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Geosyntec Consultants
507422 -01	MW-6-250722
507422 -02	MW-10-250722
507422 -03	MW-15-250722
507422 -04	Trip Blanks

The samples selected for alkalinity were sent to Alliance Technical Group for testing. The report is enclosed.

The 6020B iron calibration standard exceeded the acceptance criteria for the method blank. The metal was not detected, therefore this did not represent an out of control condition, and were qualified with a "k" qualifier.

The dissolved metals sample MW-15-250722 was filtered at Friedman and Bruya. The data were flagged accordingly.

All other quality control requirements were acceptable.

Date of Report: 08/01/25
Date Received: 07/24/25
Project: Crownhill Elementary AS100094, F&BI 507422
Date Extracted: 07/25/25
Date Analyzed: 07/25/25

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
MW-10-250722 507422-02	<50	<200	125
MW-15-250722 507422-03	<50	<200	118
Method Blank 05-1843 MB	<50	<200	139

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW-10-250722	Client:	Geosyntec Consultants
Date Received:	07/24/25	Project:	Crownhill Elementary AS100094
Date Extracted:	07/25/25	Lab ID:	507422-02
Date Analyzed:	07/25/25	Data File:	072513.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	71	132
Toluene-d8	102	68	139
4-Bromofluorobenzene	109	62	136

Compounds:	Concentration ug/L (ppb)
Trichloroethene	<0.05

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Trip Blanks	Client:	Geosyntec Consultants
Date Received:	07/24/25	Project:	Crownhill Elementary AS100094
Date Extracted:	07/25/25	Lab ID:	507422-04
Date Analyzed:	07/25/25	Data File:	072512.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	92	71	132
Toluene-d8	93	68	139
4-Bromofluorobenzene	105	62	136

Compounds:	Concentration ug/L (ppb)
Trichloroethene	<0.05

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Geosyntec Consultants
Date Received:	Not Applicable	Project:	Crownhill Elementary AS100094
Date Extracted:	07/25/25	Lab ID:	05-1792 mb
Date Analyzed:	07/25/25	Data File:	072509.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MD

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	71	132
Toluene-d8	105	68	139
4-Bromofluorobenzene	103	62	136

Compounds:	Concentration ug/L (ppb)
Trichloroethene	<0.05

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	MW-6-250722	Client:	Geosyntec Consultants
Date Received:	07/24/25	Project:	Crownhill Elementary AS100094
Date Extracted:	07/25/25	Lab ID:	507422-01
Date Analyzed:	07/26/25	Data File:	507422-01.317
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	25

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	MW-10-250722	Client:	Geosyntec Consultants
Date Received:	07/24/25	Project:	Crownhill Elementary AS100094
Date Extracted:	07/25/25	Lab ID:	507422-02
Date Analyzed:	07/26/25	Data File:	507422-02.318
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.9

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	MW-15-250722	Client:	Geosyntec Consultants
Date Received:	07/24/25	Project:	Crownhill Elementary AS100094
Date Extracted:	07/25/25	Lab ID:	507422-03
Date Analyzed:	07/26/25	Data File:	507422-03.319
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	5.6

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	Method Blank	Client:	Geosyntec Consultants
Date Received:	NA	Project:	Crownhill Elementary AS100094
Date Extracted:	07/25/25	Lab ID:	I5-631 mb2
Date Analyzed:	07/25/25	Data File:	I5-631 mb2.107
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-6-250722	Client:	Geosyntec Consultants
Date Received:	07/24/25	Project:	Crownhill Elementary AS100094
Date Extracted:	07/25/25	Lab ID:	507422-01
Date Analyzed:	07/26/25	Data File:	507422-01.296
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	24

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-6-250722	Client:	Geosyntec Consultants
Date Received:	07/24/25	Project:	Crownhill Elementary AS100094
Date Extracted:	07/25/25	Lab ID:	507422-01 x100
Date Analyzed:	07/28/25	Data File:	507422-01 x100.105
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	7,000
Manganese	2,300

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-10-250722	Client:	Geosyntec Consultants
Date Received:	07/24/25	Project:	Crownhill Elementary AS100094
Date Extracted:	07/25/25	Lab ID:	507422-02
Date Analyzed:	07/26/25	Data File:	507422-02.316
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.5

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-10-250722	Client:	Geosyntec Consultants
Date Received:	07/24/25	Project:	Crownhill Elementary AS100094
Date Extracted:	07/25/25	Lab ID:	507422-02 x100
Date Analyzed:	07/28/25	Data File:	507422-02 x100.107
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	1,500

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-10-250722	Client:	Geosyntec Consultants
Date Received:	07/24/25	Project:	Crownhill Elementary AS100094
Date Extracted:	07/25/25	Lab ID:	507422-02 x20
Date Analyzed:	07/28/25	Data File:	507422-02 x20.108
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	2,000

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-15-250722 f	Client:	Geosyntec Consultants
Date Received:	07/24/25	Project:	Crownhill Elementary AS100094
Date Extracted:	07/25/25	Lab ID:	507422-03
Date Analyzed:	07/26/25	Data File:	507422-03.293
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Manganese	12

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-15-250722 f	Client:	Geosyntec Consultants
Date Received:	07/24/25	Project:	Crownhill Elementary AS100094
Date Extracted:	07/25/25	Lab ID:	507422-03 x5
Date Analyzed:	07/28/25	Data File:	507422-03 x5.109
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	470

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	Method Blank	Client:	Geosyntec Consultants
Date Received:	NA	Project:	Crownhill Elementary AS100094
Date Extracted:	07/25/25	Lab ID:	I5-633 mb2
Date Analyzed:	07/25/25	Data File:	I5-633 mb2.106
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Iron	<50 k
Manganese	<1

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	Method Blank f	Client:	Geosyntec Consultants
Date Received:	NA	Project:	Crownhill Elementary AS100094
Date Extracted:	07/25/25	Lab ID:	I5-638 mb
Date Analyzed:	07/25/25	Data File:	I5-638 mb.099
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Iron	<50 k
Manganese	<1

Date of Report: 08/01/25
Date Received: 07/24/25
Project: Crownhill Elementary AS100094, F&BI 507422

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	100	100	65-151	0

Date of Report: 08/01/25
Date Received: 07/24/25
Project: Crownhill Elementary AS100094, F&BI 507422

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 507395-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Trichloroethene	ug/L (ppb)	10	<0.05	98	43-133

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Trichloroethene	ug/L (ppb)	10	97	98	70-130	1

Date of Report: 08/01/25
Date Received: 07/24/25
Project: Crownhill Elementary AS100094, F&BI 507422

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 507382-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	5.88	98 b	98 b	75-125	0 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	88	80-120

Date of Report: 08/01/25
Date Received: 07/24/25
Project: Crownhill Elementary AS100094, F&BI 507422

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR DISSOLVED METALS USING EPA METHOD 6020B

Laboratory Code: 507410-15 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	8.09	96 b	94 b	75-125	2 b
Iron	ug/L (ppb)	100	4,900	0 b	66 b	75-125	200 b
Manganese	ug/L (ppb)	20	976	0 b	20 b	75-125	200 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	89	80-120
Iron	ug/L (ppb)	100	100	80-120
Manganese	ug/L (ppb)	20	103	80-120

Date of Report: 08/01/25
Date Received: 07/24/25
Project: Crownhill Elementary AS100094, F&BI 507422

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR DISSOLVED METALS USING EPA METHOD 6020B

Laboratory Code: 507422-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	<1	93	92	75-125	1
Iron	ug/L (ppb)	100	594	0 b	0 b	75-125	0 b
Manganese	ug/L (ppb)	20	12.1	61 b	54 b	75-125	12 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	98	80-120
Iron	ug/L (ppb)	100	89	80-120
Manganese	ug/L (ppb)	20	98	80-120

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.

Matthew.lewis@aspectconsulting.com
Carmen.Tappero@geosyntec.com 507422

SAMPLE CHAIN OF CUSTODY

07/24/25 C2/VW1/J3

Report To Matthew Lewis + Carmen Tappero

Company Aspect / Geosyntec

Address

City, State, ZIP

Phone 404-210-6437 Email

SAMPLERS (signature)

PROJECT NAME: Crownhill Elementary

PO #: AS100094

REMARKS

Project specific RLs? - Yes / No

INVOICE TO

TURNAROUND TIME
- ☑ Standard turnaround
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Archive samples
- ☐ Other
- Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Total Arsenic EPA 6010	TCE EPA 8260	Diss As, Fe, Mn	Alkalinity	Notes
MW-6-250722	01 A-C	7/22/25	0820	W	3								X		X	X	
MW-10-250722	02 A-G	↓	1145	W	7	X							X	X	X	X	
MW-15-250722	03 A-D	↓	1025	W	4	X							X		X	X	* Please filter non-preserved poly for diss metals MW-15.
Trip Blanks	04 A-B	—	—	—	2 AP									X			

Samples received at 0 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Carmen Tappero	Aspect/Geosyntec	7/24/25	0615
Received by:	VINH	FBI	7-24-25	1040
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
5500 4th Ave S.
Seattle WA 98108
(206) 285-8282
office@friedmanandbruya.com

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 507422 CLIENT Aspect/GeoSyntec INITIALS/ DATE: AP 7/24/25

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

Cooler/Sample temperature 0 °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/ AP Date: 7/24/25
*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory 2 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 (See COC)	
Relinquished	☑ Yes ☐ No	
Requested analysis	☑ Yes ☐ On Hold	

Other comments (use a separate page if needed)

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

Number of unused TO15 canisters** _____ **Number of unused TO17 tubes** _____
**Fill out Green manifolds billing sheet

3600 Fremont Ave N
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Friedman & Bruya
Michael Erdahl
5500 4th Ave S
Seattle, WA 98108

RE: 507422,
Work Order Number: 2507399

July 31, 2025

Attention Michael Erdahl:

Alliance Technical Group, LLC - Seattle received 3 sample(s) on 7/24/2025 for the analyses presented in the following report.

Total Alkalinity by EPA 310.2

All analyses were performed according to our accredited Quality Assurance program. Please contact the laboratory if you should have any questions about the results.

Alliance Technical Group is committed to accuracy, speed, and customer service. Thank you for choosing Alliance Technical Group's Seattle laboratory team for your analytical needs. We appreciate this opportunity to serve you!

Sincerely,

Kelley Lovejoy
Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.4 for Environmental Testing
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Original

Date: *07/31/2025*

CLIENT: Friedman & Bruya
Project: 507422
Work Order: 2507399

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2507399-001	MW-6-250722	07/22/2025 8:20 AM	07/24/2025 1:28 PM
2507399-002	MW-10-250722	07/22/2025 11:45 AM	07/24/2025 1:28 PM
2507399-003	MW-15-250722	07/22/2025 10:25 AM	07/24/2025 1:28 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Original

Case Narrative

WO#: **2507399**

Date: **7/31/2025**

CLIENT: Friedman & Bruya
Project: 507422

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
DUP - Sample Duplicate
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MCL - Maximum Contaminant Level
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
REP - Sample Replicate
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

CLIENT: Friedman & Bruya
Project: 507422

Lab ID: 2507399-001 **Collection Date:** 7/22/2025 8:20:00 AM
Client Sample ID: **MW-6-250722** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Alkalinity by EPA 310.2				Batch ID: R10164		Analyst: NR
Alkalinity, Total (As CaCO3)	48.6	2.50		mg/L	1	7/25/2025 1:39:00 PM

Lab ID: 2507399-002 **Collection Date:** 7/22/2025 11:45:00 AM
Client Sample ID: **MW-10-250722** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Alkalinity by EPA 310.2				Batch ID: R10164		Analyst: NR
Alkalinity, Total (As CaCO3)	236	12.5	D	mg/L	5	7/25/2025 2:44:00 PM

Lab ID: 2507399-003 **Collection Date:** 7/22/2025 10:25:00 AM
Client Sample ID: **MW-15-250722** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Alkalinity by EPA 310.2				Batch ID: R10164		Analyst: NR
Alkalinity, Total (As CaCO3)	217	12.5	D	mg/L	5	7/25/2025 2:52:00 PM

Work Order: 2507399
CLIENT: Friedman & Bruya
Project: 507422

QC SUMMARY REPORT

Total Alkalinity by EPA 310.2

Sample ID: **LCS-101645**	SampType: **LCS**	Units: **mg/L**	Prep Date: **7/25/2025**	RunNo: **101645**
Client ID: **LCSW**	Batch ID: **R101645**		Analysis Date: **7/25/2025**	SeqNo: **2119620**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	28.0	2.50	25.00	0	112	79.4	136				

Sample ID: **MB-101645**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **7/25/2025**	RunNo: **101645**
Client ID: **MBLKW**	Batch ID: **R101645**		Analysis Date: **7/25/2025**	SeqNo: **2119621**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	2.50									

Sample ID: **2507332-001CDUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **7/25/2025**	RunNo: **101645**
Client ID: **BATCH**	Batch ID: **R101645**		Analysis Date: **7/25/2025**	SeqNo: **2119625**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	35.0	2.50						34.30	2.02	20	

Sample ID: **FILTER BLANK**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **7/25/2025**	RunNo: **101645**
Client ID: **MBLKW**	Batch ID: **R101645**		Analysis Date: **7/25/2025**	SeqNo: **2119643**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	2.50									

Sample ID: **2507403-002CDUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **7/25/2025**	RunNo: **101645**
Client ID: **BATCH**	Batch ID: **R101645**		Analysis Date: **7/25/2025**	SeqNo: **2119652**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	43.9	2.50						43.90	0	20	

Sample Log-In Check List

Client Name:	**FB**	Work Order Number:	**2507399**
Logged by:	**Clare Griggs**	Date Received:	**7/24/2025 1:28:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Present ☑
4.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5.	Were all items received at a temperature of >2°C to 6°C *	Yes ☑	No ☐	NA ☐
6.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
7.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8.	Are samples properly preserved?	Yes ☑	No ☐	
9.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10.	Is there headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
11.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
12.	Does paperwork match bottle labels?	Yes ☑	No ☐	
13.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14.	Is it clear what analyses were requested?	Yes ☑	No ☐	
15.	Were all hold times (except field parameters, pH e.g.) able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

17. Additional remarks:

Item Information

Item #	Temp °C
Sample	4.4

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

2507 399

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

Phone # (206) 285-8282 merdahl@friedmanandbruya.com

SUBCONTRACTER	
ATG	
PROJECT NAME/NO.	PO #
507422	F-345
REMARKS	
Asepct EDD	

TURNAROUND TIME
☒ Standard TAT
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Alkalinity	Anions	Cations	Dissolved Alkalinity	Dissolved Sulfide	Total Organic Carbon	Dissolved Organic Carbon	EPH	VPH		Notes
MW-6-250722		7/22/2025	820	water	1	x										
MW-10-250722		7/22/2025	1145	water	1	x										
MW-15-250722		7/22/2025	1025	water	1	x										

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

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman & Bruya	7/24/25	1110
Received by:		Edward Chien	ATG	7/24	1:28
Relinquished by:					
Received by:					

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

October 23, 2025

Matthew Lewis, Project Manager
Geosyntec Consultants
801 5th Ave, Suite 2200
Seattle, WA 98104

Dear Mr Lewis:

Included are the results from the testing of material submitted on October 14, 2025 from the Crownhill Elementary PO AS10094, F&BI 510237 project. There are 33 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Aspect Data, Carmen Tappero
GSY1023R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on October 14, 2025 by Friedman & Bruya, Inc. from the Geosyntec Consultants Crownhill Elementary PO AS10094, F&BI 510237 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Geosyntec Consultants
510237 -01	McKinney-251013
510237 -02	MW-15-251013
510237 -03	MW-9-251013
510237 -04	MW-10-251013
510237 -05	MW-6-251013
510237 -06	MW-12-251013
510237 -07	Trip Blanks

The samples were sent to Alliance Technical Group for alkalinity testing. The report is enclosed.

The dissolved metals sample MW-15-251013 was filtered at Friedman and Bruya. The data were flagged accordingly.

All quality control requirements were acceptable.

Date of Report: 10/23/25
Date Received: 10/14/25
Project: Crownhill Elementary PO AS10094, F&BI 510237
Date Extracted: 10/14/25
Date Analyzed: 10/14/25

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
MW-15-251013 510237-02	81 x	310 x	124
MW-10-251013 510237-04	<50	<200	105
MW-12-251013 510237-06	3,200 x	1,100 x	127
Method Blank 05-2600 MB2	<50	<200	114

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	McKinney-251013	Client:	Geosyntec Consultants
Date Received:	10/14/25	Project:	Crownhill Elementary
Date Extracted:	10/15/25	Lab ID:	510237-01
Date Analyzed:	10/15/25	Data File:	101525.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	78	126
Toluene-d8	99	84	115
4-Bromofluorobenzene	102	72	130

Compounds:	Concentration ug/L (ppb)
Trichloroethene	<0.05

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW-9-251013	Client:	Geosyntec Consultants
Date Received:	10/14/25	Project:	Crownhill Elementary
Date Extracted:	10/15/25	Lab ID:	510237-03
Date Analyzed:	10/15/25	Data File:	101527.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	78	126
Toluene-d8	99	84	115
4-Bromofluorobenzene	93	72	130

Compounds:	Concentration ug/L (ppb)
Trichloroethene	8.8

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW-10-251013	Client:	Geosyntec Consultants
Date Received:	10/14/25	Project:	Crownhill Elementary
Date Extracted:	10/15/25	Lab ID:	510237-04
Date Analyzed:	10/15/25	Data File:	101526.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	78	126
Toluene-d8	99	84	115
4-Bromofluorobenzene	99	72	130

Compounds:	Concentration ug/L (ppb)
Trichloroethene	<0.05

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Trip Blanks	Client:	Geosyntec Consultants
Date Received:	10/14/25	Project:	Crownhill Elementary
Date Extracted:	10/15/25	Lab ID:	510237-07
Date Analyzed:	10/15/25	Data File:	101523.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	87	78	126
Toluene-d8	99	84	115
4-Bromofluorobenzene	102	72	130

Compounds:	Concentration ug/L (ppb)
Trichloroethene	<0.05

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Geosyntec Consultants
Date Received:	Not Applicable	Project:	Crownhill Elementary
Date Extracted:	10/15/25	Lab ID:	05-2608 mb
Date Analyzed:	10/15/25	Data File:	101508.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	78	126
Toluene-d8	100	84	115
4-Bromofluorobenzene	95	72	130

Compounds:	Concentration ug/L (ppb)
Trichloroethene	<0.05

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	MW-15-251013	Client:	Geosyntec Consultants
Date Received:	10/14/25	Project:	Crownhill Elementary
Date Extracted:	10/15/25	Lab ID:	510237-02
Date Analyzed:	10/15/25	Data File:	510237-02.202
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	4.9

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	MW-9-251013	Client:	Geosyntec Consultants
Date Received:	10/14/25	Project:	Crownhill Elementary
Date Extracted:	10/15/25	Lab ID:	510237-03
Date Analyzed:	10/15/25	Data File:	510237-03.203
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	MW-10-251013	Client:	Geosyntec Consultants
Date Received:	10/14/25	Project:	Crownhill Elementary
Date Extracted:	10/15/25	Lab ID:	510237-04
Date Analyzed:	10/15/25	Data File:	510237-04.204
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.7

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	MW-6-251013	Client:	Geosyntec Consultants
Date Received:	10/14/25	Project:	Crownhill Elementary
Date Extracted:	10/15/25	Lab ID:	510237-05
Date Analyzed:	10/15/25	Data File:	510237-05.205
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	30

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	MW-12-251013	Client:	Geosyntec Consultants
Date Received:	10/14/25	Project:	Crownhill Elementary
Date Extracted:	10/15/25	Lab ID:	510237-06
Date Analyzed:	10/15/25	Data File:	510237-06.213
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	2.3

Analysis For Total Metals By EPA Method 6020B

Client Sample ID:	Method Blank	Client:	Geosyntec Consultants
Date Received:	NA	Project:	Crownhill Elementary
Date Extracted:	10/15/25	Lab ID:	I5-890 mb
Date Analyzed:	10/16/25	Data File:	I5-890 mb.140
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-15-251013 f	Client:	Geosyntec Consultants
Date Received:	10/14/25	Project:	Crownhill Elementary
Date Extracted:	10/15/25	Lab ID:	510237-02
Date Analyzed:	10/17/25	Data File:	510237-02.093
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Iron	180
Manganese	<1

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-9-251013	Client:	Geosyntec Consultants
Date Received:	10/14/25	Project:	Crownhill Elementary
Date Extracted:	10/15/25	Lab ID:	510237-03
Date Analyzed:	10/15/25	Data File:	510237-03.168
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Manganese	<1

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-9-251013	Client:	Geosyntec Consultants
Date Received:	10/14/25	Project:	Crownhill Elementary
Date Extracted:	10/15/25	Lab ID:	510237-03 x4
Date Analyzed:	10/21/25	Data File:	510237-03 x4.113
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	370

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-10-251013	Client:	Geosyntec Consultants
Date Received:	10/14/25	Project:	Crownhill Elementary
Date Extracted:	10/15/25	Lab ID:	510237-04
Date Analyzed:	10/15/25	Data File:	510237-04.181
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.8

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-10-251013	Client:	Geosyntec Consultants
Date Received:	10/14/25	Project:	Crownhill Elementary
Date Extracted:	10/15/25	Lab ID:	510237-04 x20
Date Analyzed:	10/21/25	Data File:	510237-04 x20.114
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	2,400

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-10-251013	Client:	Geosyntec Consultants
Date Received:	10/14/25	Project:	Crownhill Elementary
Date Extracted:	10/15/25	Lab ID:	510237-04 x200
Date Analyzed:	10/22/25	Data File:	510237-04 x200.078
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	1,300

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-6-251013	Client:	Geosyntec Consultants
Date Received:	10/14/25	Project:	Crownhill Elementary
Date Extracted:	10/15/25	Lab ID:	510237-05
Date Analyzed:	10/15/25	Data File:	510237-05.182
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	31

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-6-251013	Client:	Geosyntec Consultants
Date Received:	10/14/25	Project:	Crownhill Elementary
Date Extracted:	10/15/25	Lab ID:	510237-05 x50
Date Analyzed:	10/21/25	Data File:	510237-05 x50.115
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	9,200

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-6-251013	Client:	Geosyntec Consultants
Date Received:	10/14/25	Project:	Crownhill Elementary
Date Extracted:	10/15/25	Lab ID:	510237-05 x200
Date Analyzed:	10/22/25	Data File:	510237-05 x200.079
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	2,300

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-12-251013	Client:	Geosyntec Consultants
Date Received:	10/14/25	Project:	Crownhill Elementary
Date Extracted:	10/15/25	Lab ID:	510237-06 x2
Date Analyzed:	10/20/25	Data File:	510237-06 x2.048
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	2.1

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-12-251013	Client:	Geosyntec Consultants
Date Received:	10/14/25	Project:	Crownhill Elementary
Date Extracted:	10/15/25	Lab ID:	510237-06 x10
Date Analyzed:	10/21/25	Data File:	510237-06 x10.116
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	970

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	MW-12-251013	Client:	Geosyntec Consultants
Date Received:	10/14/25	Project:	Crownhill Elementary
Date Extracted:	10/15/25	Lab ID:	510237-06 x400
Date Analyzed:	10/21/25	Data File:	510237-06 x400.127
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	5,300

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	Method Blank f	Client:	Geosyntec Consultants
Date Received:	NA	Project:	Crownhill Elementary
Date Extracted:	10/15/25	Lab ID:	I5-889 mb
Date Analyzed:	10/15/25	Data File:	I5-889 mb.157
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Iron	<50
Manganese	<1

Analysis For Dissolved Metals By EPA Method 6020B

Client Sample ID:	Method Blank	Client:	Geosyntec Consultants
Date Received:	NA	Project:	Crownhill Elementary
Date Extracted:	10/15/25	Lab ID:	I5-888 mb
Date Analyzed:	10/15/25	Data File:	I5-888 mb.155
Matrix:	Water	Instrument:	ICPMS3
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Iron	<50
Manganese	<1

Date of Report: 10/23/25
Date Received: 10/14/25
Project: Crownhill Elementary PO AS10094, F&BI 510237

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	108	108	65-151	0

Date of Report: 10/23/25
Date Received: 10/14/25
Project: Crownhill Elementary PO AS10094, F&BI 510237

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 510237-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Trichloroethene	ug/L (ppb)	10	<0.05	88	35-149

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Trichloroethene	ug/L (ppb)	10	98	93	70-130	5

Date of Report: 10/23/25
Date Received: 10/14/25
Project: Crownhill Elementary PO AS10094, F&BI 510237

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 510237-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	29.8	103 b	94 b	75-125	9 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	93	80-120

Date of Report: 10/23/25
Date Received: 10/14/25
Project: Crownhill Elementary PO AS10094, F&BI 510237

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR DISSOLVED METALS USING EPA METHOD 6020B

Laboratory Code: 510237-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	<1	103	103	75-125	0
Iron	ug/L (ppb)	100	184	87 b	92 b	75-125	6 b
Manganese	ug/L (ppb)	20	<1	93	95	75-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	96	80-120
Iron	ug/L (ppb)	100	86	80-120
Manganese	ug/L (ppb)	20	96	80-120

Date of Report: 10/23/25
Date Received: 10/14/25
Project: Crownhill Elementary PO AS10094, F&BI 510237

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR DISSOLVED METALS USING EPA METHOD 6020B

Laboratory Code: 510237-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	<1	103	103	75-125	0
Iron	ug/L (ppb)	100	184	87 b	92 b	75-125	6 b
Manganese	ug/L (ppb)	20	<1	93	95	75-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	96	80-120
Iron	ug/L (ppb)	100	86	80-120
Manganese	ug/L (ppb)	20	96	80-120

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.

Carmen Tappero → Carmen.Tappero@geosyntec.com

SAMPLE CHAIN OF CUSTODY

10/14/25 C2/J3/VW3

510237

Page # 1 of 1

Report To Matthew Lewis

Company Aspect / Geosyntec

Address

City, State, ZIP

Phone Email Matthew.Lewis@geosyntec.com

SAMPLERS (*signature*)

PROJECT NAME: Crownhill Elementary

PO #: AS100094

REMARKS

Project specific RLs? - Yes / No

INVOICE TO

TURNAROUND TIME
- ☒ Standard turnaround
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Archive samples
- ☐ Other
- Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Total EPA Arsenic Lead	TCE EPA 8260C	Diss. As, Fe, Mn	Alkalinity	Notes
Millmans - 251013	01 A-C	10/13/25	1730	W	3									X			
MW-15 - 251013	02 A-D		1530	W	4	X							X		X	X	Diss Fe, Mn, As: please filter @ lab
MW-9 - 251013	03 A-F		1440	W	6								X	X	X	X	
MW-10 - 251013	04 A-G		1330	W	7	X							X	X	X	X	
MW-6 - 251013	05 A-C		1225	W	3								X		X	X	
MW-12 - 251013	06 A-D		1125	W	4	X							X		X	X	
Trip Blanks	07 A-B	—	—	W	2									X			
									Samples received at 0 °C								

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Carmen Tappero	Aspect / Geosyntec	10/13/25	1800
Received by: Jacob Raville	Jacob Raville	Aspect / Geosyntec	10/13/25	1800
Relinquished by: Jacob Raville	Jacob Raville	Aspect / Geosyntec	10/14/25	1030
Received by:	VINCE	FEDEX	10-14-25	1030

Friedman & Bruya, Inc.
5500 4th Ave S.
Seattle WA 98108
(206) 285-8282
office@friedmanandbruya.com

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 510237 CLIENT Geo Syntec INITIALS/ DATE: AP 10/14/25

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

Cooler/Sample temperature 0 °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/ AP Date: 10/14/25
*or other representative documents, letters, and/or shipping memos

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

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

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

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

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

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

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

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

Other comments (use a separate page if needed)

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

Number of unused TO15 canisters** _____ **Number of unused TO17 tubes** _____
**Fill out Green manifolds billing sheet

3600 Fremont Ave N
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Friedman & Bruya
Michael Erdahl
5500 4th Ave S
Seattle, WA 98108

RE: 510237,
Work Order Number: 2510364

October 21, 2025

Attention Michael Erdahl:

Alliance Technical Group, LLC - Seattle received 5 sample(s) on 10/14/2025 for the analyses presented in the following report.

Total Alkalinity by SM 2320B

All analyses were performed according to our accredited Quality Assurance program. Please contact the laboratory if you should have any questions about the results.

Alliance Technical Group is committed to accuracy, speed, and customer service. Thank you for choosing Alliance Technical Group's Seattle laboratory team for your analytical needs. We appreciate this opportunity to serve you!

Sincerely,

Brianna Barnes
Project Manager

Date: *10/21/2025*

CLIENT: Friedman & Bruya
Project: 510237
Work Order: 2510364

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2510364-001	MW-15-251013	10/13/2025 3:30 PM	10/14/2025 12:17 PM
2510364-002	MW-9-251013	10/13/2025 2:40 PM	10/14/2025 12:17 PM
2510364-003	MW-10-251013	10/13/2025 1:30 PM	10/14/2025 12:17 PM
2510364-004	MW-6-251013	10/13/2025 12:25 PM	10/14/2025 12:17 PM
2510364-005	MW-12-251013	10/13/2025 11:25 AM	10/14/2025 12:17 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **2510364**
Date: **10/21/2025**

CLIENT: Friedman & Bruya
Project: 510237

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
DUP - Sample Duplicate
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MCL - Maximum Contaminant Level
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
REP - Sample Replicate
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

CLIENT: Friedman & Bruya
Project: 510237

Lab ID: 2510364-001 **Collection Date:** 10/13/2025 3:30:00 PM
Client Sample ID: **MW-15-251013** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Alkalinity by SM 2320B				Batch ID: R10397		Analyst: NR
Alkalinity, Total (As CaCO3)	265	2.50		mg/L	1	10/21/2025 4:56:30 PM

Lab ID: 2510364-002 **Collection Date:** 10/13/2025 2:40:00 PM
Client Sample ID: **MW-9-251013** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Alkalinity by SM 2320B				Batch ID: R10397		Analyst: NR
Alkalinity, Total (As CaCO3)	308	2.50		mg/L	1	10/21/2025 4:56:30 PM

Lab ID: 2510364-003 **Collection Date:** 10/13/2025 1:30:00 PM
Client Sample ID: **MW-10-251013** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Alkalinity by SM 2320B				Batch ID: R10397		Analyst: NR
Alkalinity, Total (As CaCO3)	240	2.50		mg/L	1	10/21/2025 4:56:30 PM

Lab ID: 2510364-004 **Collection Date:** 10/13/2025 12:25:00 PM
Client Sample ID: **MW-6-251013** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Alkalinity by SM 2320B				Batch ID: R10397		Analyst: NR
Alkalinity, Total (As CaCO3)	317	2.50		mg/L	1	10/21/2025 4:56:30 PM

Analytical Report

Work Order: **2510364**
Date Reported: **10/21/2025**

CLIENT: Friedman & Bruya
Project: 510237

Lab ID: 2510364-005 **Collection Date:** 10/13/2025 11:25:00 AM
Client Sample ID: **MW-12-251013** **Matrix:** Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Alkalinity by SM 2320B				Batch ID: R10397		Analyst: NR
Alkalinity, Total (As CaCO3)	763	2.50		mg/L	1	10/21/2025 4:56:30 PM

Work Order: 2510364
CLIENT: Friedman & Bruya
Project: 510237

QC SUMMARY REPORT

Total Alkalinity by SM 2320B

Sample ID: **MB-R103978**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **10/21/2025**	RunNo: **103978**
Client ID: **MBLKW**	Batch ID: **R103978**		Analysis Date: **10/21/2025**	SeqNo: **2169187**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	2.50									

Sample ID: **LCS-R103978**	SampType: **LCS**	Units: **mg/L**	Prep Date: **10/21/2025**	RunNo: **103978**
Client ID: **LCSW**	Batch ID: **R103978**		Analysis Date: **10/21/2025**	SeqNo: **2169188**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	102	2.50	100.0	0	102	89.2	123				

Sample ID: **2510364-002ADUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **10/21/2025**	RunNo: **103978**
Client ID: **MW-9-251013**	Batch ID: **R103978**		Analysis Date: **10/21/2025**	SeqNo: **2169191**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	309	2.50						308.4	0.234	20	

Sample ID: **2510364-005ADUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **10/21/2025**	RunNo: **103978**
Client ID: **MW-12-251013**	Batch ID: **R103978**		Analysis Date: **10/21/2025**	SeqNo: **2169195**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	762	2.50						762.7	0.104	20	

Sample ID: **MB TUMBLE**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **10/21/2025**	RunNo: **103978**
Client ID: **MBLKW**	Batch ID: **R103978**		Analysis Date: **10/21/2025**	SeqNo: **2169198**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	2.50									

Sample Log-In Check List

Client Name:	**FB**	Work Order Number:	**2510364**
Logged by:	**Morgan Wilson**	Date Received:	**10/14/2025 12:17:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Courier		

Log In

3.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Present ☑
4.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5.	Were all items received at a temperature of >2°C to 6°C *	Yes ☑	No ☐	NA ☐
6.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
7.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8.	Are samples properly preserved?	Yes ☑	No ☐	
9.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10.	Is there headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
11.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
12.	Does paperwork match bottle labels?	Yes ☑	No ☐	
13.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14.	Is it clear what analyses were requested?	Yes ☑	No ☐	
15.	Were all hold times (except field parameters, pH e.g.) able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

17. Additional remarks:

Item Information

Item #	Temp °C
Sample	1.9

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY 25103b4

Page # 1 of 1

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

email: merdahl@friedmanandbruya.com

SUBCONTRACTER	
ATG	
PROJECT NAME/NO.	PO #
510237	F-518
REMARKS	
AspectEDD	

TURNAROUND TIME
☒ Standard
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Alkalinity										Notes
MW-15-251013		10/13/2025	1530	water	1	x										
MW-9-251013		10/13/2025	1440	water	1	x										
MW-10-251013		10/13/2025	1330	water	1	x										
MW-6-251013		10/13/2025	1225	water	1	x										
MW-12-251013		10/13/2025	1125	water	1	x										

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

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman & Bruya	10/14/25	1107
Received by:		Brenda Uberte	ATG	10/14/25	12:17
Relinquished by:					
Received by:					

Geosyntec consultants

APPENDIX D

Laboratory Reports, 2025 Subslab Soil Vapor Sampling

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

November 26, 2025

Matthew Lewis, Project Manager
Geosyntec Consultants
801 5th Ave, Suite 2200
Seattle, WA 98104

Dear Mr Lewis:

Included are the results from the testing of material submitted on November 11, 2025 from the Crownhill Elementary 1500 Rocky Point Rd NW, F&BI 511177 project. There are 13 pages included in this report.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Aspect Data
GSY1126R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on November 11, 2025 by Friedman & Bruya, Inc. from the Geosyntec Consultants Crownhill Elementary 1500 Rocky Point Rd NW, F&BI 511177 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Geosyntec Consultants
511177 -01	SSV-1
511177 -02	SSV-2
511177 -03	SSV-3
511177 -04	SSV-4
511177 -05	SSV-5
511177 -06	SSV-6

The samples were sent to Alliance Technical Group for hydrogen sulfide testing. The report is enclosed.

All quality control requirements were acceptable.

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SSV-1	Client:	Geosyntec Consultants
Date Received:	11/11/25	Project:	Crownhill Elementary
Date Collected:	11/11/25	Lab ID:	511177-01 1/17
Date Analyzed:	11/14/25	Data File:	111326.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	ppbv
1,2,4-Trimethylbenzene	<84	<17
1,1-Dichloroethene	<6.7	<1.7
trans-1,2-Dichloroethene	<6.7	<1.7
1,1-Dichloroethane	<6.9	<1.7
cis-1,2-Dichloroethene	<6.7	<1.7
1,2-Dichloroethane (EDC)	<0.69	<0.17
Trichloroethene	<1.8	<0.34
Tetrachloroethene	<120	<17
Benzene	<2.7	<0.85
Ethylbenzene	<7.4	<1.7
m,p-Xylene	<15	<3.4
o-Xylene	<7.4	<1.7
Naphthalene	<1.2 j	<0.22 j
Vinyl chloride	<2.2	<0.85
Dichlorodifluoromethane	<17	<3.4
Chloroform	<0.83	<0.17

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SSV-2	Client:	Geosyntec Consultants
Date Received:	11/11/25	Project:	Crownhill Elementary
Date Collected:	11/11/25	Lab ID:	511177-02 1/5.3
Date Analyzed:	11/14/25	Data File:	111321.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
1,2,4-Trimethylbenzene	<26	<5.3
1,1-Dichloroethene	<2.1	<0.53
trans-1,2-Dichloroethene	<2.1	<0.53
1,1-Dichloroethane	<2.1	<0.53
cis-1,2-Dichloroethene	<2.1	<0.53
1,2-Dichloroethane (EDC)	<0.21	<0.053
Trichloroethene	<0.57	<0.11
Tetrachloroethene	<36	<5.3
Benzene	1.2	0.39
Ethylbenzene	<2.3	<0.53
m,p-Xylene	<4.6	<1.1
o-Xylene	<2.3	<0.53
Naphthalene	<0.36 j	<0.069 j
Vinyl chloride	<0.68	<0.26
Dichlorodifluoromethane	<5.2	<1.1
Chloroform	<0.26	<0.053

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SSV-3	Client:	Geosyntec Consultants
Date Received:	11/11/25	Project:	Crownhill Elementary
Date Collected:	11/11/25	Lab ID:	511177-03 1/5.6
Date Analyzed:	11/14/25	Data File:	111322.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	ppbv
1,2,4-Trimethylbenzene	<28	<5.6
1,1-Dichloroethene	<2.2	<0.56
trans-1,2-Dichloroethene	<2.2	<0.56
1,1-Dichloroethane	<2.3	<0.56
cis-1,2-Dichloroethene	<2.2	<0.56
1,2-Dichloroethane (EDC)	<0.23	<0.056
Trichloroethene	<0.6	<0.11
Tetrachloroethene	<38	<5.6
Benzene	1.4	0.44
Ethylbenzene	<2.4	<0.56
m,p-Xylene	<4.9	<1.1
o-Xylene	<2.4	<0.56
Naphthalene	<0.38 j	<0.073 j
Vinyl chloride	<0.72	<0.28
Dichlorodifluoromethane	<5.5	<1.1
Chloroform	<0.27	<0.056

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SSV-4	Client:	Geosyntec Consultants
Date Received:	11/11/25	Project:	Crownhill Elementary
Date Collected:	11/11/25	Lab ID:	511177-04 1/5.3
Date Analyzed:	11/14/25	Data File:	111325.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
1,2,4-Trimethylbenzene	<26	<5.3
1,1-Dichloroethene	<2.1	<0.53
trans-1,2-Dichloroethene	<2.1	<0.53
1,1-Dichloroethane	<2.1	<0.53
cis-1,2-Dichloroethene	<2.1	<0.53
1,2-Dichloroethane (EDC)	<0.21	<0.053
Trichloroethene	<0.57	<0.11
Tetrachloroethene	<36	<5.3
Benzene	2.7	0.84
Ethylbenzene	<2.3	<0.53
m,p-Xylene	4.6	1.1
o-Xylene	<2.3	<0.53
Naphthalene	0.63	0.12
Vinyl chloride	<0.68	<0.26
Dichlorodifluoromethane	<5.2	<1.1
Chloroform	<0.26	<0.053

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SSV-5	Client:	Geosyntec Consultants
Date Received:	11/11/25	Project:	Crownhill Elementary
Date Collected:	11/11/25	Lab ID:	511177-05 1/5.6
Date Analyzed:	11/14/25	Data File:	111323.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
1,2,4-Trimethylbenzene	<28	<5.6
1,1-Dichloroethene	<2.2	<0.56
trans-1,2-Dichloroethene	<2.2	<0.56
1,1-Dichloroethane	<2.3	<0.56
cis-1,2-Dichloroethene	<2.2	<0.56
1,2-Dichloroethane (EDC)	<0.23	<0.056
Trichloroethene	<0.6	<0.11
Tetrachloroethene	<38	<5.6
Benzene	0.99	0.31
Ethylbenzene	<2.4	<0.56
m,p-Xylene	<4.9	<1.1
o-Xylene	<2.4	<0.56
Naphthalene	<0.38 j	<0.073 j
Vinyl chloride	<0.72	<0.28
Dichlorodifluoromethane	<5.5	<1.1
Chloroform	<0.27	<0.056

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	SSV-6	Client:	Geosyntec Consultants
Date Received:	11/11/25	Project:	Crownhill Elementary
Date Collected:	11/11/25	Lab ID:	511177-06 1/5.1
Date Analyzed:	11/14/25	Data File:	111324.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
1,2,4-Trimethylbenzene	<25	<5.1
1,1-Dichloroethene	<2	<0.51
trans-1,2-Dichloroethene	<2	<0.51
1,1-Dichloroethane	<2.1	<0.51
cis-1,2-Dichloroethene	<2	<0.51
1,2-Dichloroethane (EDC)	<0.21	<0.051
Trichloroethene	<0.55	<0.1
Tetrachloroethene	<35	<5.1
Benzene	1.7	0.53
Ethylbenzene	<2.2	<0.51
m,p-Xylene	<4.4	<1
o-Xylene	<2.2	<0.51
Naphthalene	1.4	0.26
Vinyl chloride	<0.65	<0.25
Dichlorodifluoromethane	<5	<1
Chloroform	<0.25	<0.051

Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Geosyntec Consultants
Date Received:	Not Applicable	Project:	Crownhill Elementary
Date Collected:	Not Applicable	Lab ID:	05-2922 mb
Date Analyzed:	11/13/25	Data File:	111312.D
Matrix:	Air	Instrument:	GCMS8
Units:	ug/m3	Operator:	bat

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

Compounds:	Concentration ug/m3	ppbv
1,2,4-Trimethylbenzene	<4.9	<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
Trichloroethene	<0.11	<0.02
Tetrachloroethene	<6.8	<1
Benzene	<0.16	<0.05
Ethylbenzene	<0.43	<0.1
m,p-Xylene	<0.87	<0.2
o-Xylene	<0.43	<0.1
Naphthalene	<0.068 j	<0.013 j
Vinyl chloride	<0.13	<0.05
Dichlorodifluoromethane	<0.99	<0.2
Chloroform	<0.049	<0.01

Date of Report: 11/26/25
Date Received: 11/11/25
Project: Crownhill Elementary 1500 Rocky Point Rd NW, F&BI 511177
Date Extracted: 11/14/25
Date Analyzed: 11/18/25

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

Results Reported as % Helium

Sample ID Laboratory ID	Helium
SSV-1 511177-01	<0.6
SSV-2 511177-02	<0.6
SSV-3 511177-03	<0.6
SSV-4 511177-04	<0.6
SSV-5 511177-05	<0.6
SSV-6 511177-06	<0.6
Method Blank O5-2982 MB	<0.6

Date of Report: 11/26/25
Date Received: 11/11/25
Project: Crownhill Elementary 1500 Rocky Point Rd NW, F&BI 511177

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

Laboratory Code: 511132-01 1/5.9 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 25)
Dichlorodifluoromethane	ug/m3	<5.8	<5.8	nm
Vinyl chloride	ug/m3	<0.75	<0.75	nm
1,1-Dichloroethene	ug/m3	<2.3	<2.3	nm
trans-1,2-Dichloroethene	ug/m3	<2.3	<2.3	nm
1,1-Dichloroethane	ug/m3	<2.4	<2.4	nm
cis-1,2-Dichloroethene	ug/m3	<2.3	<2.3	nm
Chloroform	ug/m3	0.34	0.33	3
1,2-Dichloroethane (EDC)	ug/m3	<0.24	<0.24	nm
Benzene	ug/m3	3.6	3.5	3
Trichloroethene	ug/m3	0.91	0.77	17
Tetrachloroethene	ug/m3	<40	<40	nm
Ethylbenzene	ug/m3	<2.6	<2.6	nm
m,p-Xylene	ug/m3	<5.1	<5.1	nm
o-Xylene	ug/m3	<2.6	<2.6	nm
1,2,4-Trimethylbenzene	ug/m3	<29	<29	nm
Naphthalene	ug/m3	4.8	5.2	8

Date of Report: 11/26/25
Date Received: 11/11/25
Project: Crownhill Elementary 1500 Rocky Point Rd NW, F&BI 511177

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Dichlorodifluoromethane	ug/m3	67	102	70-130
Vinyl chloride	ug/m3	35	108	70-130
1,1-Dichloroethene	ug/m3	54	102	70-130
trans-1,2-Dichloroethene	ug/m3	54	101	70-130
1,1-Dichloroethane	ug/m3	55	113	70-130
cis-1,2-Dichloroethene	ug/m3	54	101	70-130
Chloroform	ug/m3	66	107	70-130
1,2-Dichloroethane (EDC)	ug/m3	55	116	70-130
Benzene	ug/m3	43	101	70-130
Trichloroethene	ug/m3	73	108	70-130
Tetrachloroethene	ug/m3	92	110	70-130
Ethylbenzene	ug/m3	59	103	70-130
m,p-Xylene	ug/m3	120	103	70-130
o-Xylene	ug/m3	59	108	70-130
1,2,4-Trimethylbenzene	ug/m3	66	95	70-130
Naphthalene	ug/m3	71	100	70-130

Date of Report: 11/26/25
Date Received: 11/11/25
Project: Crownhill Elementary 1500 Rocky Point Rd NW, F&BI 511177

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

Laboratory Code: 511179-04 (Duplicate)

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

Data Qualifiers & Definitions

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

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

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

511177

SAMPLE CHAIN OF CUSTODY 11/11/25

Report To Matthew Lewis
Company Geosyntec
Address 801 5th Ave Ste 2200
City, State, ZIP Seattle, CA 98104
Phone 206-812-4745 Email matthew.lewis@geosyntec.com

SAMPLERS (*signature*): Emily G Clk

PROJECT NAME & ADDRESS: Crownhill Elementary, 1500 Rocky Point Rd NW

PO #:

NOTES:

INVOICE TO:

Page # 1 of 1

TURNAROUND TIME
☑ Standard
☐ RUSH
Rush charges authorized by:

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

SAMPLE INFORMATION										ANALYSIS REQUESTED						
Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. ("Hg)	Field Initial Time	Final Vac. ("Hg)	Field Final Time	TO15 Full Scan	TO15 BTEXN	APH	Chlorinated VOCs	Helium	H_2S	Notes
SSV-1	01A-B	11339	63	IA / (SG)	11/11/25	-29	1516	-5	1521	✓				✓	✓	proj. specific
SSV-2	02	3385	22	IA / (SG)	11/11/25	-29	1319	-5	1324	✓				✓	✓	
SSV-3	03	11574	23	IA / (SG)	11/11/25	-28	1100	-4	1604	✓				✓	✓	
SSV-4	04	11576	64	IA / (SG)	11/11/25	-29	1208	-4	1219	✓				✓	✓	
SSV-5	05	11265	51	IA / (SG)	11/11/25	-28	1411	-5	1415	✓				✓	✓	
SSV-6	06	11567	242	IA / (SG)	11/11/25	-28	1616	-4	1422	✓				✓	✓	
				IA / SG												
				IA / SG												

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

FORMS\COC\COCTO-15.DOC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Emily Glensky	Geosyntec	11/11/25	1705
Received by:	Isaac Lessig	FBI	11/11/25	17:05
Relinquished by:		Samples received at 22 °C		
Received by:				

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 511177 CLIENT Geosyntec INITIALS/ DATE: KM 11/4/25

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

Cooler/Sample temperature 22 °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/ AP
*or other representative documents, letters, and/or shipping memos Date: 11/12/25

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)

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

Number of unused TO15 canisters** _____ **Number of unused TO17 tubes** _____
**Fill out Green manifolds billing sheet

3600 Fremont Ave N
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Friedman & Bruya
Michael Erdahl
5500 4th Ave S
Seattle, WA 98108

RE: 511177,
Work Order Number: 2511282

November 19, 2025

Attention Michael Erdahl:

Alliance Technical Group, LLC - Seattle received 6 sample(s) on 11/12/2025 for the analyses presented in the following report.

Sulfur Compounds by EPA TO-15 Mod

All analyses were performed according to our accredited Quality Assurance program. Please contact the laboratory if you should have any questions about the results.

Alliance Technical Group is committed to accuracy, speed, and customer service. Thank you for choosing Alliance Technical Group's Seattle laboratory team for your analytical needs. We appreciate this opportunity to serve you!

Sincerely,

Lyann Rivera
Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.4 for Environmental Testing
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Original

Date: *11/19/2025*

CLIENT: Friedman & Bruya
Project: 511177
Work Order: 2511282

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2511282-001	SSV-1	11/11/2025 3:21 PM	11/12/2025 9:39 AM
2511282-002	SSV-2	11/11/2025 1:24 PM	11/12/2025 9:39 AM
2511282-003	SSV-3	11/11/2025 11:04 AM	11/12/2025 9:39 AM
2511282-004	SSV-4	11/11/2025 12:19 PM	11/12/2025 9:39 AM
2511282-005	SSV-5	11/11/2025 2:15 PM	11/12/2025 9:39 AM
2511282-006	SSV-6	11/11/2025 2:22 PM	11/12/2025 9:39 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **2511282**
Date: **11/19/2025**

CLIENT: Friedman & Bruya
Project: 511177

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Air samples are reported in ppbv and ug/m3.

The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Standard temperature and pressure assumes 25C and 1 atm.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
DUP - Sample Duplicate
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MCL - Maximum Contaminant Level
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
REP - Sample Replicate
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Client: **Friedman & Bruya**
WorkOrder: 2511282
Project: 511177

Client Sample ID: SSV-1
Lab ID: 2511282-001A
Sample Type: Tedlar Bag

Date Sampled: 11/11/2025
Date Received: 11/12/2025

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst	
Sulfur Compounds by EPA TO-15 Mod								
	(ppbv)	(ug/m³)	(ppbv)	(ug/m³)				
Hydrogen Sulfide	<20.0	<27.8	20.0	27.8	H	EPA-TO-15	11/13/2025	LB
Surr: 4-Bromofluorobenzene	92.6 %Rec	--	70-130	--	H	EPA-TO-15	11/13/2025	LB

Client: **Friedman & Bruya**
WorkOrder: 2511282
Project: 511177

Client Sample ID: SSV-2
Lab ID: 2511282-002A
Sample Type: Tedlar Bag

Date Sampled: 11/11/2025
Date Received: 11/12/2025

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst	
Sulfur Compounds by EPA TO-15 Mod								
	(ppbv)	(ug/m³)	(ppbv)	(ug/m³)				
Hydrogen Sulfide	<20.0	<27.8	20.0	27.8	H	EPA-TO-15	11/13/2025	LB
Surr: 4-Bromofluorobenzene	95.3 %Rec	--	70-130	--	H	EPA-TO-15	11/13/2025	LB

Client: **Friedman & Bruya**
WorkOrder: 2511282
Project: 511177

Client Sample ID: SSV-3
Lab ID: 2511282-003A
Sample Type: Tedlar Bag

Date Sampled: 11/11/2025
Date Received: 11/12/2025

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst	
Sulfur Compounds by EPA TO-15 Mod								
	(ppbv)	(ug/m³)	(ppbv)	(ug/m³)				
Hydrogen Sulfide	<20.0	<27.8	20.0	27.8	H	EPA-TO-15	11/13/2025	LB
Surr: 4-Bromofluorobenzene	99.5 %Rec	--	70-130	--	H	EPA-TO-15	11/13/2025	LB

Client: **Friedman & Bruya**
WorkOrder: 2511282
Project: 511177

Client Sample ID: SSV-4
Lab ID: 2511282-004A
Sample Type: Tedlar Bag

Date Sampled: 11/11/2025
Date Received: 11/12/2025

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst	
Sulfur Compounds by EPA TO-15 Mod								
	(ppbv)	(ug/m³)	(ppbv)	(ug/m³)				
Hydrogen Sulfide	<20.0	<27.8	20.0	27.8	H	EPA-TO-15	11/13/2025	LB
Surr: 4-Bromofluorobenzene	97.2 %Rec	--	70-130	--	H	EPA-TO-15	11/13/2025	LB

Client: **Friedman & Bruya**
WorkOrder: 2511282
Project: 511177

Client Sample ID: SSV-5
Lab ID: 2511282-005A
Sample Type: Tedlar Bag

Date Sampled: 11/11/2025
Date Received: 11/12/2025

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst	
Sulfur Compounds by EPA TO-15 Mod								
	(ppbv)	(ug/m³)	(ppbv)	(ug/m³)				
Hydrogen Sulfide	<20.0	<27.8	20.0	27.8	H	EPA-TO-15	11/13/2025	LB
Surr: 4-Bromofluorobenzene	92.1 %Rec	--	70-130	--	H	EPA-TO-15	11/13/2025	LB

Client: **Friedman & Bruya**
WorkOrder: 2511282
Project: 511177

Client Sample ID: SSV-6
Lab ID: 2511282-006A
Sample Type: Tedlar Bag

Date Sampled: 11/11/2025
Date Received: 11/12/2025

Analyte	Concentration		Reporting Limit		Qual	Method	Date/Analyst	
Sulfur Compounds by EPA TO-15 Mod								
	(ppbv)	(ug/m³)	(ppbv)	(ug/m³)				
Hydrogen Sulfide	<20.0	<27.8	20.0	27.8	H	EPA-TO-15	11/13/2025	LB
Surr: 4-Bromofluorobenzene	93.4 %Rec	--	70-130	--	H	EPA-TO-15	11/13/2025	LB

Work Order: 2511282
CLIENT: Friedman & Bruya
Project: 511177

QC SUMMARY REPORT

Sulfur Compounds by EPA TO-15 Mod

Sample ID: **LCS-R104668**	SampType: **LCS**			Units: **ppbv**		Prep Date: **11/12/2025**		RunNo: **104668**		
Client ID: **LCSW**	Batch ID: **R104668**					Analysis Date: **11/12/2025**		SeqNo: **2183787**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hydrogen Sulfide	121	20.0	100.0	0	121	70	130				
Surr: 4-Bromofluorobenzene	5.23		5.000		105	70	130				

Sample ID: **MB-R104668**	SampType: **MBLK**			Units: **ppbv**		Prep Date: **11/12/2025**		RunNo: **104668**		
Client ID: **MBLKW**	Batch ID: **R104668**					Analysis Date: **11/12/2025**		SeqNo: **2183788**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hydrogen Sulfide	ND	20.0									
Surr: 4-Bromofluorobenzene	4.49		5.000		89.9	70	130				

Sample ID: **2511103-001AREP**	SampType: **REP**			Units: **ppbv**		Prep Date: **11/12/2025**		RunNo: **104668**		
Client ID: **BATCH**	Batch ID: **R104668**					Analysis Date: **11/12/2025**		SeqNo: **2183791**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hydrogen Sulfide	3,610	20.0						3,517	2.65	25	EH
Surr: 4-Bromofluorobenzene	7.16		5.000		143	70	130		0		SH

NOTES:
S - Outlying surrogate recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample Log-In Check List

Client Name:	**FB**	Work Order Number:	**2511282**
Logged by:	**Morgan Wilson**	Date Received:	**11/12/2025 9:39:00 AM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Present ☑
4.	Was an attempt made to cool the samples?	Yes ☐	No ☐	NA ☑
5.	Were all items received at a temperature of >2°C to 6°C *	Yes ☐	No ☐	NA ☑
6.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
7.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8.	Are samples properly preserved?	Yes ☑	No ☐	
9.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10.	Is there headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
11.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
12.	Does paperwork match bottle labels?	Yes ☑	No ☐	
13.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14.	Is it clear what analyses were requested?	Yes ☑	No ☐	
15.	Were all hold times (except field parameters, pH e.g.) able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

17. Additional remarks:

Item Information

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT SAMPLE CHAIN OF CUSTODY

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 5500 4th Ave S

City, State, ZIP Seattle, WA 98108

email: merdahl@friedmanandbruya.com

SUBCONTRACTER	
ATG	
PROJECT NAME/NO.	PO #
511177	F-564
REMARKS	
Aspect EDD 2511282	

TURNAROUND TIME
☒ Standard
RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

						ANALYSES REQUESTED										
Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	H2S										Notes
SSV-1		11/11/2025	1521	air	1	x										
SSV-2		11/11/2025	1324	air	1	x										
SSV-3		11/11/2025	1104	air	1	x										
SSV-4		11/11/2025	1219	air	1	x										
SSV-5		11/11/2025	1415	air	1	x										
SSV-6		11/11/2025	1422	air	1	x										

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

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Michael Erdahl	Friedman & Bruya	11/12/25	0836
Received by:		Nathan Hodder	ATL	11/12/25	939
Relinquished by:					
Received by:					

Geosyntec consultants

APPENDIX E
Laboratory Reports, 2025 Soil Vapor Sampling

eurofins | Air Toxics

Analytical Report

9/3/2025
Mr. Peter Bannister
Aspect Consulting LLC (Geosyntec)
350 Madison Ave N

Bainbridge Island WA 98110

Project Name: CROWNHILL
Project #: AS100094J-015
Workorder #: 2508479

Dear Mr. Peter Bannister

The following report includes the data for the above referenced project for sample(s) received on 8/20/2025 at Eurofins Air Toxics LLC.

The data and associated QC analyzed by Passive S.E. WMS are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics LLC. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Monica Tran at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Monica Tran

Project Manager

eurofins | Air Toxics

WORK ORDER #: 2508479

Work Order Summary

CLIENT:	Mr. Peter Bannister Aspect Consulting LLC (Geosyntec) 350 Madison Ave N Bainbridge Island, WA 98110	**BILL TO:**	Accounts Payable Aspect Consulting LLC (Geosyntec) 350 Madison Ave N Bainbridge Island, WA 98110
PHONE:	206-780-9370	**P.O. #**	AS100094J-10147
FAX:	206-780-9438	**PROJECT #**	AS100094J-015 CROWNHILL
DATE RECEIVED:	08/20/2025	**CONTACT:**	Monica Tran
DATE COMPLETED:	09/03/2025		

FRACTION #	NAME	TEST
01A	VP-1	Passive S.E. WMS
02A	VP-2	Passive S.E. WMS
03A	VP-3	Passive S.E. WMS
04A	VP-4	Passive S.E. WMS
05A	Lab Blank	Passive S.E. WMS
06A	CCV	Passive S.E. WMS
07A	LCS	Passive S.E. WMS
07AA	LCSD	Passive S.E. WMS

CERTIFIED BY:  DATE: 09/03/25

Technical Director

Cert. No.: AZ Licensure-AZ0775, FL NELAP-E87680, LA NELAP–02089, MN NELAP-2836569, NH NELAP–209224-A, NJ NELAP-CA016, NY NELAP-11291, TX NELAP-T104704434, UT NELAP-CA009332023-16, VA NELAP-13180, WA NELAP-C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) CA300005-21
Eurofins Environment Testing Northern California, LLC certifies that the test results contained in this report meet all requirements of the 2016 TNI Standard.

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, LLC.

LABORATORY NARRATIVE
WMS Passive SE by Mod EPA TO-17
Aspect Consulting LLC (Geosyntec)
Workorder# 2508479

Four WMS-TM-V2 samples were received on August 20, 2025. The laboratory analyzed the charcoal sorbent bed of the passive sampler following modified method EPA TO-17. The VOCs were chemically extracted using carbon disulfide and an aliquot of the extract was injected into a GC/MS for identification and quantification of volatile organic compounds (VOCs).

The mass of each target compound adsorbed by the sampler was converted to units of concentration using the sample deployment time and the sampling rate for each VOC. If sampling rates were calculated by the lab or the manufacturer, the concentration result has been flagged as an estimated value. Results are not corrected for desorption efficiency.

Please note that 1,1,2,2-Tetrachloroethane (1,1,2,2-PCA) can degrade into Trichloroethene (TCE) during storage on the charcoal-based sorbent used in the WMS device. Samples containing 1,1,2,2-PCA may yield reduced concentrations of 1,1,2,2-PCA and elevated concentrations of TCE.

The reference method used for this procedure is EPA TO-17, which describes the collection of VOCs in ambient air using sorbents and analysis by GC/MS. Because TO-17 describes active sample collection using a pump and thermal desorption as the preparation step, several modifications are required. Modifications to TO-17 are listed in the table below:

Requirement	***TO-17***	***ATL Modifications***
Sample Collection	Pump pulls measured air volume through sorbent tube	VOCs in air adsorbed onto sorbent bed passively through diffusion
Sample Preparation	Thermal extraction	Solvent extraction
Sorbent tube conditioning	Condition newly packed tubes prior to use	Charcoal-based sorbent is a single use media and conditioning is conducted by vendor.
Instrumentation	Thermal desorption introduction system	Liquid injection introduction system
Internal Standard	Gas-phase internal standard introduced on the tube or focusing trap during analysis	Liquid-phase internal standard introduced on the tube at the time of extraction
Media and sample storage	<4 deg C, 30 days	Media shelf life is determined by vendor; sample hold-time is 6 months for the RAD130 and WMS. Sample preservation requirements are storage in a cool, solvent-free refrigerator and optional use of ice during shipping.
Internal Standard Recovery	+/-40% of daily CCV area	-50% to +100% of daily CCV area

Receiving Notes

Sample collection date was incomplete on the Chain of Custody for samples VP-1, VP-2, VP-3 and

VP-4. The year of collection was assumed to be 2025.

Analytical Notes

To calculate ug/m3 concentrations in the Lab Blank, a sampling duration of 40320 minutes was applied.

Due to laboratory error during time of sample preparation, internal standard 2-Fluorotoluene was double-spiked onto all samples prior to analysis. Consequently, sample results and reporting limits were multiplied by a factor of 2 in order to correctly calculate the target concentrations.

Definition of Data Qualifying Flags

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

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

J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit.
UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.
C - Estimated concentration due to calculated sampling rate
CN - See case narrative explanation.

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

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

eurofins | Air Toxics

Summary of Detected Compounds
VOC BY PASSIVE SAMPLER - GC/MS

Client Sample ID: VP-1

Lab ID#: 2508479-01A

No Detections Were Found.

Client Sample ID: VP-2

Lab ID#: 2508479-02A

No Detections Were Found.

Client Sample ID: VP-3

Lab ID#: 2508479-03A

No Detections Were Found.

Client Sample ID: VP-4

Lab ID#: 2508479-04A

No Detections Were Found.

eurofins | Air Toxics

Client Sample ID: VP-1

Lab ID#: 2508479-01A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	**18082112sim**	**Date of Collection: 8/19/25 10:00:00 AM**	
Dil. Factor:	**2.00**	**Date of Analysis: 8/21/25 03:40 PM**	
		Date of Extraction: 8/21/25	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Trichloroethene	0.10	6.4	Not Detected	Not Detected

Temperature = 77.0F , duration time = 40320 minutes.

Container Type: WMS-TM-V2

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130

eurofins | Air Toxics

Client Sample ID: VP-2

Lab ID#: 2508479-02A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	**18082113sim**	**Date of Collection: 8/19/25 10:00:00 AM**	
Dil. Factor:	**2.00**	**Date of Analysis: 8/21/25 04:08 PM**	
		Date of Extraction: 8/21/25	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Trichloroethene	0.10	6.4	Not Detected	Not Detected

Temperature = 77.0F , duration time = 40320 minutes.
Container Type: WMS-TM-V2

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130

eurofins | Air Toxics

Client Sample ID: VP-3

Lab ID#: 2508479-03A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	**18082114sim**	**Date of Collection: 8/19/25 10:00:00 AM**	
Dil. Factor:	**2.00**	**Date of Analysis: 8/21/25 04:36 PM**	
		Date of Extraction: 8/21/25	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Trichloroethene	0.10	6.4	Not Detected	Not Detected

Temperature = 77.0F , duration time = 40320 minutes.
Container Type: WMS-TM-V2

Surrogates	%Recovery	Method Limits
Toluene-d8	96	70-130

eurofins | Air Toxics

Client Sample ID: VP-4

Lab ID#: 2508479-04A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	**18082115sim**	**Date of Collection: 8/19/25 10:00:00 AM**	
Dil. Factor:	**2.00**	**Date of Analysis: 8/21/25 05:04 PM**	
		Date of Extraction: 8/21/25	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Trichloroethene	0.10	6.4	Not Detected	Not Detected

Temperature = 77.0F , duration time = 40320 minutes.
Container Type: WMS-TM-V2

Surrogates	%Recovery	Method Limits
Toluene-d8	94	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 2508479-05A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	**18082105sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/21/25 12:26 PM**	
		Date of Extraction: 8/21/25	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Trichloroethene	0.050	3.2	Not Detected	Not Detected

Temperature = 77.0F , duration time = 40320 minutes.
Container Type: WMS-TM-V2

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 2508479-06A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	**18082102sim**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 8/21/25 10:25 AM**
		Date of Extraction: NA

Compound	%Recovery
Trichloroethene	102

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 2508479-07A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	**18082103sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/21/25 11:32 AM**	
		Date of Extraction: 8/21/25	

Compound	%Recovery	Method Limits
Trichloroethene	122	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 2508479-07AA

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	**18082104sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 8/21/25 11:59 AM**	
		Date of Extraction: 8/21/25	

Compound	%Recovery	Method Limits
Trichloroethene	121	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130

eurofins | Air Toxics

Method : Passive SE GC/MS WMS (Sh)-TCE only

CAS Number	Compound	Rpt. Limit (ug)
79-01-6	Trichloroethene	0.050

	Surrogate	Method Limits
2037-26-5	Toluene-d8	70-130

eurofins | Air Toxics

Analytical Report

11/26/2025

Ms. Carmen Tappero
Geosyntec Consultants (formerly Aspect Consulting LLC)
350 Madison Ave N

Bainbridge Island WA 98110

Project Name: Crownhill
Project #: AS100094J-015
Workorder #: 2511244

Dear Ms. Carmen Tappero

The following report includes the data for the above referenced project for sample(s) received on 11/13/2025 at Eurofins Air Toxics LLC.

The data and associated QC analyzed by Passive S.E. WMS are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics LLC. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Monica Tran at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Monica Tran

Project Manager

eurofins | Air Toxics

WORK ORDER #: 2511244

Work Order Summary

CLIENT:	Ms. Carmen Tappero Geosyntec Consultants (formerly Aspect Consulting LLC) 350 Madison Ave N Bainbridge Island, WA 98110	**BILL TO:**	Accounts Payable Geosyntec Consultants (formerly Aspect Consulting LLC) 350 Madison Ave N Bainbridge Island, WA 98110
PHONE:	206-780-9370	**P.O. #**	WO AS100094J-10147
FAX:	206-780-9438	**PROJECT #**	AS100094J-015 Crownhill
DATE RECEIVED:	11/13/2025	**CONTACT:**	Monica Tran
DATE COMPLETED:	11/26/2025		

FRACTION #	NAME	TEST
01A	VP-01	Passive S.E. WMS
02A	VP-02	Passive S.E. WMS
03A	VP-03	Passive S.E. WMS
04A	VP-04	Passive S.E. WMS
05A	Lab Blank	Passive S.E. WMS
06A	CCV	Passive S.E. WMS
07A	LCS	Passive S.E. WMS
07AA	LCSD	Passive S.E. WMS

CERTIFIED BY: Heidi Hayes DATE: 11/26/25

Technical Director

Cert. No.: AZ Licensure-AZ0775, FL NELAP-E87680, LA NELAP–02089, MN NELAP-2836569, NH NELAP–209224-A, NJ NELAP-CA016, NY NELAP-11291, TX NELAP-T104704434, UT NELAP-CA009332023-16, VA NELAP-13180, WA NELAP-C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) CA300005-21
Eurofins Environment Testing Northern California, LLC certifies that the test results contained in this report meet all requirements of the 2016 TNI Standard.

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, LLC.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000

LABORATORY NARRATIVE
WMS Passive SE by Mod EPA TO-17
Geosyntec Consultants (formerly Aspect Consulting LLC)
Workorder# 2511244

Four WMS-TM-V2 samples were received on November 13, 2025. The laboratory analyzed the charcoal sorbent bed of the passive sampler following modified method EPA TO-17. The VOCs were chemically extracted using carbon disulfide and an aliquot of the extract was injected into a GC/MS for identification and quantification of volatile organic compounds (VOCs).

The mass of each target compound adsorbed by the sampler was converted to units of concentration using the sample deployment time and the sampling rate for each VOC. If sampling rates were calculated by the lab or the manufacturer, the concentration result has been flagged as an estimated value. Results are not corrected for desorption efficiency.

Please note that 1,1,2,2-Tetrachloroethane (1,1,2,2-PCA) can degrade into Trichloroethene (TCE) during storage on the charcoal-based sorbent used in the WMS device. Samples containing 1,1,2,2-PCA may yield reduced concentrations of 1,1,2,2-PCA and elevated concentrations of TCE.

The reference method used for this procedure is EPA TO-17, which describes the collection of VOCs in ambient air using sorbents and analysis by GC/MS. Because TO-17 describes active sample collection using a pump and thermal desorption as the preparation step, several modifications are required. Modifications to TO-17 are listed in the table below:

Requirement	***TO-17***	***ATL Modifications***
Sample Collection	Pump pulls measured air volume through sorbent tube	VOCs in air adsorbed onto sorbent bed passively through diffusion
Sample Preparation	Thermal extraction	Solvent extraction
Sorbent tube conditioning	Condition newly packed tubes prior to use	Charcoal-based sorbent is a single use media and conditioning is conducted by vendor.
Instrumentation	Thermal desorption introduction system	Liquid injection introduction system
Internal Standard	Gas-phase internal standard introduced on the tube or focusing trap during analysis	Liquid-phase internal standard introduced on the tube at the time of extraction
Media and sample storage	<4 deg C, 30 days	Media shelf life is determined by vendor; sample hold-time is 6 months for the RAD130 and WMS. Sample preservation requirements are storage in a cool, solvent-free refrigerator and optional use of ice during shipping.
Internal Standard Recovery	+/-40% of daily CCV area	-50% to +100% of daily CCV area

Receiving Notes

The Chain of Custody (COC) was not relinquished properly. A time was not provided by the field

sampler.

Analytical Notes

To calculate ug/m3 concentrations in the Lab Blank, a sampling duration of 41535 minutes was applied.

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

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

N - The identification is based on presumptive evidence.

C - Estimated concentration due to calculated sampling rate

CN - See case narrative explanation.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

eurofins | Air Toxics

Summary of Detected Compounds
VOC BY PASSIVE SAMPLER - GC/MS

Client Sample ID: VP-01

Lab ID#: 2511244-01A

No Detections Were Found.

Client Sample ID: VP-02

Lab ID#: 2511244-02A

No Detections Were Found.

Client Sample ID: VP-03

Lab ID#: 2511244-03A

No Detections Were Found.

Client Sample ID: VP-04

Lab ID#: 2511244-04A

No Detections Were Found.

eurofins | Air Toxics

Client Sample ID: VP-01

Lab ID#: 2511244-01A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	**c111908sim**	**Date of Collection: 11/11/25 12:35:00 P**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/19/25 03:19 PM**	
		Date of Extraction: 11/19/25	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Trichloroethene	0.050	3.1	Not Detected	Not Detected

Temperature = 77.0F , duration time = 41515 minutes.
Container Type: WMS-TM-V2

Surrogates	%Recovery	Method Limits
Toluene-d8	91	70-130

eurofins | Air Toxics

Client Sample ID: VP-02

Lab ID#: 2511244-02A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	**c111909sim**	**Date of Collection: 11/11/25 12:25:00 P**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/19/25 03:47 PM**	
		Date of Extraction: 11/19/25	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Trichloroethene	0.050	3.1	Not Detected	Not Detected

Temperature = 77.0F , duration time = 41515 minutes.
Container Type: WMS-TM-V2

Surrogates	%Recovery	Method Limits
Toluene-d8	91	70-130

eurofins | Air Toxics

Client Sample ID: VP-03

Lab ID#: 2511244-03A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	**c111910sim**	**Date of Collection: 11/11/25 1:30:00 PM**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/19/25 04:14 PM**	
		Date of Extraction: 11/19/25	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Trichloroethene	0.050	3.1	Not Detected	Not Detected

Temperature = 77.0F , duration time = 41535 minutes.
Container Type: WMS-TM-V2

Surrogates	%Recovery	Method Limits
Toluene-d8	91	70-130

eurofins | Air Toxics

Client Sample ID: VP-04

Lab ID#: 2511244-04A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	**c111911sim**	**Date of Collection: 11/11/25 2:00:00 PM**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/19/25 04:41 PM**	
		Date of Extraction: 11/19/25	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Trichloroethene	0.050	3.1	Not Detected	Not Detected

Temperature = 77.0F , duration time = 41520 minutes.
Container Type: WMS-TM-V2

Surrogates	%Recovery	Method Limits
Toluene-d8	91	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 2511244-05A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	**c111905sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/19/25 01:43 PM**	
		Date of Extraction: 11/19/25	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Trichloroethene	0.050	3.1	Not Detected	Not Detected

Temperature = 77.0F , duration time = 41535 minutes.
Container Type: WMS-TM-V2

Surrogates	%Recovery	Method Limits
Toluene-d8	92	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 2511244-06A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	**c111902sim**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 11/19/25 12:22 PM**
		Date of Extraction: NA

Compound	%Recovery
Trichloroethene	94

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	90	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 2511244-07A

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	**c111903sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/19/25 12:49 PM**	
		Date of Extraction: 11/19/25	

Compound	%Recovery	Method Limits
Trichloroethene	114	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	92	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 2511244-07AA

VOC BY PASSIVE SAMPLER - GC/MS

File Name:	**c111904sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 11/19/25 01:16 PM**	
		Date of Extraction: 11/19/25	

Compound	%Recovery	Method Limits
Trichloroethene	113	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	92	70-130

Geosyntec consultants

APPENDIX F
Soil Vapor Probe Drilling Logs

Coarse-Grained Soils - More than 50%[1] Retained on No. 200 Sieve	Gravels - More than 50%[1] of Coarse Fraction Retained on No. 4 Sieve	≤5% Fines	GW	Well-graded GRAVEL Well-graded GRAVEL WITH SAND
			GP	Poorly-graded GRAVEL Poorly-graded GRAVEL WITH SAND
		≥15% Fines	GM	SILTY GRAVEL SILTY GRAVEL WITH SAND
			GC	CLAYEY GRAVEL CLAYEY GRAVEL WITH SAND
	Sands - 50%[1] or More of Coarse Fraction Passes No. 4 Sieve	≤5% Fines	SW	Well-graded SAND Well-graded SAND WITH GRAVEL
			SP	Poorly-graded SAND Poorly-graded SAND WITH GRAVEL
		≥15% Fines	SM	SILTY SAND SILTY SAND WITH GRAVEL
			SC	CLAYEY SAND CLAYEY SAND WITH GRAVEL
Fine-Grained Soils - 50%[1] or More Passes No. 200 Sieve	Silts and Clays Liquid Limit Less than 50%		ML	SILT SANDY or GRAVELLY SILT SILT WITH SAND SILT WITH GRAVEL
			CL	LEAN CLAY SANDY or GRAVELLY LEAN CLAY LEAN CLAY WITH SAND LEAN CLAY WITH GRAVEL
			OL	ORGANIC SILT SANDY or GRAVELLY ORGANIC SILT ORGANIC SILT WITH SAND ORGANIC SILT WITH GRAVEL
	Silts and Clays Liquid Limit 50% or More		MH	ELASTIC SILT SANDY or GRAVELLY ELASTIC SILT ELASTIC SILT WITH SAND ELASTIC SILT WITH GRAVEL
			CH	FAT CLAY SANDY or GRAVELLY FAT CLAY FAT CLAY WITH SAND FAT CLAY WITH GRAVEL
			OH	ORGANIC CLAY SANDY or GRAVELLY ORGANIC CLAY ORGANIC CLAY WITH SAND ORGANIC CLAY WITH GRAVEL
Highly Organic Soils			PT	PEAT and other mostly organic soils

"WITH SILT" or "WITH CLAY" means 5 to 15% silt and clay, denoted by a "-" in the group name; e.g., SP-SM • "SILTY" or "CLAYEY" means >15% silt and clay • "WITH SAND" or "WITH GRAVEL" means 15 to 30% sand and gravel. • "SANDY" or "GRAVELLY" means >30% sand and gravel. • "Well-graded" means approximately equal amounts of fine to coarse grain sizes • "Poorly graded" means unequal amounts of grain sizes • Group names separated by "/" means soil contains layers of the two soil types; e.g., SM/ML.

Soils were described and identified in the field in general accordance with the methods described in ASTM D2488. Where indicated in the log, soils were classified using ASTM D2487 or other laboratory tests as appropriate. Refer to the report accompanying these exploration logs for details.

1. Estimated or measured percentage by dry weight
2. (SPT) Standard Penetration Test (ASTM D1586)
3. Determined by SPT, DCPT (ASTM STP399) or other field methods. See report text for details.

GEOTECHNICAL LAB TESTS

MC	=	Natural Moisture Content
PS	=	Particle Size Distribution
FC	=	Fines Content (% < 0.075 mm)
GH	=	Hydrometer Test
AL	=	Atterberg Limits
C	=	Consolidation Test
Str	=	Strength Test
OC	=	Organic Content (% Loss by Ignition)
Comp	=	Proctor Test
K	=	Hydraulic Conductivity Test
SG	=	Specific Gravity Test

CHEMICAL LAB TESTS

Organic Chemicals

BTEX	=	Benzene, Toluene, Ethylbenzene, Xylenes
TPH-Dx	=	Diesel and Oil-Range Petroleum Hydrocarbons
TPH-G	=	Gasoline-Range Petroleum Hydrocarbons
VOCs	=	Volatile Organic Compounds
SVOCs	=	Semi-Volatile Organic Compounds
PAHs	=	Polycyclic Aromatic Hydrocarbon Compounds
PCBs	=	Polychlorinated Biphenyls

Metals

RCRA8	=	As, Ba, Cd, Cr, Pb, Hg, Se, Ag, (d = dissolved, t = total)
MTCA5	=	As, Cd, Cr, Hg, Pb (d = dissolved, t = total)
PP-13	=	Ag, As, Be, Cd, Cr, Cu, Hg, Ni, Pb, Sb, Se, Tl, Zn (d=dissolved, t=total)

FIELD TESTS

PID	=	Photoionization Detector
Sheen	=	Oil Sheen Test
SPT[2]	=	Standard Penetration Test
NSPT	=	Non-Standard Penetration Test
DCPT	=	Dynamic Cone Penetration Test

COMPONENT DEFINITIONS

Descriptive Term		*Size Range and Sieve Number*
Boulders	=	Larger than 12 inches
Cobbles	=	3 inches to 12 inches
Coarse Gravel	=	3 inches to 3/4 inches
Fine Gravel	=	3/4 inches to No. 4 (4.75 mm)
Coarse Sand	=	No. 4 (4.75 mm) to No. 10 (2.00 mm)
Medium Sand	=	No. 10 (2.00 mm) to No. 40 (0.425 mm)
Fine Sand	=	No. 40 (0.425 mm) to No. 200 (0.075 mm)
Silt and Clay	=	Smaller than No. 200 (0.075 mm)

ESTIMATED[1] PERCENTAGE

% by Weight		*Modifier*	*% by Weight*		*Modifier*
<1	=	Subtrace	15 to 25	=	Little
1 to <5	=	Trace	30 to 45	=	Some
5 to 10	=	Few	>50	=	Mostly

MOISTURE CONTENT

Dry	=	Absence of moisture, dusty, dry to the touch
Slightly Moist	=	Perceptible moisture
Moist	=	Damp but no visible water
Very Moist	=	Water visible but not free draining
Wet	=	Visible free water, usually from below water table

RELATIVE DENSITY

Non-Cohesive or Coarse-Grained Soils

Density[3]		*SPT*[2] *Blows/Foot*	*Penetration with 1/2" Diameter Rod*
Very Loose	=	0 to 4	≥ 2'
Loose	=	5 to 10	1' to 2'
Medium Dense	=	11 to 30	3" to 1'
Dense	=	31 to 50	1" to 3"
Very Dense	=	> 50	< 1"

CONSISTENCY

Cohesive or Fine-Grained Soils

Consistency[3]		*SPT*[2] *Blows/Foot*	*Manual Test*
Very Soft	=	0 to 1	Penetrated >1" easily by thumb. Extrudes between thumb & fingers.
Soft	=	2 to 4	Penetrated 1/4" to 1" easily by thumb. Easily molded.
Medium Stiff	=	5 to 8	Penetrated >1/4" with effort by thumb. Molded with strong pressure.
Stiff	=	9 to 15	Indented ~1/4" with effort by thumb.
Very Stiff	=	16 to 30	Indented easily by thumbnail.
Hard	=	> 30	Indented with difficulty by thumbnail.

GEOLOGIC CONTACTS

Observed and Distinct — Observed and Gradual — Inferred

Geosyntec consultants

Exploration Log Key

Al Path: Q:_ACAD Standards\FIELD REFERENCE\MASTERS\Exploration Log Key-2018.ai // user: jinman // last saved: 12/31/2018

Aspect CONSULTING	Crownhill Elementary School - AS100094J		Environmental Exploration Log	
	Project Address & Site Specific Location 1500 Rocky Point Rd NW, Bremerton, WA, See Figure 1		*Coordinates (Lat,Lon WGS84)* 47.5760, -122.6653 (est)	*Exploration Number* **VP-1**
Contractor Holt Services, Inc.	*Equipment* Geoprobe 1008 tracked direct push rig	*Sampling Method* Continuous Core	*Ground Surface Elev. (NAVD88)* 134' (est)	Ecology Well Tag No. BPW-289
Operator Louie Fehner	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 6/25/2025	*Top of Casing Elev. (NAVD88)* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	134	Steel monument, flush, in concrete					**FILL** SILT WITH SAND (ML); soft, moist, brown; non-plastic; fine to medium sand; small roots and wood fragments; iron-oxide staining.	0
1	133	3/4-inch diameter SCH40 PVC casing			PID=0.3		SAND WITH SILT AND GRAVEL (SP-SM); loose, moist, light brown; fine to coarse sand; fine to coarse, subangular to subrounded gravel.	1
2	132	3/8-inch bentonite chips			PID=0.2			2
3	131	Silica sand pack					**WEATHERED VASHON TILL** SILT WITH SAND (ML); stiff, moist, gray brown; non-plastic; fine to coarse sand; iron-oxide staining; few small organics.	3
4	130							4
5	129				PID=0.0			5
6	128	Pre-packed 3/4-inch diameter SCH40 PVC 0.010-inch slot screen						6
7	127				PID=0.0			7
8	126							8
9	125	Threaded end cap			PID=0.0		GRAVEL WITH SILT AND SAND (GP-GM); dense, moist, gray brown; fine to coarse sand; fine to coarse, subangular to subrounded gravel.	9
10	124						Bottom of exploration at 10 ft. bgs.	10
11	123							11
12	122							12
13	121							13
14	120							14

Legend

Sample Type
- No Soil Sample Recovery
- Continuous core 3" ID

Water Level
- No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: CB
Approved by: MML 2/3/26

Exploration Log VP-1
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\AS100094J CROWN HILL VAPOR POINTS.GPJ February 5, 2026

Aspect CONSULTING	Crownhill Elementary School - AS100094J		Environmental Exploration Log	
	Project Address & Site Specific Location 1500 Rocky Point Rd NW, Bremerton, WA, See Figure 1		*Coordinates (Lat,Lon WGS84)* 47.5760, -122.6656 (est)	*Exploration Number* **VP-2**
Contractor Holt Services, Inc.	*Equipment* Geoprobe 1008 tracked direct push rig	*Sampling Method* Continuous Core	*Ground Surface Elev. (NAVD88)* 134' (est)	Ecology Well Tag No. BPW-287
Operator Louie Fehner	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 6/25/2025	*Top of Casing Elev. (NAVD88)* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	134	Steel monument, flush, in concrete					**FILL** SILT WITH SAND (ML); soft, moist, brown; non-plastic; fine to medium sand; small roots and wood fragments.	0
1	133	3/4-inch diameter SCH40 PVC casing			PID=0.0		SILTY SAND (SM); loose, moist, light brown; fine to coarse sand; few small organics.	1
2	132	3/8-inch bentonite chips			PID=0.0		**WEATHERED VASHON TILL** SAND WITH SILT AND GRAVEL (SP-SM); loose, moist, gray brown; fine to coarse sand; iron-oxide stains; few small organics.	2
3	131						SILTY SAND WITH GRAVEL (SM); dense, moist, gray brown; fine to coarse sand; fine to coarse, subangular to subrounded gravel; iron-oxide staining.	3
4	130	Silica sand pack					SILT WITH SAND (ML); stif, moist, gray brown; non-plastic; fine to coarse sand, fine to coarse, subangular gravel.	4
5	129				PID=0.0			5
6	128	Pre-packed 3/4-inch diameter SCH40 PVC 0.010-inch slot screen					Becomes with 0.1- to 0.2-inch-thick fine to medium sand lamina.	6
7	127				PID=0.0			7
8	126							8
9	125				PID=0.0			9
10	124	Threaded end cap					Bottom of exploration at 10 ft. bgs.	10
11	123							11
12	122							12
13	121							13
14	120							14

Legend

Sample Type: Continuous core 3" ID

Water Level: No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: CB
Approved by: MML 2/3/26

Exploration Log VP-2

Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\AS100094J CROWN HILL VAPOR POINTS.GPJ February 5, 2026

Aspect CONSULTING	Crownhill Elementary School - AS100094J		Environmental Exploration Log	
	Project Address & Site Specific Location 1500 Rocky Point Rd NW, Bremerton, WA, See Figure 1		*Coordinates (Lat,Lon WGS84)* 47.5757, -122.6652 (est)	*Exploration Number* **VP-3**
Contractor Holt Services, Inc.	*Equipment* Geoprobe 1008 tracked direct push rig	*Sampling Method* Continuous Core	*Ground Surface Elev. (NAVD88)* 135' (est)	Ecology Well Tag No. BPW-533
Operator Louie Fehner	*Exploration Method(s)* Direct push	*Work Start/Completion Dates* 6/25/2025	*Top of Casing Elev. (NAVD88)* NA	*Depth to Water (Below GS)* No Water Encountered

Depth (feet)	Elev. (feet)	Exploration Notes and Completion Details	Sample Type/ID	Analytical Sample Number & Lab Test(s)	Field Tests	Material Type	Description	Depth (ft)
0	135	Steel monument, flush, in concrete					**FILL** SILT WITH SAND (ML); loose, moist, brown; fine to medium sand; small roots and wood fragments.	0
1	134	3/4-inch diameter SCH40 PVC casing			PID=0.0		SAND WITH SILT AND GRAVEL (SP-SM); loose, moist, light brown; fine to coarse sand; fine to coarse, subangular to subrounded gravel.	1
2	133	3/8-inch bentonite chips			PID=0.0		**WEATHERED VASHON TILL** SANDY SILT WITH GRAVEL (ML); dense, moist, gray brown; non-plastic; fine to coarse sand; fine to coarse, subangular gravel; iron-oxide stains; few small organics.	2
3	132				PID=0.0			3
4	131	Silica sand pack						4
5	130							5
6	129	Pre-packed 3/4-inch diameter SCH40 PVC 0.010-inch slot screen						6
7	128							7
8	127							8
9	126							9
10	125	Threaded end cap					Bottom of exploration at 10 ft. bgs.	10
11	124							11
12	123							12
13	122							13
14	121							14

Legend

Sample Type
- ◯ No Soil Sample Recovery
- ◧ Continuous core 3" ID

Water Level
- No Water Encountered

See Exploration Log Key for explanation of symbols

Logged by: CB
Approved by: MML 2/3/26

Exploration Log VP-3
Sheet 1 of 1

NEW STANDARD EXPLORATION LOG TEMPLATE P:\GINTW\PROJECTS\AS100094J CROWN HILL VAPOR POINTS.GPJ February 5, 2026

Geosyntec consultants

APPENDIX G
Report Limitation and Guidelines for Use

REPORT LIMITATIONS AND USE GUIDELINES

Reliance Conditions for Third Parties

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

Services for Specific Purposes, Persons and Projects

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

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

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

This Report Is Project-Specific

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

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

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

Geoscience Interpretations

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

Discipline-Specific Reports Are Not Interchangeable

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

Environmental Regulations Are Not Static

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

Property Conditions Change Over Time

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

Phase I ESAs – Uncertainty Remains After Completion

Geosyntec has performed the services in general accordance with the scope and limitations of our Agreement and the current version of the “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process”, ASTM E1527, and U.S. Environmental Protection Agency (EPA)'s Federal Standard 40 CFR Part 312 "Innocent Landowners, Standards for Conducting All Appropriate Inquiries".

No ESA can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with subject property. Performance of an ESA study is intended to reduce, but not eliminate, uncertainty regarding the potential for environmental conditions affecting the subject property. There is always a potential that areas with contamination that were not identified during this ESA exist at the subject property or in the study area. Further evaluation of such potential would require additional research, subsurface exploration, sampling and/or testing.

Historical Information Provided by Others

Geosyntec has relied upon information provided by others in our description of historical conditions and in our review of regulatory databases and files. The available data does not provide definitive information with regard to all past uses, operations or incidents affecting the subject property or adjacent properties. Geosyntec makes no warranties or guarantees regarding the accuracy or completeness of information provided or compiled by others.

Exclusion of Mold, Fungus, Radon, Lead, and HBM

Geosyntec’s services do not include the investigation, detection, prevention or assessment of the presence of molds, fungi, spores, bacteria, and viruses, and/or any of their byproducts. Accordingly, this report does not include any interpretations, recommendations, findings, or conclusions regarding the detection, assessment, prevention or abatement of molds, fungi, spores, bacteria, and viruses, and/or any of their byproducts. Geosyntec’s services also do not include the investigation or assessment of hazardous building materials (HBM) such as asbestos, polychlorinated biphenyls (PCBs) in light ballasts, lead based paint, asbestos-containing building materials, urea-formaldehyde insulation in on-site structures or debris or any other HBMs. Geosyntec’s services do not include an evaluation of radon or lead in drinking water, unless specifically requested.