May 2024 | Environmental Impact Report Addendum
State Clearinghouse No. 2023010230

McKINLEY ELEMENTARY SCHOOL CAMPUS MASTER PLAN PROJECT

Santa Monica-Malibu Unified School District

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Table of Contents

Section **Page**

1. INTRODUCTION 1
1.1 PURPOSE OF AN EIR ADDENDUM 1
1.2 APPROVED PROJECT 2
1.3 REMOVAL ACTION WORKPLAN 2
1.4 PREVIOUS ENVIRONMENTAL DOCUMENTATION 3
2. DESCRIPTION OF PROPOSED MODIFICATION 7
2.1 MODIFIED MITIGATION MEASURE 7
2.2 DRAFT RAW RECOMMENDATIONS 8
3. ENVIRONMENTAL ANALYSIS 11
3.1 ENVIRONMENTAL ANALYSIS 11
3.2 CONCLUSION 13
3.3 PUBLIC REVIEW OF DRAFT REMOVAL ACTION WORKPLAN 13
3.4 MITIGATION MONITORING 13
4. LIST OF PREPARERS 15

APPENDICES

Appendix A McKinley Elementary School Site Assessment Reports
Appendix B McKinley Elementary School Draft Removal Action Workplan
Appendix C Amended Mitigation Monitoring and Reporting Program

Table of Contents

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1. Introduction

This document is an Addendum to the McKinley Elementary School Campus Master Plan Project Environmental Impact Report (EIR) (State Clearinghouse Number 2023010230), which analyzed the implementation of the McKinley Elementary School Campus Master Plan (Approved Project). The McKinley Elementary School EIR was certified by the Santa Monica-Malibu Unified School District (SMMUSD or District) Board of Education on June 1, 2023 (Certified EIR).

This Addendum to the Certified EIR has been prepared in accordance with sections 15162 and 15164 of the California Environmental Quality Act (CEQA) Guidelines (14 Cal. Code of Regs. §§ 15000 et seq.). The SMMUSD, as the lead agency under CEQA, has prepared this Addendum to the Certified EIR to consider environmental impacts associated with the modification to adopted Mitigation Measure HAZ-2 regarding implementation of a draft Removal Action Workplan (RAW) under the oversight of the Department of Toxic Substances Control (DTSC). The modification to MM HAZ-2 corresponds with a change in the remedial approach from what had previously been anticipated during preparation of the EIR (i.e., excavation and off-site disposal of impacted soils); the remedial approach now set forth recommends addressing arsenic-impacted soils through containment and capping-in-place plus addressing volatile organic compound (VOC)-impacted soil vapor through installation of a VIMMEC. All site assessment reports for the Project Site are included as Appendix A, and the draft RAW is included as Appendix B to this EIR Addendum.

1.1 PURPOSE OF AN EIR ADDENDUM

According to CEQA Guidelines, section 15164(a), an addendum shall be prepared if some changes or additions to a previously adopted EIR are necessary, but none of the conditions enumerated in CEQA Guidelines section 15162 (Subsequent EIRs and Negative Declarations) calling for the preparation of a subsequent EIR have occurred:

(a) When an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:

1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:

   A. The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

   B. Significant effects previously examined will be substantially more severe than shown in the previous EIR;

   C. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

   D. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

1.2 APPROVED PROJECT

The Approved Project will redevelop and modernize the McKinley Elementary School campus (McKinley ES or campus) at 2401 Santa Monica Boulevard (Assessor's Parcel Number 4276-023-900) in the Mid-City neighborhood of the City of Santa Monica (Project Site). Redevelopment and modernization of McKinley ES will be constructed in three phases over approximately 5.7 acres of the 6.48-acre campus and include the demolition and removal of approximately 82,505 square feet over three phases, including 11 existing portable classrooms (B1 through B11), playground restrooms, one modular building (Building D), and one elevator (serving Buildings B and C). Additionally, the Approved Project will provide 14 new classrooms, new and reconfigured playfields/playgrounds, and parking lots, for a total of 121,443 square feet of building space on the campus. At completion, the Approved Project will result in a total of 33 classrooms, from preschool through fifth grade, including special education, and dedicated outdoor play areas for preschool through kindergarten for a total of 166,697 square feet of building space. The new buildings constructed along Chelsea Avenue will have a maximum height of 38 feet 8 inches above natural grade, and will not contain any mechanical equipment on the roof.

1.3 REMOVAL ACTION WORKPLAN

A Removal Action Workplan identifies the remedy for environmental contamination that best fits the site conditions. A RAW may be required for a site when the DTSC determines that further action is required to address contamination at levels that pose a health risk to existing and/or future property users or that may be an ongoing source of contamination to the environment. Cleanup goals established in the RAW must be compatible with current and planned uses and ensure protection of human health and the environment. Contaminated sites are generally cleaned up to levels that allow for unrestricted, commercial/industrial, or recreational uses.

The District, in coordination with, and oversight from, DTSC, has prepared a draft RAW regarding the mitigation of contaminants of concern (COC), which include arsenic-impacted shallow soils and volatile organic compound (VOC)-impacted soil vapors that were identified within the Project Site. Specifically, the subject of the draft RAW is an approximately 0.99-acre area along the northeastern portion of the campus, which will be the location of the proposed new classroom building along Chelsea Avenue that will be constructed during Phase 1 of the Approved Project.

Preparation of the draft RAW is based on the requirements in the DTSC's October 23, 2023, Preliminary Environmental Assessment (PEA) Equivalent Determination letter, in which the DTSC indicated that based on the review of the PEA-equivalent reports, a release or threatened release of hazardous material or the presence of naturally occurring hazardous material, which would pose a threat to public health or the environmental under unrestricted land use is present at the Project Site. DTSC determined that a RAW was required to address on-site contamination. The draft RAW presents recommended remediation actions for impacted soil and soil vapor.

1.4 PREVIOUS ENVIRONMENTAL DOCUMENTATION

1.4.1 2023 Environmental Impact Report

On June 1, the SMMUSD certified the McKinley Elementary School Campus Master Plan EIR, as described in Section 1.1, *Approved Project*, that analyzed the impacts of the remodeling and modernization of the McKinley ES campus. The District also adopted a Mitigation Monitoring and Reporting Program (MMRP) and Findings of Fact for the Approved Project.

The Certified EIR determined that the Approved Project would result in less-than-significant impacts with no mitigation with regard to Aesthetics, Air Quality, Cultural Resources (Historical Resources), Energy, Greenhouse Gas Emissions, Hazardous Materials (transport, use, and disposal of hazardous materials; hazardous materials site; and emergency response or evacuation plan), Hydrology and Water Quality, Land Use and Planning, Noise (operational impacts), Recreation, Transportation (conflict with a plan or policy addressing circulation system; vehicle miles traveled; and emergency access).

Additionally, the Certified EIR determined that the Approved Project would require the implementation of mitigation measures to reduce potentially significant impacts to less-than-significant levels for Cultural Resources (archaeological resources), Geology and Soils (paleontological resources), Hazards and Hazardous Materials (release of hazardous materials into the environment, and emissions of hazardous emissions or handling of hazardous materials within one-quarter mile of a school), Noise (construction noise; and construction groundborne vibration), and Transportation (hazards due to a geometric design feature or incompatible uses). No significant and unavoidable impacts were identified.

1.4.1.1 HAZARDS AND HAZARDOUS MATERIALS

Section 5.7, *Hazards and Hazardous Materials*, of the Certified EIR identified that the property at 2441 Santa Monica Boulevard previously operated as a dry cleaner, and records indicate that dry-cleaning equipment used perchloroethylene (a chlorinated solvent) at this facility. While no violations, leaks, spills, or releases are

reported, based on the proximity of this facility to the campus and inherent environmental risk associated with dry-cleaning facilities, there is a potential for chemicals used at this facility to have affected the soils and/or groundwater at the Project Site. Thus, impacts were potentially significant due to the potential presence of hazardous building materials and soil contamination at the campus and the potential for the Proposed Project to result in the release of these materials to the environment. The Certified EIR identified the applicability of statutes, regulations, and policies regarding hazardous materials; DTSC's regulatory authority related to cleanup activities; and SMMUSD's School Safety Plan that outlines procedures to address evacuation, cleanup, and communication protocols to protect students and staff in the event of a hazardous materials spill. Additionally, Mitigation Measures HAZ-1 and HAZ-2 were identified in the Certified EIR, to be implemented prior to building demolition and during construction to ensure that hazardous materials are properly identified and disposed of in a manner that minimizes the potential for significant hazards to the public or to the environment, to the extent feasible.

Mitigation Measure HAZ-2 requires preparation of a RAW and referenced the potential cleanup option that was available at the time of preparation of the EIR, which assumed removal of contaminated soils and disposal at an off-site permitted landfill. This Addendum is regarding Mitigation Measure HAZ-2, which was adopted as follows.

HAZ-2 The District will retain a licensed Professional Geologist, Professional Engineering Geologist, or Professional Engineer with more than 2 years of experience conducting hazardous material and contamination assessments to conduct soil sampling. The soil sampling will be conducted prior to any disturbance of the area(s) suspected of potential contamination to evaluate shallow soil conditions with respect to lead-based paint (LBP) residues from on-site structures built prior to 1990 and chemicals commonly used at drycleaners including chlorinated solvents due to historic uses at nearby properties. If the soil sampling identifies the presence of contaminated soils, the contractor shall prepare and implement a contaminated soils removal action workplan (RAW) for removal of affected soils on-site. Affected soils shall be excavated and disposed of off-campus at a landfill permitted to accept such waste, and the campus shall be cleaned to an acceptable level per DTSC requirements.

After the District confirms that the affected soils have been removed, through the collection of soil samples in the excavation areas, the excavation shall be backfilled and compacted with clean soil, and the contractor will prepare a Completion Report that documents the removal and presents analytical results for the confirmation samples.

1.4.2 Site Assessment and Draft RAW

The following environmental investigations were conducted at McKinley ES and used in preparation of the Certified EIR:

- Phase I Environmental Site Assessment Report, prepared by Alta Environmental NV5, April 19, 2022 (see Appendix I to the Certified EIR)

Following certification of the EIR, further investigation was conducted to better define the extent of contamination. These documents can be found in Appendix A of this Addendum.

- Environmental Site Investigation Report, prepared by Alta Environmental NV5, April 27, 2023
- Soil Vapor Investigation Report, prepared by Alta Environmental NV5, July 19, 2023
- Indoor Air Sampling Report, prepared by Alta Environmental NV5, August 16, 2023
- Step-out Sampling Report, prepared by Alta Environmental NV5, September 15, 2023

These further investigations revealed elevated concentrations (greater than 12 mg/kg) of arsenic on the central and western portions of the Project Site to the maximum sampled depth of 8 feet below ground surface. Arsenic was detected in all collected soil samples at concentrations between 2.5 and 20.9 mg/kg. Soil containing elevated concentrations of arsenic were identified in samples collected from four locations on the central and western portions of the Project Site. Statistical analysis of the collected arsenic in soil data suggests that the elevated concentrations of arsenic encountered at the Project Site may be naturally occurring.

Between February 2023 and June 2023, 13 soil vapor probes were installed throughout the Project Site to characterize potential impacts from off-site dry-cleaning activities. Samples were collected from depths of 5 and 15 feet below ground surface. Soil vapor was evaluated for VOCs by USEPA Test Method 8260. VOCs in soil vapor were identified at all vapor probe sample locations and have not been fully delineated.

A PEA Equivalent Determination letter was issued by the DTSC on October 23, 2023, based on review of the PEA equivalent reports listed above, that a release or threatened release of hazardous material or the presence of naturally occurring hazardous material that could pose a threat to public health or the environmental under unrestricted land use is present at the Project Site. DTSC determined that a draft RAW was required to address treatment of on-site contamination. The District subsequently prepared a draft RAW that includes options to remediate identified contaminants and identifies the preferred approaches to cleanup of contaminated soils and soil vapor. The recommended actions for cleanup identified in the draft RAW include:

- Contaminated Soils: Soil reuse/containment/capping-in-place
- Soil Vapor: Vapor Intrusion Mitigation and Migration Engineering Controls System (VIMMEC)

These methods are detailed in the draft RAW, which is included as Appendix B.

1. Introduction

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2. Description of Proposed Modification

2.1 MODIFIED MITIGATION MEASURE

The Project, as modified, includes the previously approved implementation of the McKinley ES Campus Master Plan plus modification of Mitigation Measure HAZ-2 to reflect cleanup activities identified in the draft RAW, described below, to minimize exposure to humans from the COCs in shallow soil via inhalation, dermal absorption, and ingestion; minimize the potential for migration of the COCs from the shallow soil vapor into the new building; and allow for safe construction and long-term occupancy of the proposed classroom building at the Project Site (Modified Project). The modification to MM HAZ-2 corresponds with a change in the remedial approach from what had previously been anticipated during preparation of the EIR (i.e., excavation and off-site disposal of impacted soils); the remedial approach now set forth recommends addressing arsenic-impacted soils through containment and capping-in-place plus addressing VOC-impacted soil vapor through installation of a VIMMEC.

The Modified Project includes the same Project Site boundaries, building footprint, aesthetic design, and operational characteristics that were previously evaluated in the Certified EIR. The change associated with the Modified Project is limited to minor updates to Mitigation Measure HAZ-2 to reflect the appropriate cleanup method outlined in the draft RAW, as provided in Appendix B, which has been developed through coordination with the DTSC. Given information in the draft RAW, the following changes to Mitigation Measure HAZ-2 are necessary, shown in double underline/~~strikeout text~~:

HAZ-2 In order to address the potential presence of contaminated soils and/or soil vapor at the site, ~~T~~the District will retain a licensed Professional Geologist, Professional Engineering Geologist, or Professional Engineer with more than 2 years of experience conducting hazardous material and contamination assessments to conduct ~~soil~~ sampling. The ~~soil~~ sampling will be conducted prior to any disturbance of the area(s) suspected of potential soil and/or soil vapor contamination ~~to evaluate shallow soil conditions with respect to lead-based paint (LBP) residues from on-site structures built prior to 1990 and chemicals commonly used at dryceaners including chlorinated solvents due to historic uses at nearby properties~~. If the ~~soil~~ sampling identifies the presence of contaminated soils and/or soil vapor at levels that require remediation, the contractor shall prepare and implement a ~~contaminated soils~~ DTSC-approved cleanup selection document (such as a removal action workplan (RAW)) for ~~removal~~ appropriate treatment of affected soils and soil vapor on-site. All recommendations in the cleanup selection document regarding soil handling, treatment, and storage shall be implemented. Soil vapors shall also be treated according to procedures outlined in the RAW. ~~Affected soils shall be excavated and disposed of off-campus at a landfill permitted to accept such waste, and t~~The campus shall be cleaned to an acceptable level per DTSC requirements.

After the District confirms that the affected media has ~~soils have~~ been appropriately treated, ~~removed, through the collection of soil samples in the excavation areas, the excavation shall be backfilled and compacted with clean soil, and~~ the contractor will prepare a Removal Action Completion Report for DTSC that documents the cleanup activities ~~removal~~ and presents analytical results for the confirmation samples, if required. Regarding soil vapor, the District shall prepare a long-term operation, maintenance, monitoring, and reporting plan for DTSC to ensure long-term effectiveness of the treatment system.

2.2 DRAFT RAW RECOMMENDATIONS

The draft RAW is provided as Appendix B, and the following presents a summary of activities that will be conducted pursuant to the draft RAW. All activities would occur within the Project Site, which, in the Certified EIR assumed would undergo ground-disturbing activities and excavation/removal of affected soils.

2.2.1 Soil Remediation

Site Preparation and Security Measures

Prior to equipment mobilization, site preparation activities will include fieldwork notification, utility clearance, and implementation of Project Site security measures.

Earthwork and Grading

Project Site soils will be disturbed with earth moving equipment, as necessary, and will involve the use of a backhoe, loader, excavator, and/or shovels. As soil is excavated, it will be temporarily staged for use throughout the Project Site, prior to replacement, and compaction. Cal/OSHA Construction Safety Orders (especially 8 CCR 1539 and 1541) will be followed as appropriate.

Contaminant Control

Dust monitoring, and (if necessary) dust suppression measures will be utilized to minimize potential exposure from fugitive dust to the adjacent properties. Dust suppression measures may consist of spraying water on the excavation area, and other areas susceptible to wind erosion. Additionally, stormwater will be managed at the Project Site using perimeter sandbags and straw waddles to avoid excessive water application that could cause a non-storm water runoff event at the Project Site.

Soil Management

Soils will be excavated and staged throughout the site to reuse as compacted fill at the Project Site. Soil will be spread throughout the Project Site for staging, then replaced and recompacted within a few days of initial staging. The staging process will be conducted in a manner to minimize the generation of dust which will require excavated soil to be covered with tarps or other proper materials (e.g., plastic sheeting) to prevent any run-on and/or dust generation when grading activities are not be conducted. Soil storage will be conducted in accordance with all SCAQMD Rule 1466 requirements and during non-excavation hours or during rain events, excavated and staged soils will be covered with plastic sheeting or other proper materials. Additional field

applications may involve installation of a temporary canopy, liner, or other physical barrier that minimizes movement of materials from the Project Site by wind, water, or any other mechanism.

Decontamination Methods and Procedures

Any equipment or trucks will be decontaminated in a designated decontamination area before leaving the Project Site to prevent the off-site tracking of contaminated soil. Trucks will be visually inspected before leaving the Project Site, and any dirt adhering to the exterior surfaces will be brushed off and collected on plastic sheeting. The storage bins or beds of the trucks will be inspected to ensure the loads are properly covered and secured. Excavation equipment surfaces will also be brushed off prior to removal from the exclusion zone.

Equipment that comes into direct contact with potentially contaminated soil or water will be decontaminated in a pre-designated area on pallets or plastic sheeting to assure the quality of samples collected and/or to avoid cross contamination. Cleaned bulky equipment will be stored on plastic sheeting in uncontaminated areas. Cleaned small equipment will be stored in plastic bags. Materials to be stored more than a few hours will also be covered. Waste material accumulated during decontamination procedures will be collected and properly stored on Site for disposal. Decontamination will occur prior to and after each designated use of a piece of equipment.

Backfill and Site Restoration

The Project Site will be capped with concrete or asphalt pavement (approximately 4 inches thick) or under the footprint of the new classroom building. In areas with landscaping, a minimum of 4 feet of clean landscaping material (mulch, topsoil, etc.) will be placed above compacted soils containing arsenic.

Field Documentation and Reporting

The District will be responsible for maintaining field notes during grading activities. The notes will serve to document observations, personnel on-site, equipment arrival and departure times, and other vital project information, and will be used in the preparation of the Removal Action Completion Report (RACR).

2.2.2 Vapor Intrusion Mitigation and Migration Engineering Controls System

Vapor removal on the Project Site will include the installation of a VIMMEC System beneath the new classroom building. The VIMMEC System has been designed in coordination with the DTSC.

The VIMMEC system consists of an impermeable membrane and passive venting system which will be installed beneath the slab of the new classroom building to reduce the potential for subsurface vapors entering the building. Installation of the VIMMEC system would occur as part of construction of the new building.

Following completion of construction activities, a land use restriction will be executed between DTSC and the District to ensure that the VIMMEC system performance is regularly monitored and the integrity of the VIMMEC system components (membrane, ventilation piping, etc.) are adequately maintained.

2. Description of Proposed Modification

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3. Environmental Analysis

3.1 ENVIRONMENTAL ANALYSIS

Under Section 15164(a) of the State CEQA Guidelines, an addendum to a previously Certified EIR shall be prepared by a lead or responsible agency if some changes or additions are necessary but none of the conditions described in Section 15162 requiring the preparation of a subsequent EIR or negative declaration are applicable. Each of the conditions listed under Section 15162 is listed below with an analysis of whether the condition is applicable to the project.

1. **Substantial changes are proposed in the project that will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.**

Modifications to Mitigation Measure HAZ-2 shall require the implementation of a RAW and its DTSC-approved recommended cleanup actions for treatment of soils on the Project Site containing concentrations of arsenic and VOC-impacted soil vapor beneath the Project Site. The cleanup actions in the draft RAW will minimize exposure to humans from the COCs in shallow soil via inhalation, dermal absorption, and ingestion; minimize the potential for migration of the COCs from the shallow soil vapor into the proposed new building; and allow for safe construction and long-term occupancy of the proposed classroom building at the Project Site.

The Modified Mitigation Measure HAZ-2 will include measures undertaken by the contractor to reuse, contain, and cap-in-place contaminated soils within the Project Site. Additionally, the Modified Mitigation Measure includes the installation of a VIMMEC System beneath the new classroom building to be constructed at the Project Site. Design and implementation of the VIMMEC System is subject to review and regulation by DTSC, who will ensure that the objectives of the RAW are being met and that the remedial activities will not create additional hazardous conditions or risk of upset. The Modified Project includes the same Project Site boundaries, building footprint, aesthetic design, and operational characteristics that were previously evaluated in the Certified EIR. Environmental effects resulting from ground-disturbing activities associated with the draft RAW do not differ from what was evaluated in the Certified EIR. Consistent with the analysis in the Certified EIR, the Modified Mitigation Measure HAZ-2 would not result in impacts to identified historical resources, or result in an increase in construction-related impacts, including air quality emissions or noise impacts. Long-term operation of the Approved Project would continue as described in the Certified EIR.

Implementation of the RAW will not require any substantial changes to the timing or duration of site preparation and construction activities, the type of equipment utilized as part of site preparation and construction, or the number of workers involved or number of worker transportation trips for the site preparation and construction processes. Overall, it would reduce truck trips because excavation and off-site

disposal of contaminated soils is no longer proposed. As such, the Modified Mitigation Measure HAZ-2 will not require changes to the prior environmental analysis in the Certified EIR. Further, modifications to the Project will remain subject to all other applicable mitigation measures and applicable regulations, policies, standards, and specifications, as described in the Certified EIR.

Therefore, the project changes proposed are not substantial and will not require changes or additions to the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

2. **Substantial changes occur with respect to the circumstances under which the project is undertaken that will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.**

No substantial changes have occurred within the Project Site or the surrounding area in regard to circumstances in which the Approved Project was undertaken. Existing and foreseeable planned development conditions at the Project Site and its vicinity remain essentially the same as what was previously considered in the Certified EIR. While further information regarding the extent and nature of contamination is available through further site investigations, this information does not result in the need for major revisions to the Certified EIR. The remedial actions described in the draft RAW that has been reviewed by DTSC would result in fewer physical environmental effects than the previously proposed excavation and off-haul mitigation measure. No other substantial changes involving physical conditions of the surrounding environment or the regulatory context are known to have occurred that will lead to new or substantially increased significant effects resulting from the modified project.

Therefore, the modifications to the Approved Project do not include changes to circumstances that will require revisions to the Certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

3. **New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:**

    a. **The project will have one or more significant effects not discussed in the previous EIR or negative declaration;**

    b. **Significant effects previously examined will be substantially more severe than shown in the previous EIR;**

    c. **Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or**

    d. **Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the**

environment, but the project proponents decline to adopt the mitigation measure or alternative.

The Modified Project will involve the implementation of recommended cleanup actions for the treatment of soils on the Project Site containing concentrations of arsenic and VOC-impacted soil vapor beneath the Project Site, which will not otherwise alter the design or development of the Approved Project. No new significant environmental effects would occur beyond what is disclosed in the Certified EIR. There is no new information of substantial importance known to the District related to the project that will result in additional significant effects, any previously examined effects that will be substantially more severe; or infeasible mitigation measures or alternatives that are now feasible or considerably different from those analyzed in the Certified EIR. Through this addendum, the District adopts a more effective mitigation measure that would better ensure reduction in physical impacts to the environment.

3.2 CONCLUSION

As demonstrated in the preceding analysis, none of the conditions described in State CEQA Guidelines Section 15162 requiring preparation of a subsequent or supplemental EIR or Negative Declaration are applicable to the minor modifications necessary to address the proposed cleanup actions included as part of the draft RAW for McKinley ES Campus Master Plan Project. Therefore, no additional CEQA analysis is required beyond this Addendum.

3.3 PUBLIC REVIEW OF DRAFT REMOVAL ACTION WORKPLAN

The Draft RAW will be circulated for a 30-day public comment period. Interested agencies and members of the public are invited to review the Draft RAW, which will be available in designated information repositories and on line at the DTSC website below, and provide written comments to DTSC, prior to the end of the public comment period.

https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=60003412

3.4 MITIGATION MONITORING

PRC § 21081.6 requires that agencies adopt a Mitigation Monitoring and Reporting Program (MMRP) for any project for which it has made findings pursuant to PRC § 21081. Such a program is intended to ensure the implementation of all mitigation measures adopted through the preparation of the EIR. The Amended MMRP is provided as Appendix C.

3. Environmental Analysis

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4. List of Preparers

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4. List of Preparers

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Appendix A McKINLEY ELEMENTARY SCHOOL SITE ASSESSMENT REPORTS

ENVIRONMENTAL SITE INVESTIGATION REPORT

McKinley Elementary School
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Santa Monica, California 90404

Prepared for:

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2828 4th Street
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Project Number: SMSD-23-11335
April 27, 2023

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PROFESSIONAL CERTIFICATION

We appreciate the opportunity to provide our services to you. If you have any questions, please contact us at (562) 544-3910.

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TABLE OF CONTENTS

1. INTRODUCTION 1

2. BACKGROUND 1
   2.1 Site Location and Description 1
   2.2 Previous Investigations 1

3. SITE INVESTIGATION 2
   3.1 Pre-field Activities 2
      3.1.1 Health and Safety Plan 2
      3.1.2 Utility Clearance and Geophysical Survey 2
   3.2 Sample Collection and Analysis 2
      3.2.1 Pavement Coring and Sampling 2
      3.2.2 Soil-Matrix Sample Collection and Analysis 3
      3.2.3 Soil Vapor Sampling 3
         3.2.3.1 Soil Vapor Probe Installation 4
         3.2.3.2 Soil Vapor Sample Collection 4
      3.2.4 Equipment Decontamination 4
      3.2.5 Soil Boring Abandonment 4
      3.2.6 Quality Assurance/Quality Control (QA/QC) 4
      3.2.7 Investigation Derived Wastes (IDW) 5

4. INVESTIGATION RESULTS 5
   4.1 Lithology 5
   4.2 Laboratory Analytical Results 5
      4.2.1 Asbestos in Asphalt Pavement 6
      4.2.2 PCBs in Soil 6
      4.2.3 Lead in Soil 6
      4.2.4 Arsenic in Soil 6
      4.2.5 Pesticides in Soil 6
      4.2.6 VOCs in Soil Vapor 7
      4.2.7 QA/QC 7

5. FINDINGS AND RECOMMENDATIONS 8

6. WARRANTY 8
   6.1 Warranty 8
   6.2 Use by Third Parties 9

7. REFERENCES 10
   7.1 References 10

TABLE OF CONTENTS

Tables

Table 1 PCBs in Soils Laboratory Analysis Summary
Table 2 Lead and Arsenic in Soils Laboratory Analysis Summary
Table 3 Pesticides in Soils Laboratory Analysis Summary
Table 4 VOCs in Soil Vapor Laboratory Analysis Summary

Figures

Figure 1 Site Location Map
Figure 2 Site Vicinity Map
Figure 3 Sample Locations

Appendices

Appendix A Staff Certifications
Appendix B Soil Sampling Logs
Appendix C Laboratory Analytical Reports
Appendix D Waste Manifests
Appendix E Statistical Analysis of Arsenic Data

1. INTRODUCTION

Alta Environmental LP, an NV5 Company (NV5) has prepared this Environmental Site Investigation (ESI) report for the assessment of proposed construction work areas associated with campus upgrades planned for McKinley Elementary School, located at 2401 Santa Monica Boulevard in Santa Monica, California (herein identified as the "Site"). The assessment was completed for the Santa Monica-Malibu Unified School District in accordance with NV5 proposal number SMSD-23-11335 dated January 20, 2023. The objective of the assessment was to assess the recognized environmental conditions identified in NV5's Phase I ESA report dated April, 2022.

2. BACKGROUND

2.1 Site Location and Description

McKinley Elementary School is an approximately 6.50-acre rectangular shaped elementary school site located at 2401 Santa Monica Boulevard in the City of Santa Monica (Figure 1), with approximately 450 students serving transitional kindergarten through fifth grades. The current campus has four educational buildings and 11 portable buildings, as well as play yards and sports fields, staff, visitor parking and programmed and unprogrammed open space. Vehicular access is from Chelsea Avenue, with student drop-off/pick-up occurring on-site. The school campus is bounded by Santa Monica Boulevard and commercial uses to the south, and multi-family uses located to the north across Arizona Avenue, the east across Chelsea Avenue, and west along 23rd Court.

As part of a proposed campus upgrade, the first phase of work will include new building construction, renovation of existing buildings, and new on-campus parking and roadways. A new two-story classroom and administration building will be constructed within the area that currently serves as staff and visitor parking. In addition, renovations of the existing main campus building will include new ground and second floor connections to the main building, new staff and visitor parking lots, and construction of a new on campus drop-off/pick-up lane adjacent to Chelsea Avenue. The area of the proposed construction activities (Site) is shown on the attached Figure 2.

2.2 Previous Investigations

A Phase I Environmental Site Assessment (ESA) of the Site prepared by NV5 in April 2022 identified the following evidence of potential environmental concerns.

- *Regulatory database records and historical records indicate that an drycleaner has operated at the northeast adjoining property located at 2441 Santa Monica Boulevard from at least 1991 to present day. Records indicate that dry-cleaning equipment that utilized perchloroethylene (a chlorinated solvent) was used at this facility. While no violations, leaks, spills, or releases are reported, based on the proximity of this facility to the Site and inherent environmental risk associated with dry-cleaning facilities. These listings are considered to represent a REC.*
- *Based on the age of the buildings on the Site, there is the possibility for lead-based paint (LBP) residues within the shallow soil. Based on the age of historical and current structures on the Site, arsenic, lead-based paint, asbestos, pesticides, and PCBs in caulking may have been historically used at the Site. As a result, there is a potential for these compounds to be present in the shallow soils onsite.*

NV5 recommended conducting a limited Phase II ESA to determine if dry-cleaning operations on the northeastern adjoining property had negatively impacted the Site. Additionally, NV5 recommended a limited Phase II subsurface investigation be conducted in areas of proposed soil disturbance to evaluate shallow soil conditions with respect to the potential chemicals of concern listed above.

3. SITE INVESTIGATION

3.1 Pre-field Activities

3.1.1 Health and Safety Plan

Prior to conducting field work for the project, NV5 prepared a site-specific Health and Safety Plan (HASP) that was implemented per California Occupational Safety and Health Administration (OSHA) California Code of Regulations (CCR) Title 8, Section 5192 requirements. The HASP presented an overview of the scope of work and discussions of potential job hazards that could be encountered during the investigation.

Daily tailgate meetings were held with NV5 personnel and subcontractors at the beginning of each day during the investigation. The plan of the day, potential safety hazards, and site-specific safety procedures were discussed during the tailgate meetings. All field personnel were required to review and sign the HASP before beginning any fieldwork. All NV5 personnel conducting field work onsite have received the OSHA Hazardous Waste Operations training in accordance with 29 CFR 1910.120 and CCR Title 8, Section 5192. The investigation work was completed with no reportable injuries or illnesses.

3.1.2 Utility Clearance and Geophysical Survey

NV5 conducted a geophysical survey (survey) of the Site to independently clear each of the soil boring locations to ensure that buried utilities would not be encountered during soil sampling. On February 11, 2023, NV5's subcontractor, SoCal Locators, surveyed the Site using a combination of electromagnetic induction, magnetometry, and ground penetrating radar.

The proposed boring locations were marked with white spray paint, as required by Underground Service Alert (USA). On February 13, 2023, NV5 notified USA of the proposed sampling activities (USA Notification ID: A230440138-00A). USA then notified the companies and agencies that may have underground utilities in the vicinity to mark their respective utilities on the ground with spray paint so that the utilities could be avoided during sampling.

3.2 Sample Collection and Analysis

Pavement and subsurface soil and soil vapor sampling were conducted at the Site on February 20, 2023. Pavement sampling was conducted by Mr. Tom Jenkins, a State of California licensed Certified Site Surveillance Technician (CSST) under the supervision of David Schack, a State of California Certified Asbestos Consultant (CAC). Soil and soil vapor sampling were conducted by properly trained NV5 staff under the supervision of Eric Fraske, a State of California registered Professional Engineer (PE). Personnel certifications are presented in Appendix A.

3.2.1 Pavement Coring and Sampling

Most of the locations identified for subsurface sampling were overlain by concrete or asphalt pavement. At these locations, coring equipment operated by Strongarm Environmental was used to access the soil beneath the pavement for sampling. Due to the known potential presence of asbestos in pavement, the

cores from each location were collected and submitted to AmeriSci Los Angeles, a NVLAP certified laboratory, for asbestos analysis by EPA Method 600/M4-82-020; updated method 600 R-93/116 (PML).

3.2.2 Soil-Matrix Sample Collection and Analysis

12 shallow soil borings (B1 through B12) were advanced throughout the Site (Figure 3) using direct push drilling equipment or hand tools operated by Strongarm Environmental Field Services, Inc. At each boring, soil samples were collected at depths of 0.5 feet, 2 feet, and 4 feet below ground surface (bgs).

Soil samples were collected directly from the hand auger and transferred into laboratory provided jars or from core samplers lined with acetate tubes, sealed with Teflon® sleeves and plastic endcaps, and labeled with the boring identification number, sample depth, date, and time of collection. Following collection, each sample was placed in a chilled cooler for transport to a California-certified environmental laboratory, Enthalpy Analytical of Orange, California. The details of the soil samples were recorded on a chain-of-custody form including the sample identification, date and time of collection, sample matrix, containers, preservative, requested analyses, sampler's name, couriers used, and responsible laboratory personnel.

The soil encountered during the investigation was logged continuously using the Unified Soils Classification System (USCS) under the supervision of a California PE. The volatile organic vapor concentrations observed during the collection of each soil sample were screened using a photoionization detector (PID) calibrated to 50 parts per million (ppm) hexane. The lithology, PID readings, field observations, and sampling depths of the borings were documented on sampling logs (included in Appendix B).

The soil samples collected from the depths of 0.5 and 2-feet bgs were analyzed for lead, arsenic, PCBs, and pesticides as indicated on the following table. The soil samples collected at a depth of 4 feet bgs, were submitted for archival and future analysis if necessary. Laboratory analytical reports and chain-of-custody documentation for the soil samples are presented in Appendix C.

Soil Borings	Location Description	Laboratory Analysis
B1	Pole Mounted Transformer	PCBs by EPA Method 8082
B2 through B9	Adjacent to Existing Structures	Lead by EPA Method 6010 Arsenic by EPA Method 6020 PCBs by EPA Method 8082 Pesticides by EPA Method 8081
B10 through B12	Paved Parking Lot	Lead by EPA Method 6010 Arsenic by EPA Method 6020 Pesticides by EPA Method 8081

3.2.3 Soil Vapor Sampling

To assess the potential for onsite impacts related to dry-cleaning activities from the adjoining off-site property, NV5 installed temporary soil vapor probes at three locations (SV1 through SV3) on the northeastern portion of the Site (Figure 3).

3.2.3.1 Soil Vapor Probe Installation

Soil vapor probes were installed using direct push technology at three locations. At each location, nested soil vapor probes were installed at the depths of 5 and 15 feet bgs. Soil samples were collected at the depths of 5, 10, and 15 feet bgs at each location to document soil lithology.

Each probe was placed within a one-foot sand pack. One foot of dry granular bentonite was placed on top of each sand pack to preclude the infiltration of hydrated bentonite grout. The boreholes were then grouted between probes and to the surface with hydrated bentonite. Nylaflow® tubing (¼ inch) was connected from the vapor point to the surface. The end of the tubing was labeled with the vapor well number, depth, date and time of construction, and a three-way valve installed to eliminate ambient air diffusion into the well (and to facilitate sample collection).

3.2.3.2 Soil Vapor Sample Collection

Prior to purging or sampling, a shut-in test was conducted to check for leaks in the above-ground sampling train. Following assembly of all above-ground valves, lines, and fittings, the assembly was evacuated to a minimum vacuum pressure of approximately 100 inches of water.

Following the shut-in test and prior to sample collection, each soil vapor probe was purged by removing three purge volumes from each sample point at a sampling rate of 200 ml/minute or less. A single purge volume constitutes the internal volume of the tubing, the void space of the sand pack around the probe tip, and the void space of the dry bentonite in the annular space.

Soil vapor samples were collected into one-liter summa canisters following the removal of the appropriate purge volume. Soil vapor samples were collected at a sampling rate of 200 ml/minute or less. The samples were transported under chain-of-custody protocol to a California Certified Environmental Laboratory, Jones Environmental, Inc. for analysis of VOCs by EPA Method 8260B.

A leak test was conducted at each soil vapor well to determine whether leakage was present. Tracer compounds (n-pentane, n-hexane, isopropanol, and n-propanol) were used at each soil vapor well for analysis by the laboratory. If the tracer compound was detected in the soil vapor sample at a concentration greater than 10 times the laboratory reporting limit, then the sample would be deemed void.

3.2.4 Equipment Decontamination

All sampling equipment was decontaminated with a three-bucket wash consisting of a non-phosphate cleaning solution, tap water, and a final rinse in distilled water.

3.2.5 Soil Boring Abandonment

Following completion of the investigation, the soil boring locations and soil vapor probes were abandoned by removing the vapor probes, backfilling the borings with hydrated bentonite chips, and sealing the surface with similar materials to match the existing surface.

3.2.6 Quality Assurance/Quality Control (QA/QC)

One duplicate soil sample (B7-0.5 DUP), one trip blank (TB), and one equipment blank (EBLANK) were collected for analysis. The duplicate soil sample was analyzed for the same constituents as the primary sample (lead, arsenic, PCBs, and pesticides). The EBLANK sample was also analyzed for lead, arsenic,

pesticides, and PCBs. The TB sample was analyzed for VOCs and fuel oxygenates. One duplicate soil vapor sample (SV2-5 REP) was also collected and analyzed for VOCs.

3.2.7 Investigation Derived Wastes (IDW)

IDW, including equipment decontamination water, soil cuttings, used personal protective equipment (PPE), and sampling supplies, generated during this sampling event was contained (and appropriately labeled) in a single 55-gallon drum, which was temporarily stored on-site pending waste characterization. Subsequent laboratory analysis of the drummed material classified the IDW as non-hazardous waste. The drum was transported to a licensed waste disposal facility by a licensed waste hauler (Belshire Environmental Services, Inc.) for disposal on April 13, 2023. A copy of the waste manifest is presented in Appendix D.

4. INVESTIGATION RESULTS

4.1 Lithology

Soils encountered at the Site generally consisted of silty sands and clayey sands. No significant PID readings, staining, or odors were noted in any of the collected samples. Groundwater was not encountered at any sample location.

4.2 Laboratory Analytical Results

Laboratory analytical reports and chain-of-custody documentation are presented in Appendix C. Tabulated summaries of the PCB, lead and arsenic, and pesticide analytical results for the soil matrix samples are presented on Tables 1, 2, and 3, respectively. A tabulated summary of the VOC analytical results for soil vapor is presented on Table 4.

Laboratory results where analyte concentrations were not detected above the laboratory method detection limit (MDL) are identified as “ND” along with the corresponding MDL. Analytical concentrations detected above the MDL, but below the laboratory reporting limit (RL) are considered estimated values and are reported with a “J-flag” identifier (J).

The analytical results were compared to various regulatory agency published screening levels developed for residential land use scenarios. These screening levels were developed as a general guideline to identify potentially impacted areas. Screening levels should not be considered de-facto cleanup levels.

Concentrations of lead, pesticides, and PCBs in soil were compared to the EPA Region 9 Regional Screening Levels (RSLs) for residential land use (EPA, November 2022) and the Department of Toxic Substance Control’s (DTSC) Human Health Risk Assessment (HHRA) Note Number 3, DTSC-modified Screening Levels (DTSC-SLs) for residential land use (DTSC, May 2022), where applicable.

Concentrations of VOCs in soil vapor were compared to the RSLs and DTSC-SLs for residential and use, divided by a steady state attenuation factor of 0.03 for each analyte, as directed by the DTSC’s Draft Supplemental Guidance Screening and Evaluating Vapor Intrusion (DTSC, 2023).

Concentrations of arsenic in soil were evaluated in accordance with the 2009 *DTSC Arsenic Strategies, Determination of Arsenic Remediation, Determination of Arsenic Cleanup Goals for Proposed and Existing School Sites* as further discussed in Section 4.2.4.

4.2.1 Asbestos in Asphalt Pavement

- Asbestos was not detected in any of the asphalt core samples.

4.2.2 PCBs in Soil

- Aroclor-1260 was detected in the 0.5-foot sample collected at location B1 (0.09 milligrams per kilogram [mg/kg]). This concentration is below the DTSC-SL and RSL for Aroclor-1260 (0.24 mg/kg).
- No other concentrations of PCBs were detected above laboratory method detection limits in any of the collected samples.

4.2.3 Lead in Soil

- Lead was detected in a majority of the analyzed soil samples at concentrations ranging between 7.8 and 25 mg/kg. None of the detected concentrations exceeded the DTSC-SL of 80 mg/kg or the RSL of 400 mg/kg.

4.2.4 Arsenic in Soil

- Arsenic was detected in most of the analyzed soil samples at concentrations ranging between 2.5 to 19 mg/kg. The detected concentrations of arsenic exceeded both the RSL (0.68 mg/kg) and DTSC-SL (0.11 mg/kg) for arsenic. However, it is stated in the DTSC HHRA Note 3 that "*Note that risk-based screening-level concentrations of arsenic in soil are often below naturally occurring (background) concentrations. Consequently, DTSC Human and Ecological Risk Office (HERO) strongly recommends consideration of site-specific background concentrations of inorganic constituents*."
- In accordance with the 2009 DTSC guidance, a statistical analysis of the detected concentrations of arsenic was conducted by an American Board of Toxicology certified toxicologist to determine the upper limit concentration of naturally occurring arsenic in soil at the Site. This statistical assessment is presented in Appendix E. The results of the analysis indicated that the upper bound soil arsenic concentration at the Site was consistent with the 12 mg/kg concentration established by the DTSC in the *HERO Human Health Risk Assessment Note Number 11, Southern California Ambient Arsenic Screening Level.* For sites where arsenic soil concentrations exceed ambient, background concentrations, the DTSC guidance recommends that Risk Control or Risk Management actions be considered to make sure surface soils, or exposed soils, do not contain arsenic at concentrations higher than natural, background concentrations.
- Only the concentrations of arsenic in the 2- and 4-foot samples collected at locations B7 (19 and 16 mg/kg, respectively), B8 (18 and 17 mg/kg, respectively), B10 (18 and 17 mg/kg, respectively), and B11 (13 and 19 mg/kg, respectively) exceeded the DTSC upper-bound arsenic screening level for Southern California soils of 12 mg/kg.

4.2.5 Pesticides in Soil

- A trace concentration of Chlordane-Technical (0.044J mg/kg) was detected in the 0.5-foot sample collected at location B3. This concentration is below the RSL and DTSC-SL for Chlordane-Technical of 1.7 mg/kg.

- A trace concentration of endrin ketone was detected in the 2-foot sample collected at location B3 (0.0024J mg/kg). Endrin ketone is the chemical produced when endrin, a chlorinated hydrocarbon pesticide, is exposed to light. There currently is no RSL or DTSC-SL for endrin ketone. For comparison purposes, the detected concentration of endrin ketone is well below the RSL (19 mg/kg) and DTSC-SL (19 mg/kg) for endrin.
- No other concentrations of pesticides were detected above laboratory method detection limits in any of the collected samples.

4.2.6 VOCs in Soil Vapor

- Concentrations of several VOCs were detected at the three vapor probe locations. The detected VOCs included: 1,2,4-trimethylbenzene (75 to 372 micrograms per cubic liter [µg/m^3]), 1,3,5-trimethylbenzene (26 to 148 µg/m^3), benzene (18 to 751 µg/m^3), bromodichloromethane (29 to 53 µg/m^3), bromoform (10 µg/m^3), chloroform (107 to 163 µg/m^3), dibromochloromethane (15 to 22 µg/m^3), ethylbenzene (31 to 702 µg/m^3), m,p,xylene (148 to 2,540 µg/m^3), n-propylbenzene (15 to 100 µg/m^3), o-xylene (58 to 729 µg/m^3), tetrachloroethene [PCE] (10 to 1,330 µg/m^3), toluene (55 to 5,060 µg/m3), and trichloroethene [TCE] (11 µg/m^3).
- The detected concentrations of benzene (18 to 751 µg/m^3) exceeded both the RSL (12 µg/m^3) and DTSC-SL (3.23 µg/m^3).
- The detected concentrations of bromodichloromethane (29 to 53 µg/m^3) exceeded both the RSL (2.53 µg/m^3) and DTSC-SL (2.53 µg/m^3).
- The detected concentrations of chloroform (107 to 163 µg/m^3) exceeded the RSL (4 µg/m^3). A DTSC-SL for chloroform has not been established.
- The detected concentrations of dibromochloromethane (15 to 22 µg/m^3) exceeded the DTSC-SL (4.33 µg/m^3). An RSL for dibromochloromethane has not been established.
- Four of the seven detected concentrations of ethylbenzene (41 to 702 µg/m^3) exceeded the RSL (37 µg/m^3). A DTSC-SL for ethylbenzene has not been established.
- Three of the six detected concentrations of PCE (10 to 1,330 µg/m^3) exceeded the DTSC-SL (15.33 µg/m^3) and the RSL (367 µg/m^3).
- The single detected concentration of TCE (11 µg/m^3) equaled the RSL (11 µg/m^3). This concentration was below the DTSC-SL for TCE of 67 µg/m^3.
- None of the other detected VOC concentrations exceeded their respective DTSC-SL or RSL.

4.2.7 QA/QC

- The samples were received by the laboratory in good condition, properly preserved, and on ice. Laboratory analysis was conducted within the applicable laboratory method holding times.
- No concentrations of lead, arsenic, VOCs, PCBs, or pesticides were detected above laboratory method detection limits in the equipment blank sample.
- No concentrations of VOCs were detected above laboratory method detection limits in the TB samples.

- Concentrations of lead, arsenic, PCBs, and pesticides detected in the duplicate soil samples (B7-0.5 DUP) were similar to concentrations of lead, arsenic, PCBs, and pesticides detected in the corresponding primary sample (B7-0.5).
- Concentrations of VOCs detected in the duplicate soil vapor sample (SV2-5 REP) were similar to concentrations of VOCs detected in the corresponding primary sample (SV2-5).
- None of the leak check compounds were detected above laboratory detection limits in any of the soil vapor samples.

5. FINDINGS AND RECOMMENDATIONS

Soils at the Site consist primarily of silty sands and clayey sands to the maximum explored depth of 15 feet bgs. Groundwater was not encountered during this assessment.

Asbestos was not identified in any of the collected asphalt pavement samples.

Trace concentrations of PCBs and pesticides were identified in samples collected at two locations; however, all detected concentrations were well below applicable health risk screening levels.

Lead was detected in all collected soil samples; however, none of the detected concentrations exceeded the residential risk screening level for lead in soil.

Arsenic was detected in most collected soil samples; however, only the concentrations detected in the 2- and 4-foot samples collected at locations B7 (19 and 16 mg/kg, respectively), B8 (18 and 17 mg/kg, respectively), B10 (18 and 17mg/kg, respectively), and B11 (13 and 19 mg/kg, respectively) exceeded the DTSC upper-bound arsenic screening level for Southern California soils of 12 mg/kg.

Soil borings B7 and B8 are located adjacent to a bathroom structure. Borings B10 and B11 are located within the parking lot area. NV5 recommends that, following utility safe-off associated with demolition activities, additional step-out sampling be conducted to determine the extent of arsenic impacted soils above health risk screening levels. Once delineated, the impacted soil should be excavated and removed from the Site for disposal.

Concentrations of multiple VOCs in excess of risk screening levels were identified in soil vapor samples collected at both 5- and 15-foot depths at all three soil vapor probe locations. Concentrations of chlorinated solvents (PCE) tended to increase with depth and proximity to the existing adjoining dry-cleaner. However, concentrations of petroleum hydrocarbon (benzene, toluene, ethylbenzene, etc.) related constituents decreased with depth and proximity to the adjoining dry-cleaner.

As the potential sources and extent of soil vapor impacts are unknown, NV5 recommends that additional soil vapor assessment be conducted at the Site to further evaluate the potential risk of vapor intrusion to proposed structures and to assess if mitigation measures are warranted. The additional investigation should focus on not only the footprints of the proposed structures, but also potential preferential pathways for vapor migration such as utility conduits and corridors throughout the Site.

6. WARRANTY

6.1 Warranty

NV5 warrants that the findings and conclusions reported herein were conducted in general accordance with standard industry practices. The conclusions presented in the report are based solely on the

services described herein and not on scientific tasks or procedures beyond the scope of agreed upon services.

The ESI has been developed to provide the client with information regarding apparent indications of recognized environmental conditions relating to the Site. It is necessarily limited to the conditions observed and to the information available at the time of the work. The assessment and conclusions presented herein were based upon the subjective evaluation of limited data. They may not represent all conditions at the subject site as they reflect the information gathered from specific locations. NV5 warrants that the findings and conclusions contained herein have been promulgated in accordance with generally accepted environmental investigation methodology and only for the site described in this report. The findings set forth in this report are strictly limited to the date of the evaluation.

The scope of the ESI was developed specifically to meet the client's stated objectives and the data that was developed may not be suitable for use to satisfy other objectives. Any limitations on the data to meet the client's stated objectives are described in the report.

Due to the limited nature of the work, there is a possibility that there may exist conditions which could not be identified within the scope of the assessment, or which were not apparent at the time of report preparation. It is also possible that the testing methods employed at the time of the report may later be superseded by other methods. The description, type, and composition of what are commonly referred to as "hazardous materials or conditions" can also change over time. NV5 does not accept responsibility for changes in the state of the art, nor for changes in the scope of various lists of hazardous materials or conditions. NV5 believes that the findings and conclusions provided in this report are reasonable. However, no other warranties are implied or expressed.

Analytical data contained in this report is limited to the corresponding sampling location, depth, sampled material, selected range of analyses and laboratory reporting limits. Additional chemical constituents not searched for during the current study may be present in soil, soil gas and/or groundwater at the site.

The location and concentration of contaminants can vary over time due to seasonal water table fluctuations, past disposal practices, the passage of time and other factors.

6.2 Use by Third Parties

This report was prepared pursuant to the contract NV5 has with the Santa Monica-Malibu Unified School District. That contractual relationship included an exchange of information about the subject site that was unique and between NV5 and its client and serves as the basis upon which this report was prepared. Because of the importance of the communication between NV5 and its client, reliance, or any use of this report by anyone other than the Santa Monica-Malibu Unified School District, for whom it was prepared, is prohibited and therefore not foreseeable to NV5.

Reliance or use by any such third party without explicit authorization in the report does not make said third party a third-party beneficiary to NV5's contract with the Santa Monica-Malibu Unified School District. Any such unauthorized reliance on or use of this report, including any of its information or conclusions, will be at the third party's risk. For the same reasons, no warranties, or representations, expressed or implied in this report, are made to any such third party.

7. REFERENCES

7.1 References

Phase I Environmental Site Assessment Report – Will Rogers Elementary School, 2401 14th Street, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. Prepared by NV5. Dated April 15, 2022.

United States Environmental Protection Agency Region IX Regional Screening Level (RSLs) Summary Table. November 2022.

Department of Toxic Substance Control Human and Ecological Risk Office - Human Health Risk Assessment Note Number 3, DTSC-modified Screening Levels. Revised May 2022.

California Department of Toxic Substances Control. Arsenic Strategies, Determination of Arsenic Remediation, Determination of Arsenic Cleanup Goals for Proposed and Existing School Sites. March 21, 2009.

Department of Toxic Substance Control Human and Ecological Risk Office - Human Health Risk Assessment Note Number 11, Southern California Ambient Arsenic Screening Level. December 28, 2020.

San Francisco Regional Water Quality Control Board - Environmental Screening Levels (Rev 2). January 2019.

TABLES

Table 1: PCBs in Soil Laboratory Analysis Summary
McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, California

Sample ID	Compound	PCBs by EPA Method 8082								
		Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268
	CAS	12674-11-2	11104-28-2	11141-16-5	53469-21-9	12672-29-6	11097-69-1	11096-82-5	37324-23-5	11100-14-4
	RSLs (mg/kg)	**4.1**	**0.2**	**0.17**	**0.23**	**0.23**	**0.24**	**0.24**	NE	NE
	DTSC-SLs (mg/kg)	**4.0**	**0.2**	**0.17**	**0.23**	**0.23**	**0.24**	**0.24**	NE	NE
B1-0.5	2/20/2023	ND (<0.014)	ND (<0.023)	ND (<0.018)	ND (<0.018)	ND (<0.021)	ND (<0.0066)	**0.09**	ND (<0.016)	ND (<0.013)
B1-2	2/20/2023	ND (<0.014)	ND (<0.023)	ND (<0.018)	ND (<0.018)	ND (<0.021)	ND (<0.0066)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B2-0.5	2/20/2023	ND (<0.014)	ND (<0.023)	ND (<0.018)	ND (<0.018)	ND (<0.021)	ND (<0.0066)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B2-2	2/20/2023	ND (<0.014)	ND (<0.022)	ND (<0.018)	ND (<0.018)	ND (<0.021)	ND (<0.0065)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B3-0.5	2/20/2023	ND (<0.014)	ND (<0.023)	ND (<0.018)	ND (<0.018)	ND (<0.021)	ND (<0.0066)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B3-2	2/20/2023	ND (<0.014)	ND (<0.023)	ND (<0.019)	ND (<0.018)	ND (<0.021)	ND (<0.0066)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B4-0.5	2/20/2023	ND (<0.014)	ND (<0.023)	ND (<0.019)	ND (<0.018)	ND (<0.021)	ND (<0.0066)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B4-2	2/20/2023	ND (<0.014)	ND (<0.023)	ND (<0.019)	ND (<0.018)	ND (<0.021)	ND (<0.0066)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B5-0.5	2/20/2023	ND (<0.014)	ND (<0.022)	ND (<0.018)	ND (<0.017)	ND (<0.021)	ND (<0.0064)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B5-2	2/20/2023	ND (<0.014)	ND (<0.023)	ND (<0.019)	ND (<0.018)	ND (<0.021)	ND (<0.0066)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B6-0.5	2/20/2023	ND (<0.014)	ND (<0.022)	ND (<0.018)	ND (<0.018)	ND (<0.021)	ND (<0.0065)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B6-2	2/20/2023	ND (<0.014)	ND (<0.022)	ND (<0.018)	ND (<0.018)	ND (<0.021)	ND (<0.0065)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B7-0.5	2/20/2023	ND (<0.014)	ND (<0.022)	ND (<0.018)	ND (<0.018)	ND (<0.021)	ND (<0.0065)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B7-0.5 DUP	2/20/2023	ND (<0.014)	ND (<0.023)	ND (<0.019)	ND (<0.018)	ND (<0.021)	ND (<0.0066)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B7-2	2/20/2023	ND (<0.014)	ND (<0.023)	ND (<0.018)	ND (<0.018)	ND (<0.021)	ND (<0.0065)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B8-0.5	2/20/2023	ND (<0.014)	ND (<0.022)	ND (<0.018)	ND (<0.018)	ND (<0.021)	ND (<0.0065)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B8-2	2/20/2023	ND (<0.014)	ND (<0.022)	ND (<0.018)	ND (<0.018)	ND (<0.021)	ND (<0.0065)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B9-0.5	2/20/2023	ND (<0.072)	ND (<0.110)	ND (<0.092)	ND (<0.089)	ND (<0.110)	ND (<0.033)	ND (<0.120)	ND (<0.082)	ND (<0.067)
B9-2	2/20/2023	ND (<0.014)	ND (<0.022)	ND (<0.018)	ND (<0.018)	ND (<0.021)	ND (<0.0065)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B10-0.5	2/20/2023	--	--	--	--	--	--	--	--	--
B10-2	2/20/2023	--	--	--	--	--	--	--	--	--
B11-0.5	2/20/2023	--	--	--	--	--	--	--	--	--
B11-2	2/20/2023	--	--	--	--	--	--	--	--	--
B12-0.5	2/20/2023	--	--	--	--	--	--	--	--	--
B12-2	2/20/2023	--	--	--	--	--	--	--	--	--

NOTES:

mg/kg = milligrams per kilogram

MDL = Method Detection Limit

RSL = Regional Screening Level-Residential Land Use, Environmental Protection Agency (Pacific Southwest, Region 9), updated May 2022

DTSC-SLs = Department of Toxic Substance Control Modified Screening Levels-Residential Land Use, revised May 2022

NE = No Screening Level Established

ND = Not detected at or above the MDL

"- -" = Not Analyzed

J = Analyte was detected; however, result is an estimated value between the RDL and the MDL

DUP = Duplicate sample

Table 2: Lead and Arsenic in Soils Laboratory Analysis Summary
McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, California

Sample ID	Compound	Metals by EPA Method 6020	
		Arsenic	Lead
	CAS	7440-38-2	7439-92-1
	RSLs (mg/kg)	0.68	400
	DTSC-SLs (mg/kg)	0.11/12*	80
B1-0.5	2/20/2023	--	--
B1-2	2/20/2023	--	--
B2-0.5	2/20/2023	9.9	9.5
B2-2	2/20/2023	9.2	9
B3-0.5	2/20/2023	6.2	25
B3-2	2/20/2023	7.8	7.8
B4-0.5	2/20/2023	6.9	8.8
B4-2	2/20/2023	9.0	8.3
B5-0.5	2/20/2023	9.8	11
B5-2	2/20/2023	9.1	8.6
B6-0.5	2/20/2023	8.7	8.4
B6-2	2/20/2023	10	9.8
B7-0.5	2/20/2023	9.6	10
B7-0.5 DUP	2/20/2023	9.5	9.1
B7-2	2/20/2023	19	13
B7-4	2/20/2023	16	--
B8-0.5	2/20/2023	8.7	8.7
B8-2	2/20/2023	18	13
B8-4	2/20/2023	17	--
B9-0.5	2/20/2023	2.5	9.8
B9-2	2/20/2023	10	9.5
B10-0.5	2/20/2023	10	10
B10-2	2/20/2023	18	13
B10-4	2/20/2023	17	--
B11-0.5	2/20/2023	8.9	8.7
B11-2	2/20/2023	13	12
B11-4	2/20/2023	19	--
B12-0.5	2/20/2023	8.1	9.4
B12-2	2/20/2023	ND (<0.74)	ND (<0.090)

NOTES:

mg/kg = milligrams per kilogram

MDL = Method Detection Limit

RSL = Regional Screening Level-Residential Land Use, Environmental Protection Agency (Pacific Southwest, Region 9), updated May 2022

DTSC-SLs = Department of Toxic Substance Control Modified Screening Levels-Residential Land Use, revised May 2022

* = DTSC upper bound estimate (95th percentile) for background concentrations in Southern California

ND = Not detected at or above the MDL

"- -" = Not Analyzed

DUP = Duplicate sample

Table 3: Pesticides in Soils Laboratory Analysis Summary
McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, California

Sample ID	Compound	EPA Method 8081A																			
		4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	alpha-BHC	beta-BHC	Chlordane (Technical)	delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene
	CAS	72-54-8	72-55-9	50-29-3	309-00-2	319-84-6	319-85-7	12789-03-6	319-86-8	60-57-1	115-29-7	33213-65-9	1031-07-8	72-20-8	7421-93-4	53494-70-5	58-89-9	76-44-8	1024-57-3	72-43-5	8001-35-2
	RSLs (mg/kg)	2.30	2.00	1.90	0.039	0.086	0.30	1.70	NE	0.034	470	470^	380	19	NE	19*	0.57	0.13	0.07	320	0.49
	DTSC-SLs (mg/kg)	1.90	2.00	1.90	0.039	0.086	0.30	1.70	NE	0.034	450	450^	380	19	NE	19*	0.57	0.13	0.07	320	0.45
B1-0.5	2/20/2023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B1-2	2/20/2023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B2-0.5	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0013)	ND (<0.0014)	ND (<0.0014)	ND (<0.0015)	ND (<0.0016)	ND (<0.0015)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.005)	ND (<0.015)
B2-2	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0013)	ND (<0.0014)	ND (<0.0014)	ND (<0.0016)	ND (<0.0016)	ND (<0.0016)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.005)	ND (<0.015)
B3-0.5	2/20/2023	ND (<0.0022)	ND (<0.0029)	ND (<0.0029)	ND (<0.0026)	ND (<0.0024)	ND (<0.0033)	**0.044J**	ND (<0.0027)	ND (<0.0029)	ND (<0.0028)	ND (<0.0031)	ND (<0.0033)	ND (<0.0031)	ND (<0.0034)	ND (<0.0028)	ND (<0.0021)	ND (<0.003)	ND (<0.0036)	ND (<0.01)	ND (<0.029)
B3-2	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0014)	ND (<0.0016)	ND (<0.0016)	ND (<0.0016)	ND (<0.0017)	**0.0024J**	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.0051)	ND (<0.015)
B4-0.5	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0014)	ND (<0.0016)	ND (<0.0016)	ND (<0.0016)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.0051)	ND (<0.015)
B4-2	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0014)	ND (<0.0016)	ND (<0.0016)	ND (<0.0016)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.0051)	ND (<0.015)
B5-0.5	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0016)	ND (<0.011)	ND (<0.0013)	ND (<0.0014)	ND (<0.0014)	ND (<0.0015)	ND (<0.0016)	ND (<0.0015)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.005)	ND (<0.014)
B5-2	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0014)	ND (<0.0016)	ND (<0.0016)	ND (<0.0016)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.0051)	ND (<0.015)
B6-0.5	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0016)	ND (<0.011)	ND (<0.0013)	ND (<0.0014)	ND (<0.0014)	ND (<0.0015)	ND (<0.0016)	ND (<0.0015)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.005)	ND (<0.014)
B6-2	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0016)	ND (<0.011)	ND (<0.0013)	ND (<0.0014)	ND (<0.0014)	ND (<0.0015)	ND (<0.0016)	ND (<0.0015)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.005)	ND (<0.014)
B7-0.5	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0013)	ND (<0.0014)	ND (<0.0014)	ND (<0.0015)	ND (<0.0016)	ND (<0.0015)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.005)	ND (<0.015)
B7-0.5 DUP	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0014)	ND (<0.0016)	ND (<0.0016)	ND (<0.0016)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.0051)	ND (<0.015)
B7-2	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0013)	ND (<0.0014)	ND (<0.0014)	ND (<0.0016)	ND (<0.0016)	ND (<0.0016)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.005)	ND (<0.015)
B8-0.5	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0013)	ND (<0.0014)	ND (<0.0014)	ND (<0.0015)	ND (<0.0016)	ND (<0.0015)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.005)	ND (<0.015)
B8-2	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0013)	ND (<0.0014)	ND (<0.0014)	ND (<0.0016)	ND (<0.0016)	ND (<0.0016)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.005)	ND (<0.015)
B9-0.5	2/20/2023	ND (<0.022)	ND (<0.029)	ND (<0.029)	ND (<0.026)	ND (<0.024)	ND (<0.033)	ND (<0.22)	ND (<0.027)	ND (<0.029)	ND (<0.028)	ND (<0.031)	ND (<0.032)	ND (<0.031)	ND (<0.034)	ND (<0.028)	ND (<0.021)	ND (<0.03)	ND (<0.036)	ND (<0.1)	ND (<0.29)
B9-2	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0013)	ND (<0.0014)	ND (<0.0014)	ND (<0.0016)	ND (<0.0016)	ND (<0.0016)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.005)	ND (<0.015)
B10-0.5	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0014)	ND (<0.0016)	ND (<0.0016)	ND (<0.0016)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.0051)	ND (<0.015)
B10-2	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0016)	ND (<0.011)	ND (<0.0013)	ND (<0.0014)	ND (<0.0014)	ND (<0.0015)	ND (<0.0016)	ND (<0.0015)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.005)	ND (<0.014)
B11-0.5	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0014)	ND (<0.0016)	ND (<0.0016)	ND (<0.0016)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.0051)	ND (<0.015)
B11-2	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0013)	ND (<0.0014)	ND (<0.0014)	ND (<0.0015)	ND (<0.0016)	ND (<0.0015)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.005)	ND (<0.015)
B12-0.5	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0014)	ND (<0.0016)	ND (<0.0016)	ND (<0.0016)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.0051)	ND (<0.015)
B12-2	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0013)	ND (<0.0014)	ND (<0.0014)	ND (<0.0016)	ND (<0.0016)	ND (<0.0016)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.005)	ND (<0.015)

NOTES:

mg/kg = milligrams per kilogram

MDL = Method Detection Limit

RSL = Regional Screening Level-Residential Land Use, Environmental Protection Agency (Pacific Southwest, Region 9), updated May 2022

DTSC-SLs = Department of Toxic Substance Control Modified Screening Levels-Residential Land Use, revised May 2022

NE = No Screening Level Established

ND = Not detected at or above the MDL

"- -" = Not Analyzed

J = Analyte was detected; however, result is an estimated value between the RDL and the MDL

DUP = Duplicate sample

* = No RSL or DTSC-SL has been established for Endrine Ketone. RSL and DTSC-SL for Endrine has been used.

^ = No RSL or DTSC-SL has been established for Endosulfan II. RSL and DTSC-SL for Endosulfan I has been used.

Table 4 - VOCs in Soil Vapor Laboratory Analysis Summary
McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, CA 90404

Sample ID	Compound	VOCS EPA Method 8260																			
		1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trimethylbenzene	1,2-Dibromoethane (EDB)	1,2-Dichlorobenzene	1,2-Dichloroethane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	4-Isopropyltoluene	Benzene	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorobenzene	Chloroform
	RSLs (µg/m3)	12.7	173,333	1.60	6.0	60	7,000	2,100	0.157	7,000	3.67	2,100	NE	8.7	NE	12.0	2.53	87	15.67	1,733	4.0
	DTSC-SLs (µg/m3)	12.67	33,333	1.60	NE	60	2,433	NE	0.16	NE	NE	NE	NE	NE	NE	3.23	2.53	86.67	16	NE	NE
	RL (µg/m3):	8.0	8.0	16	8.0	8.0	8.0	8.0	8.0	16	8.0	8.0	16	16	8.0	8.0	8.0	8.0	8.0	8.0	8.0
SV1-5	2/20/2023	ND	ND	ND	ND	ND	ND	**75**	ND	ND	ND	**26**	ND	ND	ND	**18**	**53**	**10**	ND	ND	**163**
SV1-15	2/20/2023	ND	ND	ND	ND	ND	ND	**85**	ND	ND	ND	**27**	ND	ND	ND	ND	ND	ND	ND	ND	ND
SV2-5	2/20/2023	ND	ND	ND	ND	ND	ND	**97**	ND	ND	ND	**38**	ND	ND	ND	**334**	**45**	ND	ND	ND	**139**
SV2-5 REP	2/20/2023	ND	ND	ND	ND	ND	ND	**82**	ND	ND	ND	**33**	ND	ND	ND	**251**	**29**	ND	ND	ND	**111**
SV2-15	2/20/2023	ND	ND	ND	ND	ND	ND	**107**	ND	ND	ND	**39**	ND	ND	ND	ND	ND	ND	ND	ND	ND
SV3-5	2/20/2023	ND	ND	ND	ND	ND	ND	**372**	ND	ND	ND	**148**	ND	ND	ND	**751**	**44**	ND	ND	ND	**107**
SV3-15	2/20/2023	ND	ND	ND	ND	ND	ND	**109**	ND	ND	ND	**36**	ND	ND	ND	ND	ND	ND	ND	ND	ND

NOTES:

µg/m^3 = micrograms per cubic meter

RL = Laboratory Reporting Limit

RSL = Regional Screening Level-Residential Land Use (Attenuation Factor of 0.03), Environmental Protection Agency (Pacific Southwest, Region 9), updated May 2022

DTSC-SLs = Department of Toxic Substance Control Modified Screening Levels-Residential Land Use (Attenuation Factor of 0.03), revised May 2022

NE = No Screening Level Established

ND = Not detected at or above the RL

"- -" = Not Analyzed

DUP = Duplicate sample

Table 4 - VOCs in Soil Vapor Laboratory Analysis Summary
McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, CA 90404

Sample ID	Compound	VOCS EPA Method 8260																		
		cis-1,2-Dichloroethene	Dibromochloromethane	Di-isopropylether	Ethylbenzene	Ethyl-tert-butylether	Freon 11	Freon 113	Freon 12	Isopropanol (LCC)	Isopropylbenzene	m,p-Xylene	Methylene chloride	Methyl-tert-butylether	Naphthalene	n-Butylbenzene	n-Hexane (LCC)	n-Pentane (LCC)	n-Propanol (LCC)	n-Propylbenzene
	RSLs (µg/m3)	1,400	NE	24,333	37	1,167	NE	173,333	3,333	7,000	14,000	3,333	3,333	367	3	NE	24,333	33,333	NE	33,333
	DTSC-SLs (µg/m3)	277	4.33	NE	NE	NE	43,333	NE	NE	NE	NE	NE	33.33	467	NE	7,000	NE	NE	NE	NE
	RL (µg/m3):	8.0	8.0	40	8.0	40	16	16	16	80	8.0	16	8.0	40	40	12	80	80	80	8.0
SV1-5	2/20/2023	ND	**22**	ND	**36**	ND	ND	ND	ND	ND	ND	**177**	ND	ND	ND	ND	ND	ND	ND	**17**
SV1-15	2/20/2023	ND	ND	ND	**41**	ND	ND	ND	ND	ND	ND	**183**	ND	ND	ND	ND	ND	ND	ND	**15**
SV2-5	2/20/2023	ND	**17**	ND	**164**	ND	ND	ND	ND	ND	ND	**602**	ND	ND	ND	ND	ND	ND	ND	**27**
SV2-5 REP	2/20/2023	ND	**15**	ND	**131**	ND	ND	ND	ND	ND	ND	**519**	ND	ND	ND	ND	ND	ND	ND	**26**
SV2-15	2/20/2023	ND	ND	ND	**50**	ND	ND	ND	ND	ND	ND	**241**	ND	ND	ND	ND	ND	ND	ND	**23**
SV3-5	2/20/2023	ND	**20**	ND	**702**	ND	ND	ND	ND	ND	ND	**2,540**	ND	ND	ND	ND	ND	ND	ND	**100**
SV3-15	2/20/2023	ND	ND	ND	**31**	ND	ND	ND	ND	ND	ND	**148**	ND	ND	ND	ND	ND	ND	ND	**19**

NOTES:

$\mu g/m^3$ = micrograms per cubic meter

RL = Laboratory Reporting Limit

RSL = Regional Screening Level-Residential Land Use (Attenuation Factor of 0.03), Environmental Protection Agency (Pacific Southwest, Region 9), updated May 2022

DTSC-SLs = Department of Toxic Substance Control Modified Screening Levels-Residential Land Use (Attenuation Factor of 0.03), revised May 2022

NE = No Screening Level Established

ND = Not detected at or above the RL

"- -" = Not Analyzed

DUP = Duplicate sample

Table 4 - VOCs in Soil Vapor Laboratory Analysis Summary
McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, CA 90404

Sample ID	Compound	VOCS EPA Method 8260									
		o-Xylene	sec-Butylbenzene	Styrene	tert-amylmethylether	tert-Butylalcohol	tert-Butylbenzene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	Trichloroethene
	RSLs (µg/m3)	3,333	NE	33,333	NE	173,333	NE	367	173,333	1,400	16
	DTSC-SLs (µg/m3)	NE	14,000	31,333	NE	NE	14,000	15.33	10,333	2,767	67
	RL (µg/m3):	8.0	12	8.0	40	400	12	8.0	8.0	8.0	8.0
SV1-5	2/20/2023	**58**	ND	ND	ND	ND	ND	**13**	**101**	ND	ND
SV1-15	2/20/2023	**61**	ND	ND	ND	ND	ND	**690**	**100**	ND	ND
SV2-5	2/20/2023	**179**	ND	ND	ND	ND	ND	**10**	**1,620**	ND	ND
SV2-5 REP	2/20/2023	**156**	ND	ND	ND	ND	ND	**10**	**1,270**	ND	**11**
SV2-15	2/20/2023	**83**	ND	ND	ND	ND	ND	**1,330**	**97**	ND	ND
SV3-5	2/20/2023	**729**	ND	ND	ND	ND	ND	ND	**5,060**	ND	ND
SV3-15	2/20/2023	**58**	ND	ND	ND	ND	ND	**653**	**55**	ND	ND

NOTES:

µg/m^3 = micrograms per cubic meter

RL = Laboratory Reporting Limit

RSL = Regional Screening Level-Residential Land Use (Attenuation Factor of 0.03), Environmental Protection Agency (Pacific Southwest, Region 9), updated May 2022

DTSC-SLs = Department of Toxic Substance Control Modified Screening Levels-Residential Land Use (Attenuation Factor of 0.03), revised May 2022

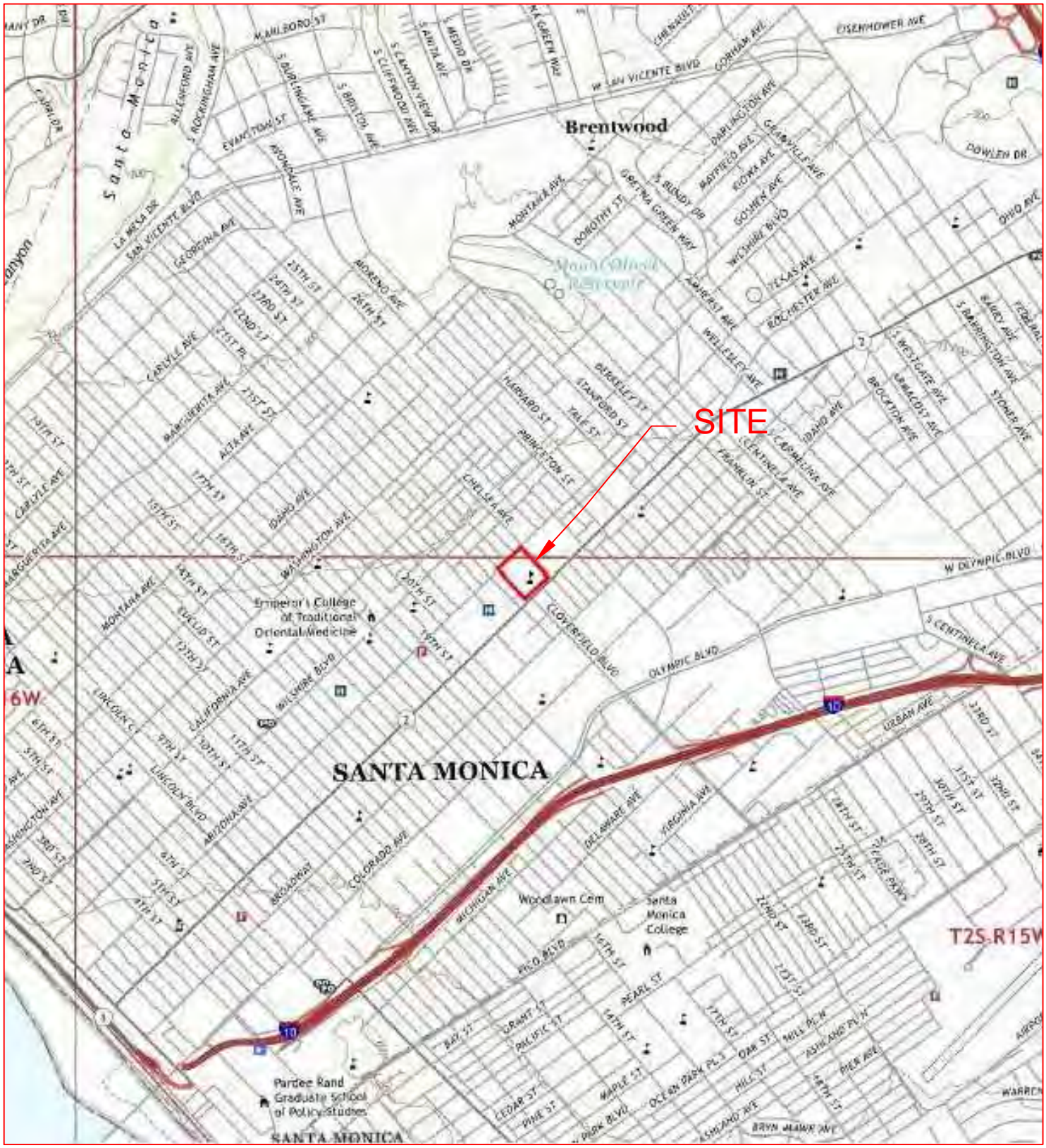
NE = No Screening Level Established

ND = Not detected at or above the RL

"- -" = Not Analyzed

DUP = Duplicate sample

FIGURES



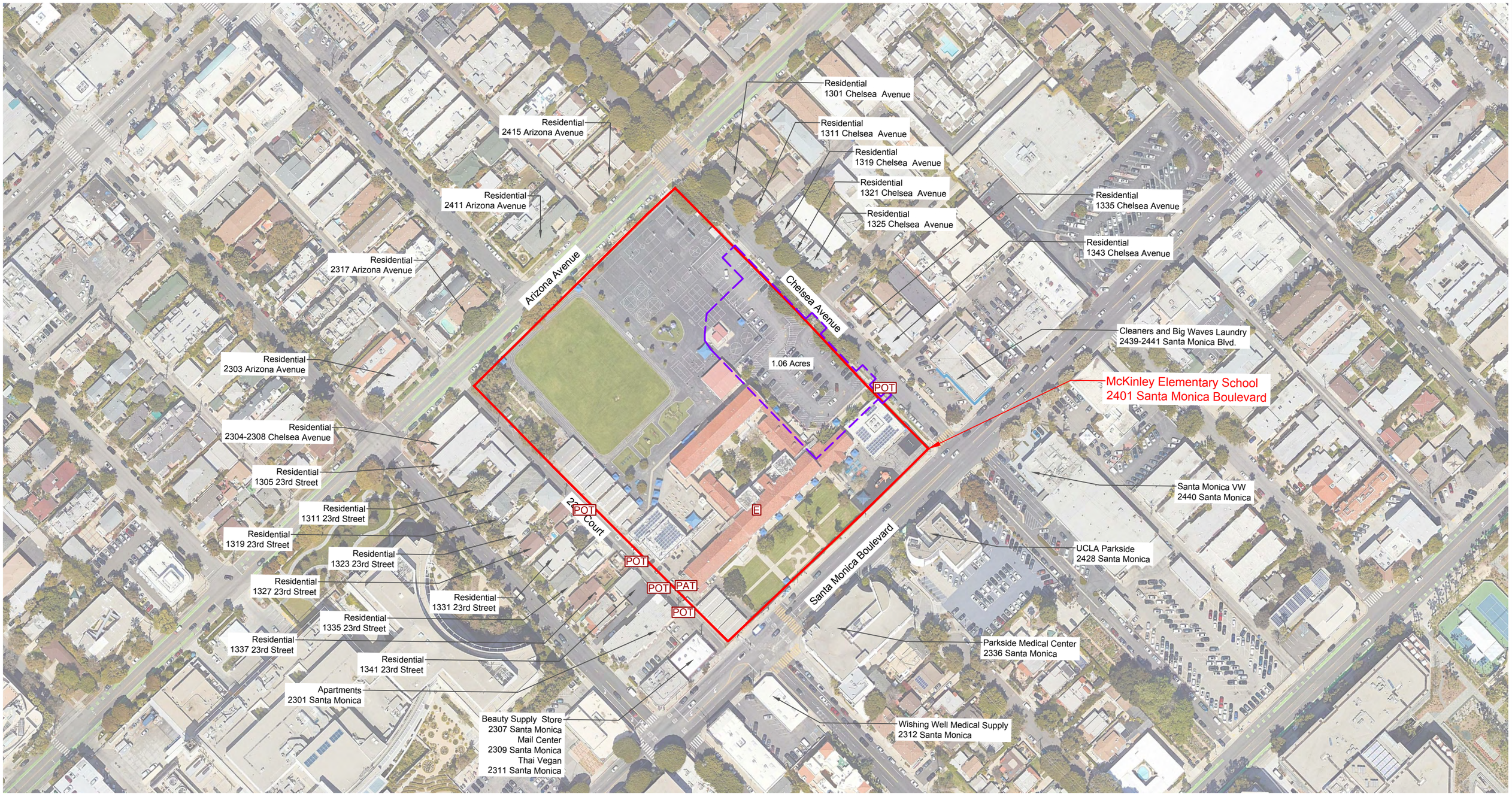
Approximate Outline of Site

FIGURE 1: Site Location Map

CLIENT: Santa Monica-Malibu Unified School District	SITE LOCATION: 2401 Santa Monica Boulevard Santa Monica, California 90404
PROJECT #: SMSD-21-11335	

NV5 ALTA ENVIRONMENTAL 3777 Long Beach Blvd., Annex Bldg. Long Beach, CA 90807 (562) 495-5777 www.altaenviron.com	DRAWN: ED	APPROVED: EF	NORTH
	SCALE: None	DATE: 2/20/2023	

W:\Clients N-S\Santa Monica-Malibu USD (SMSD)\SMSD-21-10665 5 Phase I ESAs\Photos - Drawings\AutoCAD\SMSD-21-10665-3\SMSD-21-10665-3 CAD.dwg



LEGEND:

- Approximate Campus Boundary
- Approximate Extents of Earthworks
- E — Hydraulic Passenger Elevator
- PAT — Pad Mounted Electrical Transformer
- POT — Pole Mounted Electrical Transformer

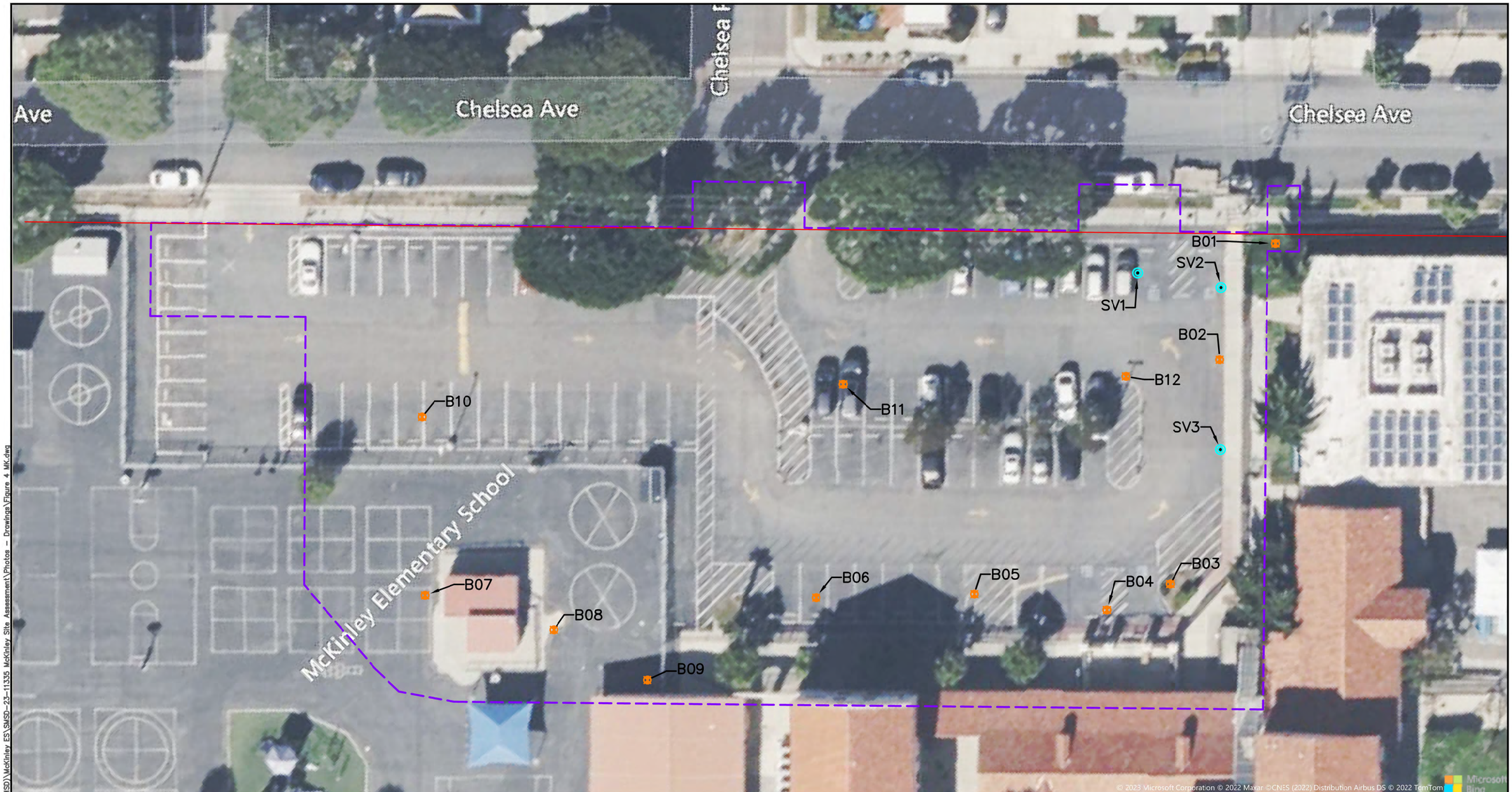
APPX. SCALE:
1" = 150'
0 — 150' — 1"

NORTH

FIGURE 2: Site Vicinity Map

CLIENT: Santa Monica Malibu Unified School District	DRAWN: AHL	APPROVED: EF
	SCALE: NTS	DATE: Feb. 2023
SITE LOCATION: McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California 90404	NV5 ALTA ENVIRONMENTAL	
PROJECT #: SMSD-23-11335	3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	

I:_NV5-Other\0011093 - Various\McKinley\SMSD-21-10665-3 CAD-BP.dwg



LEGEND:

- Approximate Campus Boundary
- Approximate Extents of Earthworks
- Approximate Boring Locations
- Approximate Soil Vapor Probe Locations

APPX. SCALE:
1" = 30'
0 30' 1"

NORTH

FIGURE 3: Sample Locations

CLIENT: Santa Monica Malibu Unified School District	DRAWN: RB	APPROVED: EF
	SCALE: NTS	DATE: Feb. 2023
SITE LOCATION: McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California 90404	NV5	
PROJECT #: SMSD-23-11335	3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	

W:\Clients N-S\Santa Monica-Malibu USD (SMSD)\McKinley ES\SMSD-23-11335 McKinley Site Assessment\Photos - Drawings\Figure 4 MK.dwg

APPENDIX A

Staff Certifications

State of California
Division of Occupational Safety and Health

Certified Site Surveillance Technician

Thomas D Jenkins
Name

Certification No. **19-6698**

Expires on **01/14/24**

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

State of California
Division of Occupational Safety and Health
Certified Asbestos Consultant

David Schack
Name

Certification No. **92-0219**

Expires on **07/09/23**

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

BOARD FOR PROFESSIONAL ENGINEERS, LAND SURVEYORS, AND GEOLOGISTS

LICENSING DETAILS FOR: 76976

NAME: FRASKE, ERIC C

LICENSE TYPE: CIVIL ENGINEER

LICENSE STATUS: CLEAR

ADDRESS

59 GRANADA AVENUE
LONG BEACH CA 90803
LOS ANGELES COUNTY

ISSUANCE DATE

JULY 16, 2010

EXPIRATION DATE

DECEMBER 31, 2024

CURRENT DATE / TIME

APRIL 18, 2023
9:21:43 AM

APPENDIX B

Soil Sampling Logs

Soil Sampling Log

Project Name: McKinley ES Site Investigation Project Number: SMSD-23-11335 Sampling Date: February 20, 2022 Logged by: Eric Fraske, Noah Stevens, and Ruta Bandziulis	Driller: Strongarm Environmental Field Services, Inc. Drilling Method: Geoprobe Boring Diameter: 2.25 Inches

Soil Boring Location	Ground Surface	Soil Sample Depth (Feet bgs)		PID Measurement (ppm)	Soil Sample Time
B1	Grass	0.5	Brown, silty sand, moist, trace organics, no odor, no staining, SC	0.0	10:15
		2	Brown, sandy clay, moist, trace organics, SC	0.0	10:18
		4	Medium brown, sandy clay, moist, SC	0.0	10:21
B2	4" Asphalt No Concrete	0.5	Dark yellowish brown, sandy lean clay, moist, no odor, no staining, CL	0.0	10:26
		2	Dark yellowish brown, lean clay, MP, no odors, no stains, CL	0.0	10:33
		4	Dark yellowish brown, lean clay with sand, MP, no odors, no stains, CL	0.0	10:35
B3	Grass	0.5	Brown, silty sand, moist, no odor, no staining, SC	0.0	10:45
		2	Dark brown, lean clay with sand, moist, trace weathered brick fragments, CL	0.0	10:45
		4	Brown, lean clay, moist, CL	0.0	10:45
B4	4" AC	0.5	Dark brown, lean sand with clay, no odors, no staining, wet, CL	0.0	10:59
		2	Dark brown, lean sand with clay, no odors, no staining, moist, SC	0.0	10:59
		4	Light brown, sandy lean clay, dry, SC	0.0	10:59

Soil Sampling Log

Project Name: McKinley ES Site Investigation Project Number: SMSD-23-11335 Sampling Date: February 20, 2022 Logged by: Eric Fraske, Noah Stevens, and Ruta Bandziulis	Driller: Strongarm Environmental Field Services, Inc. Drilling Method: Geoprobe Boring Diameter: 2.25 Inches

Soil Boring Location	Ground Surface	Soil Sample Depth (Feet bgs)		PID Measurement (ppm)	Soil Sample Time
B5	3" AC	0.5	Dark brown, silty sand, moist, no odors, no staining, SC	0.0	11:09
		2	Yellowish brown, silt, moist, ML	0.0	11:09
		4	Dark yellowish brown, silty sand, dry, ML	0.0	11:09
B6	3" AC	0.5	Dark brown, silt with sand, moist, no odors, no staining, ML	0.0	11:17
		2	Dar yellowish brown, silty sand, moist, ML	0.0	11:17
		4	Dark yellowish brown, sandy lean clay, moist, CL	0.0	11:17
B7	4" AC	0.5	Dark yellowish brown, sandy lean clay, moist, no odors, no staining, CL	0.0	12:40
		2	Dark yellowish brown, sandy lean clay, moist, no odors, no staining, CL	0.0	12:40
		4	Dark yellowish brown, sandy lean clay, moist, no odors, no staining, CL	0.0	12:40
B8	3.5" AC	0.5	Dark brown, clayey sand, moist, no odor, no staining, SC	0.0	12:51
		2	Dark brown, clayey sand, dry, no odor, no staining, SC	0.0	12:51
		4	Dark brown, clayey sand, dry, no odor, no staining, SC	0.0	12:51

Soil Sampling Log

Project Name: McKinley ES Site Investigation Project Number: SMSD-23-11335 Sampling Date: February 20, 2022 Logged by: Eric Fraske, Noah Stevens, and Ruta Bandziulis	Driller: Strongarm Environmental Field Services, Inc. Drilling Method: Geoprobe Boring Diameter: 2.25 Inches

Soil Boring Location	Ground Surface	Soil Sample Depth (Feet bgs)		PID Measurement (ppm)	Soil Sample Time
B9	4" AC	0.5	Dark brown, clayey sand, wet, no odors, no stains, SC	0.0	12:59
		2	Dark yellowish brown, lean clay, moist, no odors, no staining, CL	0.0	12:59
		4	Dark yellowish brown, lean clay, moist, no odors, no staining, CL	0.0	12:59
B10	2.5" AC	0.5	Dark brown, clayey sand, moist, no odor, no staining, SC	0.0	12:32
		2	Dark yellowish brown, lean clay with sand, no odor, no staining, CL	0.0	12:32
		4	Dark yellowish brown, lean clay with sand, no odor, no staining, CL	0.0	12:32
B11	3" AC	0.5	Dark brown, clayey sand, moist, no odor, no staining, SC	0.0	13:12
		2	Dark yellowish brown, poorly-graded sand with clay, moist, no odors, no staining, SP	0.0	13:12
		4	Dark yellowish brown, lean clay, dry, no odor, no staining, CL	0.0	13:12
B12	4" AC	0.5	Dark brown, sandy lean clay, moist, no odors, no staining, SC	0.0	10:51
		2	Dark brown, clayey sand, moist, no odor, no staining, SC	0.0	10:51
		4	Brown, lean clay, dry, SC	0.0	10:51

Soil Sampling Log

Project Name: McKinley ES Site Investigation Project Number: SMSD-23-11335 Sampling Date: February 20, 2022 Logged by: Eric Fraske, Noah Stevens, and Ruta Bandziulis	Driller: Strongarm Environmental Field Services, Inc. Drilling Method: Geoprobe Boring Diameter: 2.25 Inches

Soil Boring Location	Ground Surface	Soil Sample Depth (Feet bgs)		PID Measurement (ppm)	Soil Sample Time
SV1	3" Asphalt 6" Concrete	5	Medium brown, clayey sand, semi-moist, no odors, no staining, SC	0.0	8:28
		10	Grayish brown, poorly-graded sand with gravel and silt, SP	0.0	8:37
		15	Grayish brown, poorly-graded sand with gravel and silt, SP	0.0	8:48
SV2	2.5" Asphalt 7" Concrete	5	Dark yellowish brown, sandy clay, moist, no odor, no staining, CL	0.2	9:03
		10	Dark yellowish brown, sandy clay, moist, no odor, no staining, CL	0.0	9:07
		15	Dark brown, poorly-graded sand with gravel, SP	0.0	9:21
SV3	4" AC	5	Dark yellowish brown, sandy clay, moist, no odor, no staining, CL	0.0	9:43
		10	Light brown, clayey sand with gravel, moist, no odor, no staining, SC	0.0	9:47
		15	Medium brown, clayey sand with gravel, moist, GC	0.0	9:52

Notes:
Groundwater was not encountered at any sampling location
DUPLICATE SAMPLE at B7, 05 ft bgs
bgs: Below ground surface
PPM: Parts Per Million

APPENDIX C

Laboratory Analytical Results

Please Reply To:

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

LABORATORY ELECTRONIC TRANSMITTAL

To: Project Manager
NV5, Inc.

Fax #:

Email: diane.arredondo@nv5.com, Therese.Rizarri@nv5.com, eric.fraske@nv5.com, eric.fleming@nv5.com, david.schack@nv5.com

From: Megan A DeLara
AmeriSci Job #: 923021365
Subject: PLM 5 day Results
Client Project: SMSD-23-113358; McKinley ES Cores

Date: Monday, February 27, 2023
Time: 10:01:49
Comments:

Number of Pages: _____
(including cover sheet)

NOTE: Attached report is to be considered preliminary until final review with accompanying analysis summary letter is issued.

CONFIDENTIALITY NOTICE: Unless otherwise indicated, the information contained in this communication is confidential information intended for use of the individual named above. If the reader of this communication is not the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is prohibited. If you have received this communication in error, please immediately notify the sender by telephone and return the original message to the above address via the US Postal Service at our expense. Samples are disposed of in 60 days or unless otherwise instructed by the protocol or special instructions in writing. Thank you.

AmeriSci Los Angeles
24416 S. Main Street, Ste 308
Carson, California 90745
TEL: (310) 834-4868 • FAX: (310) 834-4772

PLM Bulk Asbestos Report

NV5, Inc.
Attn: Project Manager
3777 Long Beach Blvd.
Annex Building
Long Beach, CA 90807-3335

Date Received 02/20/23
Date Examined 02/26/23

AmeriSci Job # 923021365
P.O. #
Page 1 **of** 3

RE: SMSD-23-113358; McKinley ES Cores

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
SV1	923021365-01	***No***	NAD (by CVES) by Megan A DeLara on 02/26/23
Location: Staff Parking Lot-NE			
Analyst Description: Black, Homogeneous, Non-Fibrous, Cementitious, Asphalt			
Asbestos Types:			
Other Material: Non-fibrous 100%			
SV2	923021365-02	***No***	NAD (by CVES) by Megan A DeLara on 02/26/23
Location: Parking Lot-NE Disabled Parking			
Analyst Description: Black, Homogeneous, Non-Fibrous, Cementitious, Asphalt			
Asbestos Types:			
Other Material: Non-fibrous 100%			
B2	923021365-03	***No***	NAD (by CVES) by Megan A DeLara on 02/26/23
Location: Parking Lot-E At Path			
Analyst Description: Black, Homogeneous, Non-Fibrous, Cementitious, Asphalt			
Asbestos Types:			
Other Material: Non-fibrous 100%			
SV3	923021365-04	***No***	NAD (by CVES) by Megan A DeLara on 02/26/23
Location: Parking Lot-E At Path			
Analyst Description: Black, Homogeneous, Non-Fibrous, Cementitious, Asphalt			
Asbestos Types:			
Other Material: Non-fibrous 100%			
B4	923021365-05	***No***	NAD (by CVES) by Megan A DeLara on 02/26/23
Location: Parking Lot-S At Entry Gate			
Analyst Description: Black, Homogeneous, Non-Fibrous, Cementitious, Asphalt			
Asbestos Types:			
Other Material: Non-fibrous 100%			

See Reporting notes on last page

PLM Bulk Asbestos Report

SMSD-23-113358; McKinley ES Cores

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
B5	923021365-06	***No***	NAD
Location: Parking Lot-SW			(by CVES) by Megan A DeLara on 02/26/23
Analyst Description: Black, Homogeneous, Non-Fibrous, Cementitious, Asphalt **Asbestos Types:** **Other Material:** Non-fibrous 100%			
B6	923021365-07	***No***	NAD
Location: Parking Lot-SW			(by CVES) by Megan A DeLara on 02/26/23
Analyst Description: Black, Homogeneous, Non-Fibrous, Cementitious, Asphalt **Asbestos Types:** **Other Material:** Non-fibrous 100%			
B11	923021365-08	***No***	NAD
Location: Parking Lot-N			(by CVES) by Megan A DeLara on 02/26/23
Analyst Description: Black, Homogeneous, Non-Fibrous, Cementitious, Asphalt **Asbestos Types:** **Other Material:** Non-fibrous 100%			
B12	923021365-09	***No***	NAD
Location: Parking Lot-NE			(by CVES) by Megan A DeLara on 02/26/23
Analyst Description: Black, Homogeneous, Non-Fibrous, Cementitious, Asphalt **Asbestos Types:** **Other Material:** Non-fibrous 100%			
B10	923021365-10	***No***	NAD
Location: Parking Lot-N			(by CVES) by Megan A DeLara on 02/26/23
Analyst Description: Black, Homogeneous, Non-Fibrous, Cementitious, Asphalt **Asbestos Types:** **Other Material:** Non-fibrous 100%			
B7	923021365-11	***No***	NAD
Location: Playground-NW Of Restroom			(by CVES) by Megan A DeLara on 02/26/23
Analyst Description: Black, Homogeneous, Non-Fibrous, Cementitious, Asphalt **Asbestos Types:** **Other Material:** Non-fibrous 100%			

See Reporting notes on last page

PLM Bulk Asbestos Report

SMSD-23-113358; McKinley ES Cores

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
B8	923021365-12	***No***	NAD
Location: Playground-S Of Restroom 3.5			(by CVES) by Megan A DeLara on 02/26/23
Analyst Description: Black, Homogeneous, Non-Fibrous, Cementitious, Asphalt **Asbestos Types:** **Other Material:** Non-fibrous 100%			
B9	923021365-13	***No***	NAD
Location: Playground-N Of Room B10			(by CVES) by Megan A DeLara on 02/26/23
Analyst Description: Black, Homogeneous, Non-Fibrous, Cementitious, Asphalt **Asbestos Types:** **Other Material:** Non-fibrous 100%			

Reporting Notes:

Analyzed by: Megan A DeLara Reviewed by: Patricia Weakley

Date: 2/26/2023

*NAD = no asbestos detected; Detection Limit <1%; Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; NA = not analyzed; NA/PS = not analyzed / positive stop; NVA = No Visible Asbestos; PLM (polarized light microscopy) Bulk Asbestos Analysis by EPA 600/R-93/116, including requirements for EPA 600/M4-82-020 per 40 CFR 763 (NVLAP Lab #200346-0); Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full with the approval of the laboratory. This PLM report relates ONLY to the items tested.

AMERI SCI
www.amerisci.com

Asbestos / Lead Analysis Chain of Custody

AMERISCI JOB #: 923021365

AMERISCI LOS ANGELES
24416 S Main St. Suite 308
Carson, CA 90745
Phone (310) 834-4868
Fax (310) 834-4772

COMPANY:	ADDRESS:	P.O.#:
NV5/Alta Environmental	3777 Long Beach Boulevard, Long Beach 90804	

PROJECT INFORMATION	ANALYSIS TYPE	TURNAROUND TIME: RUSH	24 HR	48 HR	72 HR	5 DAY	OTHER	AIR FILTER INFORMATION:	
JOB NAME: McKinley ES Cores	TEM AHERA							MCE	
	PLM Bulk					X		PC	
JOB NUMBER: SMSD-23-113358	PCM Air							25 mm	
	PLM 1000 P.C.							37 mm	
JOB MANAGER: Eric Fraske	Lead Air							0.45 um	
	Lead Wipe							0.80 um	
JOB DESCRIPTION:	Lead Paint / Soil							TEMP:	
	OTHER:							OTHER:	

INITIAL RESULTS DELIVERY: ☐ FAX ☑ EMAIL ☐ VERBAL ☐ MAIL ONLY

RETURN SAMPLES YES ☐

REPORTS TO: Eric Fraske, Eric Fleming, David Schack

PHONE: 562-477-0935

INVOICE TO:

FAX:

COMMENTS: Asphalt Cores

EMAIL: Eric.Fraske@NV5.com, Eric.Fleming@NV5.com, David.Schack@NV5.com

CELL: 562.544.3910

SAMPLE ID	SAMPLE LOCATION	START TIME	STOP TIME	TOTAL TIME	X LITERS /MIN.	= TOTAL VOLUME	DATE COLLECTED
SU1	Parking lot - NE						2/20/23
SU2	Parking lot - NE disabled parking						
B2	Parking lot - E @ path						
SU3	Parking lot - E @ path						
B4	Parking lot - S @ entry gate						
B5	Parking lot - SW						
B6	Parking lot - SW						
B11	Parking lot - N						
B12	Parking lot - NE						
B10	Parking lot - N 2.5						
B7	Playground - NW of Restroom						
B8	Playground - S of Restrooms 3.5						
B9	Playground - N of Room B10 4						

SAMPLED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
Thomas Jenkins, CSST Thomas Jenkins	2/20/23		
RELINQUISHED BY: Tim	DATE/TIME: 2/20/23 12:10	RECEIVED BY:	DATE/TIME:
RELINQUISHED BY:	DATE/TIME:	RECEIVED IN LAB BY: Daeana Meza	DATE/TIME: 02.20.2023 12:10

Asbestos, Environmental Chemistry and Microbiology Analysis
Boston Los Angeles New York Richmond

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 479920
Report Level: II
Report Date: 03/23/2023

Analytical Report *prepared for:*

Eric Fraske
NV5 - Long Beach
3777 Long Beach Blvd.
Annex Building
Long Beach, CA 90807

Location: McKinley ES - 2401 Santa Monica Blvd., Santa Monica, CA

Authorized for release by:

Jim Lin, Service Center Manager
Jim.lin@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Eric Fraske NV5 - Long Beach 3777 Long Beach Blvd. Annex Building Long Beach, CA 90807	Lab Job #: Location: Date Received:	479920 McKinley ES - 2401 Santa Monica Blvd., Santa Monica, CA 02/21/23

Sample ID	Lab ID	Collected	Matrix
SV1-5	479920-001	02/20/23 08:28	Soil
SV1-10	479920-002	02/20/23 08:37	Soil
SV1-15	479920-003	02/20/23 08:48	Soil
SV2-5	479920-004	02/20/23 09:03	Soil
SV2-10	479920-005	02/20/23 09:07	Soil
SV2-15	479920-006	02/20/23 09:21	Soil
SV3-5	479920-007	02/20/23 09:43	Soil
SV3-10	479920-008	02/20/23 09:47	Soil
SV3-15	479920-009	02/20/23 09:52	Soil
B1-0.5	479920-010	02/20/23 10:18	Soil
B1-2	479920-011	02/20/23 10:18	Soil
B1-4	479920-012	02/20/23 10:21	Soil
B3-0.5	479920-013	02/20/23 10:26	Soil
B3-2	479920-014	02/20/23 10:33	Soil
B3-4	479920-015	02/20/23 10:35	Soil
B2-0.5	479920-016	02/20/23 10:45	Soil
B2-2	479920-017	02/20/23 10:45	Soil
B2-4	479920-018	02/20/23 10:45	Soil
B12-0.5	479920-019	02/20/23 10:51	Soil
B12-2	479920-020	02/20/23 10:51	Soil
B12-4	479920-021	02/20/23 10:51	Soil
B4-0.5	479920-022	02/20/23 10:59	Soil
B4-2	479920-023	02/20/23 10:59	Soil
B4-4	479920-024	02/20/23 10:59	Soil
B5-0.5	479920-025	02/20/23 11:09	Soil
B5-2	479920-026	02/20/23 11:09	Soil

ENTHALPY ANALYTICAL

Sample Summary

Eric Fraske NV5 - Long Beach 3777 Long Beach Blvd. Annex Building Long Beach, CA 90807	Lab Job #: Location: Date Received:	479920 McKinley ES - 2401 Santa Monica Blvd., Santa Monica, CA 02/21/23

Sample ID	Lab ID	Collected	Matrix
B5-4	479920-027	02/20/23 11:09	Soil
B6-0.5	479920-028	02/20/23 11:17	Soil
B6-2	479920-029	02/20/23 11:17	Soil
B6-4	479920-030	02/20/23 11:17	Soil
EBLANK	479920-031	02/20/23 11:20	Water
B10-0.5	479920-032	02/20/23 12:32	Soil
B10-2	479920-033	02/20/23 12:32	Soil
B10-4	479920-034	02/20/23 12:32	Soil
B7-0.5	479920-035	02/20/23 12:32	Soil
B7-0.5 DUP	479920-036	02/20/23 12:40	Soil
B7-2	479920-037	02/20/23 12:40	Soil
B7-4	479920-038	02/20/23 12:40	Soil
B8-0.5	479920-039	02/20/23 12:51	Soil
B8-2	479920-040	02/20/23 12:51	Soil
B8-4	479920-041	02/20/23 12:51	Soil
B9-0.5	479920-042	02/20/23 12:59	Soil
B9-2	479920-043	02/20/23 12:59	Soil
B9-4	479920-044	02/20/23 12:59	Soil
B11-0.5	479920-045	02/20/23 13:12	Soil
B11-2	479920-046	02/20/23 13:12	Soil
B11-4	479920-047	02/20/23 13:12	Soil
TRIP BLANK	479920-048	02/20/23 14:00	Water

Case Narrative

NV5 - Long Beach 3777 Long Beach Blvd. Annex Building Long Beach, CA 90807 Eric Fraske	Lab Job Number:	479920
	Location:	McKinley ES - 2401 Santa Monica Blvd., Santa Monica, CA
	Date Received:	02/21/23

This data package contains sample and QC results for twenty nine soil samples and two water samples, requested for the above referenced project on 02/21/23. The samples were received cold and intact.

Volatile Organics by GC/MS (EPA 8260B):
No analytical problems were encountered.

Pesticides (EPA 8081A) Water:
No analytical problems were encountered.

Pesticides (EPA 8081A) Soil:

- High RPD was observed for 4,4'-DDT in the MS/MSD for batch 308299; the parent sample was not a project sample, and this analyte was not detected at or above the RL in the associated samples.
- B9-0.5 (lab # 479920-042) was diluted due to the dark color of the sample extract.
- B3-0.5 (lab # 479920-013) was diluted due to the color of the sample extract.
- No other analytical problems were encountered.

PCBs (EPA 8082) Water:
No analytical problems were encountered.

PCBs (EPA 8082) Soil:

- High RPD was observed for Aroclor-1260 in the MS/MSD of B5-2 (lab # 479920-026); this analyte was not detected at or above the RL in the associated samples.
- B9-0.5 (lab # 479920-042) was diluted due to the dark color of the sample extract.
- No other analytical problems were encountered.

Metals (EPA 6020) Water:
No analytical problems were encountered.

Metals (EPA 6020) Soil:

- Low recovery was observed for lead in the MS for batch 308147; the parent sample was not a project sample, the LCS was within limits, and the associated RPD was within limits.
- No other analytical problems were encountered.

ENTHALPY ANALYTICAL

Chain of Custody Record

Lab No: 479920

Page: 1 of 5

Turn Around Time (rush by advanced notice only)

Standard:	X	5 Day:		3 Day:	
2 Day:		1 Day:		Custom TAT:	

Enthalpy Analytical - Orange
931 W. Barkley Avenue, Orange, CA 92868
Phone 714-771-6900

Matrix: A = Air S = Soil/Solid
W = Water DW = Drinking Wate SD = Sediment
PP = Pure Product SEA = Sea Water
SW = Swab T = Tissue WP = Wipe O = Other

Preservatives:
1 = $Na_2S_2O_3$ 2 = HCl 3 = HNO_3
4 = H_2SO_4 5 = NaOH 6 = Other

Sample Receipt Temp:
(lab use only)

CUSTOMER INFORMATION		PROJECT INFORMATION	
Company:	NV5	Name:	McKinley ES
Report To:	Eric Fraske	Number:	SMSD-23-11335
Email:	eric.fraske@nv5.com	P.O. #:	
Address:	3777 Long Beach Blvd, Annex Bldg	Address:	2401 Santa Monica Blvd
	Long Beach, CA 90807		Santa Monica, CA 90404
Phone:	562-544-3977	Global ID:	
Fax:		Sampled By:	EF and NS

	Sample ID	Sampling Date	Sampling Time	Matrix	Container No. / Size	Pres.	Lead EPA Method 6010	Arsenic EPA Method 6020	PCBS EPA Method 8082	OCPs EPA Method 8081	TPH Carbon Chain EPA Method 8015	Title 22 Metals 6010	VOCs EPA Method 8260		Archive and Hold		Test Instructions / Comments
1	SV1-5	02/20/23	8:28 AM	Soil	1 Tube	None									X		
2	SV1-10	02/20/23	8:37 AM	Soil	1 Tube	None									X		
3	SV1-15	02/20/23	8:48 AM	Soil	1 Tube	None									X		
4	SV2-5	02/20/23	9:03 AM	Soil	1 Tube	None									X		
5	SV2-10	02/20/23	9:07 AM	Soil	1 Tube	None									X		
6	SV2-15	02/20/23	9:21 AM	Soil	1 Tube	None									X		
7	SV3-5	02/20/23	9:43 AM	Soil	1 Tube	None									X		
8	SV3-10	02/20/23	9:47 AM	Soil	1 Tube	None									X		
9	SV3-15	02/20/23	9:52 AM	Soil	1 Tube	None									X		
10	B1-0.5	02/20/23	10:18 AM	Soil	1 Jar	None			X								

	Signature	Print Name	Company / Title	Date / Time
[1] Relinquished By:		Eric Fraske	NV5	
[1] Received By:		Don Simpson	CA	2-21-23 12:20 PM
[2] Relinquished By:		Don Simpson	CA	2-21-23 3:15 PM
[2] Received By:		WTOG	EA	2-21-23 ~~1700~~ 1515
[3] Relinquished By:				
[3] Received By:				

8.4/3.1

ENTHALPY ANALYTICAL

Chain of Custody Record

Lab No: 479920

Page: 2 of 5

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SW = Swab T = Tissue WP = Wipe O = Other

Preservatives:
1 = $Na_2S_2O_3$ 2 = HCl 3 = HNO_3
4 = H_2SO_4 5 = NaOH 6 = Other

Sample Receipt Temp:
(lab use only)

CUSTOMER INFORMATION		PROJECT INFORMATION	
Company:	NV5	Name:	McKinley ES
Report To:	Eric Fraske	Number:	SMSD-23-11335
Email:	eric.fraske@nv5.com	P.O. #:	
Address:	3777 Long Beach Blvd, Annex Bldg	Address:	2401 Santa Monica Blvd
	Long Beach, CA 90807		Santa Monica, CA 90404
Phone:	562-544-3977	Global ID:	
Fax:		Sampled By:	EF and NS

	Sample ID	Sampling Date	Sampling Time	Matrix	Container No. / Size	Pres.	Lead EPA Method 6010	Arsenic EPA Method 6020	PCBS EPA Method 8082	OCPs EPA Method 8081	TPH Carbon Chain EPA Method 8015	Title 22 Metals 6010	VOCs EPA Method 8260		Archive and Hold		Test Instructions / Comments
1	B1-2	02/20/23	10:18 AM	Soil	1 Jar	None			X								
2	B1-4	02/20/23	10:21 AM	Soil	1 Jar	None									X		
3	B3-0.5	02/20/23	10:26 AM	Soil	1 Jar	None	X	X	X	X							
4	B3-2	02/20/23	10:33 AM	Soil	1 Jar	None	X	X	X	X							
5	B3-4	02/20/23	10:35 AM	Soil	1 Jar	None									X		
6	B2-0.5	02/20/23	10:45 AM	Soil	1 Tube	None	X	X	X	X							
7	B2-2	02/20/23	10:45 AM	Soil	1 Tube	None	X	X	X	X							
8	B2-4	02/20/23	10:45 AM	Soil	1 Tube	None									X		
9	B12-0.5	02/20/23	10:51 AM	Soil	1 Tube	None	X	X		X							
10	B12-2	02/20/23	10:51 AM	Soil	1 Tube	None	X	X		X							

	Signature	Print Name	Company / Title	Date / Time
1 Relinquished By:		Eric Fraske	NV5	
1 Received By:		Don Sampson	EA	2-21-23 12:20PM
2 Relinquished By:		Don Sampson	EA	2-21-23 3:15PM
2 Received By:		[illegible]	EA	2-21-23 1515
3 Relinquished By:				
3 Received By:				

8.4/3.1

ENTHALPY ANALYTICAL

Chain of Custody Record

Lab No: 479920

Page: 3 of 5

Turn Around Time (rush by advanced notice only)

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Preservatives:
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4 = H_2SO_4 5 = NaOH 6 = Other

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(lab use only)

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Company:	NV5	Name:	McKinley ES
Report To:	Eric Fraske	Number:	SMSD-23-11335
Email:	eric.fraske@nv5.com	P.O. #:	
Address:	3777 Long Beach Blvd, Annex Bldg	Address:	2401 Santa Monica Blvd
	Long Beach, CA 90807		Santa Monica, CA 90404
Phone:	562-544-3977	Global ID:	
Fax:		Sampled By:	EF and NS

Analysis Request / **Test Instructions / Comments**

	Sample ID	Sampling Date	Sampling Time	Matrix	Container No. / Size	Pres.	Lead EPA Method 6010	Arsenic EPA Method 6020	PCBS EPA Method 8082	OCPs EPA Method 8081	TPH Carbon Chain EPA Method 8015	Title 22 Metals 6010	VOCs EPA Method 8260		Archive and Hold		Test Instructions / Comments
1	B12-4	02/20/23	10:51 AM	Soil	1 Tube	None									X		
2	B4-0.5	02/20/23	10:59 AM	Soil	1 Tube	None	X	X	X	X							
3	B4-2	02/20/23	10:59 AM	Soil	1 Tube	None	X	X	X	X							
4	B4-4	02/20/23	10:59 AM	Soil	1 Tube	None									X		
5	B5-0.5	02/20/23	11:09 AM	Soil	1 Tube	None	X	X	X	X							
6	B5-2	02/20/23	11:09 AM	Soil	1 Tube	None	X	X	X	X							
7	B5-4	02/20/23	11:09 AM	Soil	1 Tube	None									X		
8	B6-0.5	02/20/23	11:17 AM	Soil	1 Tube	None	X	X	X	X							
9	B6-2	02/20/23	11:17 AM	Soil	1 Tube	None	X	X	X	X							
10	B6-4	02/20/23	11:17 AM	Soil	1 Tube	None									X		

	Signature	Print Name	Company / Title	Date / Time
1 Relinquished By:		Eric Fraske	NV5	
1 Received By:		Don Sampson	ea	2/21/23 12:20pm
2 Relinquished By:		Don Sampson	ea	2/21/23 3:15pm
2 Received By:		NI CLB		2-4-23 15 15
3 Relinquished By:				
3 Received By:				

8.4/3.1

ENTHALPY ANALYTICAL

Chain of Custody Record

Lab No: 479920

Page: 4 of 5

Turn Around Time (rush by advanced notice only)

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4 = H_2SO_4 5 = NaOH 6 = Other

Sample Receipt Temp:

(lab use only)

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Email:	eric.fraske@nv5.com	P.O. #:	
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Phone:	562-544-3977	Global ID:	
Fax:		Sampled By:	EF and NS

	Sample ID	Sampling Date	Sampling Time	Matrix	Container No. / Size	Pres.	Lead EPA Method 6010	Arsenic EPA Method 6020	PCBS EPA Method 8082	OCPs EPA Method 8081	TPH Carbon Chain EPA Method 8015	Title 22 Metals 6010	VOCs EPA Method 8260		Archive and Hold		Test Instructions / Comments
1	EBLANK	02/20/23	11:20 AM	Water	4 Bottles	-	X	X	X	X			X				
2	B10-0.5	02/20/23	12:32 PM	Soil	1 Tube	None	X	X		X							
3	B10-2	02/20/23	12:32 PM	Soil	1 Tube	None	X	X		X							
4	B10-4	02/20/23	12:32 PM	Soil	1 Tube	None									X		
5	B7-0.5	02/20/23	12:32 PM	Soil	1 Tube	None	X	X	X	X							
6	B7-0.5DUP	02/20/23	12:40 PM	Soil	1 Tube	None	X	X	X	X							
7	B7-2	02/20/23	12:40 PM	Soil	1 Tube	None	X	X	X	X							
8	B7-4	02/20/23	12:40 PM	Soil	1 Tube	None									X		
9	B8-0.5	02/20/23	12:51 PM	Soil	1 Tube	None	X	X	X	X							
10	B8-2	02/20/23	12:51 PM	Soil	1 Tube	None	X	X	X	X							

	Signature	Print Name	Company / Title	Date / Time
1 Relinquished By:	[signature]	Eric Fraske	NV5	
1 Received By:	[signature]	[signature]	ea	2-21-23 12:20 pm
2 Relinquished By:	[signature]	Ben Sampson	ea	2-21-23 3:15 pm
2 Received By:	[signature]	NC [illegible]	EA	2-21-23 1515
3 Relinquished By:				
3 Received By:				

8.4/3.1

ENTHALPY ANALYTICAL

Chain of Custody Record

Lab No: 479920

Page: 5 of 5

Turn Around Time (rush by advanced notice only)

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W = Water DW = Drinking Wate SD = Sediment
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Preservatives:
1 = $Na_2S_2O_3$ 2 = HCl 3 = HNO_3
4 = H_2SO_4 5 = NaOH 6 = Other

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Email:	eric.fraske@nv5.com	P.O. #:	
Address:	3777 Long Beach Blvd, Annex Bldg	Address:	2401 Santa Monica Blvd
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Phone:	562-544-3977	Global ID:	
Fax:		Sampled By:	EF and NS

	Sample ID	Sampling Date	Sampling Time	Matrix	Container No. / Size	Pres.	Lead EPA Method 6010	Arsenic EPA Method 6020	PCBS EPA Method 8082	OCPs EPA Method 8081	TPH Carbon Chain EPA Method 8015	Title 22 Metals 6010	VOCs EPA Method 8260		Archive and Hold		Test Instructions / Comments
1	B8-4	02/20/23	12:51 PM	Soil	1 Tube	None									X		
2	B9-0.5	02/20/23	12:59 PM	Soil	1 Tube	None	X	X	X	X							
3	B9-2	02/20/23	12:59 PM	Soil	1 Tube	None	X	X	X	X							
4	B9-4	02/20/23	12:59 PM	Soil	1 Tube	None									X		
5	B11-0.5	02/20/23	1:12 PM	Soil	1 Tube	None	X	X		X							
6	B11-2	02/20/23	1:12 PM	Soil	1 Tube	None	X	X		X							
7	B11-4	02/20/23	1:12 PM	Soil	1 Tube	None									X		
8	Trip Blank	02/20/23	2:00 PM	Water	2 Bottles	-							X				
9																	
10																	

	Signature	Print Name	Company / Title	Date / Time
1 Relinquished By:	[illegible]	Eric Fraske	NV5	
1 Received By:	[illegible]	[illegible]	ea	2/21/23 12:20pm
2 Relinquished By:	[illegible]	Don Jamison	ea	2/21/23 3:15pm
2 Received By:	[illegible]	NI [illegible]	EA	2-21-23 15 15
3 Relinquished By:				
3 Received By:				

8.4/3.1

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: NV5 Project: McKinley ES

Date Received: 2/21/23 Sampler's Name Present: ☑ Yes ☐ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2) Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: 8.4 #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 7.1 #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✓		
Are sample IDs present?	✓		
Are sampling dates & times present?	✓		
Is a relinquished signature present?	✓		
Are the tests required clearly indicated on the COC?	✓		
Are custody seals present?		✓	
If custody seals are present, were they intact?			✓
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)			✓
Did all samples arrive intact? If no, indicate in Section 4 below.	✓		
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were the samples collected in the correct containers for the required tests?	✓		
Are the containers labeled with the correct preservatives?	✓		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			
Was a sufficient amount of sample submitted for the requested tests?	✓		

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____

☐ Email (email sent to/on): _____ / _____

Project Manager's response:

Completed By: [signature] Date: 2-21-23

Jim Lin

From: Eric Fraske <eric.fraske@altaenviron.com> on behalf of Eric Fraske
Sent: Tuesday, March 7, 2023 3:18 PM
To: Jim.lin@enthalpy.com
Subject: [EXTERNAL] RE: McKinley ES - 2401 Santa Monica Blvd., Santa Monica, CA - Enthalpy Data (479920)

Hi Jim,

For this project can I get the following samples analyzed for arsenic, standard TAT. These samples were previously being held for archival.

- B7-4
- B8-4
- B10-4
- B11-4

Thanks,

Eric Fraske | Senior Engineer III | **NV5** | Site Assessment and Remediation
3777 Long Beach Boulevard, Annex Building | Long Beach, CA 90807 | P: 562.495.5777 | C: 562.544.3910
eric.fraske@nv5.com | www.altaenviron.com | www.nv5.com | Electronic Communications Disclaimer

I am working remotely and can be reached via cell at 562.544.3910.

Alta Environmental is now NV5.

From: Jim Lin <Jim.lin@enthalpy.com>
Sent: Wednesday, March 1, 2023 8:22 PM
To: Eric Fraske <eric.fraske@altaenviron.com>
Subject: McKinley ES - 2401 Santa Monica Blvd., Santa Monica, CA - Enthalpy Data (479920)

Hi Eric,

Data qualifiers and additional information necessary for the interpretation of the test results are contained in the PDF file and may not be included in the EDD.

PLEASE let us know if you will be releasing any on HOLD samples to be analyze.

Please find attached the following files:
• PDF Deliverable
• Standard Format EDD (479920_standard.zip)

Email was also sent to: jim.lin@enthalpy.com

Jim Lin
Service Center Manager

To help protect your privacy, Microsoft Office prevented automatic download of this picture from the Internet.

931 W. Barkley Ave., Orange, CA 92868
O: 714-771-6900 M: 818-319-2359
Jim.Lin@enthalpy.com

To help protect the air we breathe, the water we drink, and the soil that feeds us.

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https://enthalpy.com/news-events/

Analysis Results for 479920

Eric Fraske
NV5 - Long Beach
3777 Long Beach Blvd.
Annex Building
Long Beach, CA 90807

Lab Job #: 479920
Location: McKinley ES - 2401 Santa Monica Blvd., Santa Monica, CA
Date Received: 02/21/23

Sample ID: B1-0.5 **Lab ID: 479920-010** **Collected: 02/20/23 10:18**
Matrix: Soil

479920-010 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 8082 Prep Method: EPA 3546										
Aroclor-1016	ND		ug/Kg	50	14	1	308299	02/23/23	02/23/23	MES
Aroclor-1221	ND		ug/Kg	50	23	1	308299	02/23/23	02/23/23	MES
Aroclor-1232	ND		ug/Kg	50	18	1	308299	02/23/23	02/23/23	MES
Aroclor-1242	ND		ug/Kg	50	18	1	308299	02/23/23	02/23/23	MES
Aroclor-1248	ND		ug/Kg	50	21	1	308299	02/23/23	02/23/23	MES
Aroclor-1254	ND		ug/Kg	50	6.6	1	308299	02/23/23	02/23/23	MES
Aroclor-1260	**90**		ug/Kg	50	24	1	308299	02/23/23	02/23/23	MES
Aroclor-1262	ND		ug/Kg	50	16	1	308299	02/23/23	02/23/23	MES
Aroclor-1268	ND		ug/Kg	50	13	1	308299	02/23/23	02/23/23	MES
Surrogates				**Limits**						
Decachlorobiphenyl (PCB)	93%		%REC	19-121		1	308299	02/23/23	02/23/23	MES

Sample ID: B1-2 **Lab ID: 479920-011** **Collected: 02/20/23 10:18**
Matrix: Soil

479920-011 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 8082 Prep Method: EPA 3546										
Aroclor-1016	ND		ug/Kg	50	14	1	308299	02/23/23	02/23/23	MES
Aroclor-1221	ND		ug/Kg	50	23	1	308299	02/23/23	02/23/23	MES
Aroclor-1232	ND		ug/Kg	50	18	1	308299	02/23/23	02/23/23	MES
Aroclor-1242	ND		ug/Kg	50	18	1	308299	02/23/23	02/23/23	MES
Aroclor-1248	ND		ug/Kg	50	21	1	308299	02/23/23	02/23/23	MES
Aroclor-1254	ND		ug/Kg	50	6.6	1	308299	02/23/23	02/23/23	MES
Aroclor-1260	ND		ug/Kg	50	24	1	308299	02/23/23	02/23/23	MES
Aroclor-1262	ND		ug/Kg	50	16	1	308299	02/23/23	02/23/23	MES
Aroclor-1268	ND		ug/Kg	50	13	1	308299	02/23/23	02/23/23	MES
Surrogates				**Limits**						
Decachlorobiphenyl (PCB)	72%		%REC	19-121		1	308299	02/23/23	02/23/23	MES

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 479920

Sample ID: B3-0.5	Lab ID: 479920-013	Collected: 02/20/23 10:26
	Matrix: Soil	

479920-013 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3050B										
Arsenic	**6.2**		mg/Kg	0.97	0.73	0.97	308147	02/22/23	02/22/23	THP
Lead	**25**		mg/Kg	0.49	0.089	0.97	308147	02/22/23	02/22/23	THP
Method: EPA 8081A Prep Method: EPA 3546										
alpha-BHC	ND		ug/Kg	10	2.4	2	308299	02/23/23	02/23/23	MES
beta-BHC	ND		ug/Kg	10	3.3	2	308299	02/23/23	02/23/23	MES
gamma-BHC	ND		ug/Kg	10	2.1	2	308299	02/23/23	02/23/23	MES
delta-BHC	ND		ug/Kg	10	2.7	2	308299	02/23/23	02/23/23	MES
Heptachlor	ND		ug/Kg	10	3.0	2	308299	02/23/23	02/23/23	MES
Aldrin	ND		ug/Kg	10	2.6	2	308299	02/23/23	02/23/23	MES
Heptachlor epoxide	ND		ug/Kg	10	3.6	2	308299	02/23/23	02/23/23	MES
Endosulfan I	ND		ug/Kg	10	2.8	2	308299	02/23/23	02/23/23	MES
Dieldrin	ND		ug/Kg	10	2.9	2	308299	02/23/23	02/23/23	MES
4,4'-DDE	ND		ug/Kg	10	2.9	2	308299	02/23/23	02/23/23	MES
Endrin	ND		ug/Kg	10	3.1	2	308299	02/23/23	02/23/23	MES
Endosulfan II	ND		ug/Kg	10	3.1	2	308299	02/23/23	02/23/23	MES
Endosulfan sulfate	ND		ug/Kg	10	3.3	2	308299	02/23/23	02/23/23	MES
4,4'-DDD	ND		ug/Kg	10	2.2	2	308299	02/23/23	02/23/23	MES
Endrin aldehyde	ND		ug/Kg	10	3.4	2	308299	02/23/23	02/23/23	MES
Endrin ketone	ND		ug/Kg	10	2.8	2	308299	02/23/23	02/23/23	MES
4,4'-DDT	ND		ug/Kg	10	2.9	2	308299	02/23/23	02/23/23	MES
Methoxychlor	ND		ug/Kg	20	10	2	308299	02/23/23	02/23/23	MES
Toxaphene	ND		ug/Kg	200	29	2	308299	02/23/23	02/23/23	MES
Chlordane (Technical)	**44**	J	ug/Kg	100	22	2	308299	02/23/23	02/23/23	MES
Surrogates				**Limits**						
TCMX	84%		%REC	23-120		2	308299	02/23/23	02/23/23	MES
Decachlorobiphenyl	111%		%REC	24-120		2	308299	02/23/23	02/23/23	MES
Method: EPA 8082 Prep Method: EPA 3546										
Aroclor-1016	ND		ug/Kg	50	14	1	308299	02/23/23	02/23/23	MES
Aroclor-1221	ND		ug/Kg	50	23	1	308299	02/23/23	02/23/23	MES
Aroclor-1232	ND		ug/Kg	50	18	1	308299	02/23/23	02/23/23	MES
Aroclor-1242	ND		ug/Kg	50	18	1	308299	02/23/23	02/23/23	MES
Aroclor-1248	ND		ug/Kg	50	21	1	308299	02/23/23	02/23/23	MES
Aroclor-1254	ND		ug/Kg	50	6.6	1	308299	02/23/23	02/23/23	MES
Aroclor-1260	ND		ug/Kg	50	24	1	308299	02/23/23	02/23/23	MES
Aroclor-1262	ND		ug/Kg	50	16	1	308299	02/23/23	02/23/23	MES
Aroclor-1268	ND		ug/Kg	50	13	1	308299	02/23/23	02/23/23	MES
Surrogates				**Limits**						
Decachlorobiphenyl (PCB)	95%		%REC	19-121		1	308299	02/23/23	02/23/23	MES

Results for any subcontracted analyses are not included in this section.

Analysis Results for 479920

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 479920

Sample ID: B3-2	Lab ID: 479920-014	Collected: 02/20/23 10:33
	Matrix: Soil	

479920-014 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3050B										
Arsenic	**7.8**		mg/Kg	0.96	0.72	0.96	308147	02/22/23	02/22/23	THP
Lead	**7.8**		mg/Kg	0.48	0.088	0.96	308147	02/22/23	02/22/23	THP
Method: EPA 8081A Prep Method: EPA 3546										
alpha-BHC	ND		ug/Kg	5.0	1.2	1	308299	02/23/23	02/23/23	MES
beta-BHC	ND		ug/Kg	5.0	1.7	1	308299	02/23/23	02/23/23	MES
gamma-BHC	ND		ug/Kg	5.0	1.0	1	308299	02/23/23	02/23/23	MES
delta-BHC	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
Heptachlor	ND		ug/Kg	5.0	1.5	1	308299	02/23/23	02/23/23	MES
Aldrin	ND		ug/Kg	5.0	1.3	1	308299	02/23/23	02/23/23	MES
Heptachlor epoxide	ND		ug/Kg	5.0	1.8	1	308299	02/23/23	02/23/23	MES
Endosulfan I	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
Dieldrin	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
4,4'-DDE	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
Endrin	ND		ug/Kg	5.0	1.6	1	308299	02/23/23	02/23/23	MES
Endosulfan II	ND		ug/Kg	5.0	1.6	1	308299	02/23/23	02/23/23	MES
Endosulfan sulfate	ND		ug/Kg	5.0	1.6	1	308299	02/23/23	02/23/23	MES
4,4'-DDD	ND		ug/Kg	5.0	1.1	1	308299	02/23/23	02/23/23	MES
Endrin aldehyde	ND		ug/Kg	5.0	1.7	1	308299	02/23/23	02/23/23	MES
Endrin ketone	**2.4**	J	ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
4,4'-DDT	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
Methoxychlor	ND		ug/Kg	10	5.1	1	308299	02/23/23	02/23/23	MES
Toxaphene	ND		ug/Kg	100	15	1	308299	02/23/23	02/23/23	MES
Chlordane (Technical)	ND		ug/Kg	50	11	1	308299	02/23/23	02/23/23	MES
Surrogates				**Limits**						
TCMX	86%		%REC	23-120		1	308299	02/23/23	02/23/23	MES
Decachlorobiphenyl	76%		%REC	24-120		1	308299	02/23/23	02/23/23	MES
Method: EPA 8082 Prep Method: EPA 3546										
Aroclor-1016	ND		ug/Kg	50	14	1	308299	02/23/23	02/23/23	MES
Aroclor-1221	ND		ug/Kg	50	23	1	308299	02/23/23	02/23/23	MES
Aroclor-1232	ND		ug/Kg	50	19	1	308299	02/23/23	02/23/23	MES
Aroclor-1242	ND		ug/Kg	50	18	1	308299	02/23/23	02/23/23	MES
Aroclor-1248	ND		ug/Kg	50	21	1	308299	02/23/23	02/23/23	MES
Aroclor-1254	ND		ug/Kg	50	6.6	1	308299	02/23/23	02/23/23	MES
Aroclor-1260	ND		ug/Kg	50	24	1	308299	02/23/23	02/23/23	MES
Aroclor-1262	ND		ug/Kg	50	16	1	308299	02/23/23	02/23/23	MES
Aroclor-1268	ND		ug/Kg	50	13	1	308299	02/23/23	02/23/23	MES
Surrogates				**Limits**						
Decachlorobiphenyl (PCB)	82%		%REC	19-121		1	308299	02/23/23	02/23/23	MES

Results for any subcontracted analyses are not included in this section.

Analysis Results for 479920

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 479920

Sample ID: B2-0.5	Lab ID: 479920-016	Collected: 02/20/23 10:45
	Matrix: Soil	

479920-016 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3050B										
Arsenic	**9.9**		mg/Kg	0.96	0.72	0.96	308213	02/22/23	02/22/23	THP
Lead	**9.5**		mg/Kg	0.48	0.088	0.96	308213	02/22/23	02/22/23	THP
Method: EPA 8081A Prep Method: EPA 3546										
alpha-BHC	ND		ug/Kg	5.0	1.2	1	308299	02/23/23	02/23/23	MES
beta-BHC	ND		ug/Kg	5.0	1.7	1	308299	02/23/23	02/23/23	MES
gamma-BHC	ND		ug/Kg	5.0	1.0	1	308299	02/23/23	02/23/23	MES
delta-BHC	ND		ug/Kg	5.0	1.3	1	308299	02/23/23	02/23/23	MES
Heptachlor	ND		ug/Kg	5.0	1.5	1	308299	02/23/23	02/23/23	MES
Aldrin	ND		ug/Kg	5.0	1.3	1	308299	02/23/23	02/23/23	MES
Heptachlor epoxide	ND		ug/Kg	5.0	1.8	1	308299	02/23/23	02/23/23	MES
Endosulfan I	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
Dieldrin	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
4,4'-DDE	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
Endrin	ND		ug/Kg	5.0	1.6	1	308299	02/23/23	02/23/23	MES
Endosulfan II	ND		ug/Kg	5.0	1.6	1	308299	02/23/23	02/23/23	MES
Endosulfan sulfate	ND		ug/Kg	5.0	1.6	1	308299	02/23/23	02/23/23	MES
4,4'-DDD	ND		ug/Kg	5.0	1.1	1	308299	02/23/23	02/23/23	MES
Endrin aldehyde	ND		ug/Kg	5.0	1.7	1	308299	02/23/23	02/23/23	MES
Endrin ketone	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
4,4'-DDT	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
Methoxychlor	ND		ug/Kg	10	5.0	1	308299	02/23/23	02/23/23	MES
Toxaphene	ND		ug/Kg	100	15	1	308299	02/23/23	02/23/23	MES
Chlordane (Technical)	ND		ug/Kg	50	11	1	308299	02/23/23	02/23/23	MES
Surrogates				**Limits**						
TCMX	80%		%REC	23-120		1	308299	02/23/23	02/23/23	MES
Decachlorobiphenyl	73%		%REC	24-120		1	308299	02/23/23	02/23/23	MES
Method: EPA 8082 Prep Method: EPA 3546										
Aroclor-1016	ND		ug/Kg	50	14	1	308299	02/23/23	02/23/23	MES
Aroclor-1221	ND		ug/Kg	50	23	1	308299	02/23/23	02/23/23	MES
Aroclor-1232	ND		ug/Kg	50	18	1	308299	02/23/23	02/23/23	MES
Aroclor-1242	ND		ug/Kg	50	18	1	308299	02/23/23	02/23/23	MES
Aroclor-1248	ND		ug/Kg	50	21	1	308299	02/23/23	02/23/23	MES
Aroclor-1254	ND		ug/Kg	50	6.5	1	308299	02/23/23	02/23/23	MES
Aroclor-1260	ND		ug/Kg	50	24	1	308299	02/23/23	02/23/23	MES
Aroclor-1262	ND		ug/Kg	50	16	1	308299	02/23/23	02/23/23	MES
Aroclor-1268	ND		ug/Kg	50	13	1	308299	02/23/23	02/23/23	MES
Surrogates				**Limits**						
Decachlorobiphenyl (PCB)	76%		%REC	19-121		1	308299	02/23/23	02/23/23	MES

Results for any subcontracted analyses are not included in this section.

Analysis Results for 479920

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 479920

Sample ID: B2-2	Lab ID: 479920-017	Collected: 02/20/23 10:45
	Matrix: Soil	

479920-017 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3050B										
Arsenic	**9.2**		mg/Kg	0.98	0.74	0.98	308213	02/22/23	02/22/23	THP
Lead	**9.0**		mg/Kg	0.49	0.089	0.98	308213	02/22/23	02/22/23	THP
Method: EPA 8081A Prep Method: EPA 3546										
alpha-BHC	ND		ug/Kg	4.9	1.2	0.99	308299	02/23/23	02/23/23	MES
beta-BHC	ND		ug/Kg	4.9	1.7	0.99	308299	02/23/23	02/23/23	MES
gamma-BHC	ND		ug/Kg	4.9	1.0	0.99	308299	02/23/23	02/23/23	MES
delta-BHC	ND		ug/Kg	4.9	1.3	0.99	308299	02/23/23	02/23/23	MES
Heptachlor	ND		ug/Kg	4.9	1.5	0.99	308299	02/23/23	02/23/23	MES
Aldrin	ND		ug/Kg	4.9	1.3	0.99	308299	02/23/23	02/23/23	MES
Heptachlor epoxide	ND		ug/Kg	4.9	1.8	0.99	308299	02/23/23	02/23/23	MES
Endosulfan I	ND		ug/Kg	4.9	1.4	0.99	308299	02/23/23	02/23/23	MES
Dieldrin	ND		ug/Kg	4.9	1.4	0.99	308299	02/23/23	02/23/23	MES
4,4'-DDE	ND		ug/Kg	4.9	1.4	0.99	308299	02/23/23	02/23/23	MES
Endrin	ND		ug/Kg	4.9	1.5	0.99	308299	02/23/23	02/23/23	MES
Endosulfan II	ND		ug/Kg	4.9	1.5	0.99	308299	02/23/23	02/23/23	MES
Endosulfan sulfate	ND		ug/Kg	4.9	1.6	0.99	308299	02/23/23	02/23/23	MES
4,4'-DDD	ND		ug/Kg	4.9	1.1	0.99	308299	02/23/23	02/23/23	MES
Endrin aldehyde	ND		ug/Kg	4.9	1.7	0.99	308299	02/23/23	02/23/23	MES
Endrin ketone	ND		ug/Kg	4.9	1.4	0.99	308299	02/23/23	02/23/23	MES
4,4'-DDT	ND		ug/Kg	4.9	1.4	0.99	308299	02/23/23	02/23/23	MES
Methoxychlor	ND		ug/Kg	9.9	5.0	0.99	308299	02/23/23	02/23/23	MES
Toxaphene	ND		ug/Kg	99	15	0.99	308299	02/23/23	02/23/23	MES
Chlordane (Technical)	ND		ug/Kg	49	11	0.99	308299	02/23/23	02/23/23	MES
Surrogates				**Limits**						
TCMX	60%		%REC	23-120		0.99	308299	02/23/23	02/23/23	MES
Decachlorobiphenyl	62%		%REC	24-120		0.99	308299	02/23/23	02/23/23	MES
Method: EPA 8082 Prep Method: EPA 3546										
Aroclor-1016	ND		ug/Kg	49	14	0.99	308299	02/23/23	02/23/23	MES
Aroclor-1221	ND		ug/Kg	49	22	0.99	308299	02/23/23	02/23/23	MES
Aroclor-1232	ND		ug/Kg	49	18	0.99	308299	02/23/23	02/23/23	MES
Aroclor-1242	ND		ug/Kg	49	18	0.99	308299	02/23/23	02/23/23	MES
Aroclor-1248	ND		ug/Kg	49	21	0.99	308299	02/23/23	02/23/23	MES
Aroclor-1254	ND		ug/Kg	49	6.5	0.99	308299	02/23/23	02/23/23	MES
Aroclor-1260	ND		ug/Kg	49	24	0.99	308299	02/23/23	02/23/23	MES
Aroclor-1262	ND		ug/Kg	49	16	0.99	308299	02/23/23	02/23/23	MES
Aroclor-1268	ND		ug/Kg	49	13	0.99	308299	02/23/23	02/23/23	MES
Surrogates				**Limits**						
Decachlorobiphenyl (PCB)	65%		%REC	19-121		0.99	308299	02/23/23	02/23/23	MES

Results for any subcontracted analyses are not included in this section.

Analysis Results for 479920

Sample ID: B12-0.5	Lab ID: 479920-019	Collected: 02/20/23 10:51
	Matrix: Soil	

479920-019 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3050B										
Arsenic	**8.1**		mg/Kg	1.0	0.75	1	308213	02/22/23	02/22/23	THP
Lead	**9.4**		mg/Kg	0.50	0.091	1	308213	02/22/23	02/22/23	THP
Method: EPA 8081A Prep Method: EPA 3546										
alpha-BHC	ND		ug/Kg	5.0	1.2	1	308299	02/23/23	02/23/23	MES
beta-BHC	ND		ug/Kg	5.0	1.7	1	308299	02/23/23	02/23/23	MES
gamma-BHC	ND		ug/Kg	5.0	1.0	1	308299	02/23/23	02/23/23	MES
delta-BHC	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
Heptachlor	ND		ug/Kg	5.0	1.5	1	308299	02/23/23	02/23/23	MES
Aldrin	ND		ug/Kg	5.0	1.3	1	308299	02/23/23	02/23/23	MES
Heptachlor epoxide	ND		ug/Kg	5.0	1.8	1	308299	02/23/23	02/23/23	MES
Endosulfan I	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
Dieldrin	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
4,4'-DDE	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
Endrin	ND		ug/Kg	5.0	1.6	1	308299	02/23/23	02/23/23	MES
Endosulfan II	ND		ug/Kg	5.0	1.6	1	308299	02/23/23	02/23/23	MES
Endosulfan sulfate	ND		ug/Kg	5.0	1.6	1	308299	02/23/23	02/23/23	MES
4,4'-DDD	ND		ug/Kg	5.0	1.1	1	308299	02/23/23	02/23/23	MES
Endrin aldehyde	ND		ug/Kg	5.0	1.7	1	308299	02/23/23	02/23/23	MES
Endrin ketone	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
4,4'-DDT	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
Methoxychlor	ND		ug/Kg	10	5.1	1	308299	02/23/23	02/23/23	MES
Toxaphene	ND		ug/Kg	100	15	1	308299	02/23/23	02/23/23	MES
Chlordane (Technical)	ND		ug/Kg	50	11	1	308299	02/23/23	02/23/23	MES
Surrogates				**Limits**						
TCMX	79%		%REC	23-120		1	308299	02/23/23	02/23/23	MES
Decachlorobiphenyl	73%		%REC	24-120		1	308299	02/23/23	02/23/23	MES

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 479920

Sample ID: B12-2	Lab ID: 479920-020	Collected: 02/20/23 10:51
	Matrix: Soil	

479920-020 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3050B										
Arsenic	ND		mg/Kg	0.99	0.74	0.99	308213	02/22/23	02/22/23	THP
Lead	ND		mg/Kg	0.50	0.090	0.99	308213	02/22/23	02/22/23	THP
Method: EPA 8081A Prep Method: EPA 3546										
alpha-BHC	ND		ug/Kg	5.0	1.2	1	308299	02/23/23	02/23/23	MES
beta-BHC	ND		ug/Kg	5.0	1.7	1	308299	02/23/23	02/23/23	MES
gamma-BHC	ND		ug/Kg	5.0	1.0	1	308299	02/23/23	02/23/23	MES
delta-BHC	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
Heptachlor	ND		ug/Kg	5.0	1.5	1	308299	02/23/23	02/23/23	MES
Aldrin	ND		ug/Kg	5.0	1.3	1	308299	02/23/23	02/23/23	MES
Heptachlor epoxide	ND		ug/Kg	5.0	1.8	1	308299	02/23/23	02/23/23	MES
Endosulfan I	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
Dieldrin	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
4,4'-DDE	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
Endrin	ND		ug/Kg	5.0	1.6	1	308299	02/23/23	02/23/23	MES
Endosulfan II	ND		ug/Kg	5.0	1.6	1	308299	02/23/23	02/23/23	MES
Endosulfan sulfate	ND		ug/Kg	5.0	1.6	1	308299	02/23/23	02/23/23	MES
4,4'-DDD	ND		ug/Kg	5.0	1.1	1	308299	02/23/23	02/23/23	MES
Endrin aldehyde	ND		ug/Kg	5.0	1.7	1	308299	02/23/23	02/23/23	MES
Endrin ketone	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
4,4'-DDT	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
Methoxychlor	ND		ug/Kg	10	5.0	1	308299	02/23/23	02/23/23	MES
Toxaphene	ND		ug/Kg	100	15	1	308299	02/23/23	02/23/23	MES
Chlordane (Technical)	ND		ug/Kg	50	11	1	308299	02/23/23	02/23/23	MES
Surrogates				**Limits**						
TCMX	70%		%REC	23-120		1	308299	02/23/23	02/23/23	MES
Decachlorobiphenyl	64%		%REC	24-120		1	308299	02/23/23	02/23/23	MES

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 479920

Sample ID: B4-0.5	Lab ID: 479920-022	Collected: 02/20/23 10:59
	Matrix: Soil	

479920-022 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3050B										
Arsenic	**6.9**		mg/Kg	0.99	0.74	0.99	308213	02/22/23	02/22/23	THP
Lead	**8.8**		mg/Kg	0.50	0.090	0.99	308213	02/22/23	02/22/23	THP
Method: EPA 8081A Prep Method: EPA 3546										
alpha-BHC	ND		ug/Kg	5.0	1.2	1	308299	02/23/23	02/23/23	MES
beta-BHC	ND		ug/Kg	5.0	1.7	1	308299	02/23/23	02/23/23	MES
gamma-BHC	ND		ug/Kg	5.0	1.0	1	308299	02/23/23	02/23/23	MES
delta-BHC	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
Heptachlor	ND		ug/Kg	5.0	1.5	1	308299	02/23/23	02/23/23	MES
Aldrin	ND		ug/Kg	5.0	1.3	1	308299	02/23/23	02/23/23	MES
Heptachlor epoxide	ND		ug/Kg	5.0	1.8	1	308299	02/23/23	02/23/23	MES
Endosulfan I	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
Dieldrin	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
4,4'-DDE	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
Endrin	ND		ug/Kg	5.0	1.6	1	308299	02/23/23	02/23/23	MES
Endosulfan II	ND		ug/Kg	5.0	1.6	1	308299	02/23/23	02/23/23	MES
Endosulfan sulfate	ND		ug/Kg	5.0	1.6	1	308299	02/23/23	02/23/23	MES
4,4'-DDD	ND		ug/Kg	5.0	1.1	1	308299	02/23/23	02/23/23	MES
Endrin aldehyde	ND		ug/Kg	5.0	1.7	1	308299	02/23/23	02/23/23	MES
Endrin ketone	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
4,4'-DDT	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
Methoxychlor	ND		ug/Kg	10	5.1	1	308299	02/23/23	02/23/23	MES
Toxaphene	ND		ug/Kg	100	15	1	308299	02/23/23	02/23/23	MES
Chlordane (Technical)	ND		ug/Kg	50	11	1	308299	02/23/23	02/23/23	MES
Surrogates				**Limits**						
TCMX	79%		%REC	23-120		1	308299	02/23/23	02/23/23	MES
Decachlorobiphenyl	75%		%REC	24-120		1	308299	02/23/23	02/23/23	MES
Method: EPA 8082 Prep Method: EPA 3546										
Aroclor-1016	ND		ug/Kg	50	14	1	308299	02/23/23	02/23/23	MES
Aroclor-1221	ND		ug/Kg	50	23	1	308299	02/23/23	02/23/23	MES
Aroclor-1232	ND		ug/Kg	50	19	1	308299	02/23/23	02/23/23	MES
Aroclor-1242	ND		ug/Kg	50	18	1	308299	02/23/23	02/23/23	MES
Aroclor-1248	ND		ug/Kg	50	21	1	308299	02/23/23	02/23/23	MES
Aroclor-1254	ND		ug/Kg	50	6.6	1	308299	02/23/23	02/23/23	MES
Aroclor-1260	ND		ug/Kg	50	24	1	308299	02/23/23	02/23/23	MES
Aroclor-1262	ND		ug/Kg	50	16	1	308299	02/23/23	02/23/23	MES
Aroclor-1268	ND		ug/Kg	50	13	1	308299	02/23/23	02/23/23	MES
Surrogates				**Limits**						
Decachlorobiphenyl (PCB)	79%		%REC	19-121		1	308299	02/23/23	02/23/23	MES

Results for any subcontracted analyses are not included in this section.

Analysis Results for 479920

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 479920

Sample ID: B4-2	Lab ID: 479920-023	Collected: 02/20/23 10:59
	Matrix: Soil	

479920-023 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3050B										
Arsenic	**9.0**		mg/Kg	0.98	0.74	0.98	308213	02/22/23	02/22/23	THP
Lead	**8.3**		mg/Kg	0.49	0.089	0.98	308213	02/22/23	02/22/23	THP
Method: EPA 8081A Prep Method: EPA 3546										
alpha-BHC	ND		ug/Kg	5.0	1.2	1	308299	02/23/23	02/23/23	MES
beta-BHC	ND		ug/Kg	5.0	1.7	1	308299	02/23/23	02/23/23	MES
gamma-BHC	ND		ug/Kg	5.0	1.0	1	308299	02/23/23	02/23/23	MES
delta-BHC	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
Heptachlor	ND		ug/Kg	5.0	1.5	1	308299	02/23/23	02/23/23	MES
Aldrin	ND		ug/Kg	5.0	1.3	1	308299	02/23/23	02/23/23	MES
Heptachlor epoxide	ND		ug/Kg	5.0	1.8	1	308299	02/23/23	02/23/23	MES
Endosulfan I	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
Dieldrin	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
4,4'-DDE	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
Endrin	ND		ug/Kg	5.0	1.6	1	308299	02/23/23	02/23/23	MES
Endosulfan II	ND		ug/Kg	5.0	1.6	1	308299	02/23/23	02/23/23	MES
Endosulfan sulfate	ND		ug/Kg	5.0	1.6	1	308299	02/23/23	02/23/23	MES
4,4'-DDD	ND		ug/Kg	5.0	1.1	1	308299	02/23/23	02/23/23	MES
Endrin aldehyde	ND		ug/Kg	5.0	1.7	1	308299	02/23/23	02/23/23	MES
Endrin ketone	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
4,4'-DDT	ND		ug/Kg	5.0	1.4	1	308299	02/23/23	02/23/23	MES
Methoxychlor	ND		ug/Kg	10	5.1	1	308299	02/23/23	02/23/23	MES
Toxaphene	ND		ug/Kg	100	15	1	308299	02/23/23	02/23/23	MES
Chlordane (Technical)	ND		ug/Kg	50	11	1	308299	02/23/23	02/23/23	MES
Surrogates				**Limits**						
TCMX	84%		%REC	23-120		1	308299	02/23/23	02/23/23	MES
Decachlorobiphenyl	79%		%REC	24-120		1	308299	02/23/23	02/23/23	MES
Method: EPA 8082 Prep Method: EPA 3546										
Aroclor-1016	ND		ug/Kg	50	14	1	308299	02/23/23	02/23/23	MES
Aroclor-1221	ND		ug/Kg	50	23	1	308299	02/23/23	02/23/23	MES
Aroclor-1232	ND		ug/Kg	50	19	1	308299	02/23/23	02/23/23	MES
Aroclor-1242	ND		ug/Kg	50	18	1	308299	02/23/23	02/23/23	MES
Aroclor-1248	ND		ug/Kg	50	21	1	308299	02/23/23	02/23/23	MES
Aroclor-1254	ND		ug/Kg	50	6.6	1	308299	02/23/23	02/23/23	MES
Aroclor-1260	ND		ug/Kg	50	24	1	308299	02/23/23	02/23/23	MES
Aroclor-1262	ND		ug/Kg	50	16	1	308299	02/23/23	02/23/23	MES
Aroclor-1268	ND		ug/Kg	50	13	1	308299	02/23/23	02/23/23	MES
Surrogates				**Limits**						
Decachlorobiphenyl (PCB)	83%		%REC	19-121		1	308299	02/23/23	02/23/23	MES

Results for any subcontracted analyses are not included in this section.

Analysis Results for 479920

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 479920

Sample ID: B5-0.5	Lab ID: 479920-025	Collected: 02/20/23 11:09
	Matrix: Soil	

479920-025 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3050B										
Arsenic	**9.8**		mg/Kg	0.96	0.72	0.96	308213	02/22/23	02/22/23	THP
Lead	**11**		mg/Kg	0.48	0.088	0.96	308213	02/22/23	02/22/23	THP
Method: EPA 8081A Prep Method: EPA 3546										
alpha-BHC	ND		ug/Kg	4.9	1.2	0.98	308301	02/23/23	02/24/23	TRN
beta-BHC	ND		ug/Kg	4.9	1.6	0.98	308301	02/23/23	02/24/23	TRN
gamma-BHC	ND		ug/Kg	4.9	1.0	0.98	308301	02/23/23	02/24/23	TRN
delta-BHC	ND		ug/Kg	4.9	1.3	0.98	308301	02/23/23	02/24/23	TRN
Heptachlor	ND		ug/Kg	4.9	1.5	0.98	308301	02/23/23	02/24/23	TRN
Aldrin	ND		ug/Kg	4.9	1.3	0.98	308301	02/23/23	02/24/23	TRN
Heptachlor epoxide	ND		ug/Kg	4.9	1.8	0.98	308301	02/23/23	02/24/23	TRN
Endosulfan I	ND		ug/Kg	4.9	1.4	0.98	308301	02/23/23	02/24/23	TRN
Dieldrin	ND		ug/Kg	4.9	1.4	0.98	308301	02/23/23	02/24/23	TRN
4,4'-DDE	ND		ug/Kg	4.9	1.4	0.98	308301	02/23/23	02/24/23	TRN
Endrin	ND		ug/Kg	4.9	1.5	0.98	308301	02/23/23	02/24/23	TRN
Endosulfan II	ND		ug/Kg	4.9	1.5	0.98	308301	02/23/23	02/24/23	TRN
Endosulfan sulfate	ND		ug/Kg	4.9	1.6	0.98	308301	02/23/23	02/24/23	TRN
4,4'-DDD	ND		ug/Kg	4.9	1.1	0.98	308301	02/23/23	02/24/23	TRN
Endrin aldehyde	ND		ug/Kg	4.9	1.7	0.98	308301	02/23/23	02/24/23	TRN
Endrin ketone	ND		ug/Kg	4.9	1.4	0.98	308301	02/23/23	02/24/23	TRN
4,4'-DDT	ND		ug/Kg	4.9	1.4	0.98	308301	02/23/23	02/24/23	TRN
Methoxychlor	ND		ug/Kg	9.8	5.0	0.98	308301	02/23/23	02/24/23	TRN
Toxaphene	ND		ug/Kg	98	14	0.98	308301	02/23/23	02/24/23	TRN
Chlordane (Technical)	ND		ug/Kg	49	11	0.98	308301	02/23/23	02/24/23	TRN
Surrogates				**Limits**						
TCMX	72%		%REC	23-120		0.98	308301	02/23/23	02/24/23	TRN
Decachlorobiphenyl	84%		%REC	24-120		0.98	308301	02/23/23	02/24/23	TRN
Method: EPA 8082 Prep Method: EPA 3546										
Aroclor-1016	ND		ug/Kg	49	14	0.98	308301	02/23/23	02/24/23	TRN
Aroclor-1221	ND		ug/Kg	49	22	0.98	308301	02/23/23	02/24/23	TRN
Aroclor-1232	ND		ug/Kg	49	18	0.98	308301	02/23/23	02/24/23	TRN
Aroclor-1242	ND		ug/Kg	49	17	0.98	308301	02/23/23	02/24/23	TRN
Aroclor-1248	ND		ug/Kg	49	21	0.98	308301	02/23/23	02/24/23	TRN
Aroclor-1254	ND		ug/Kg	49	6.4	0.98	308301	02/23/23	02/24/23	TRN
Aroclor-1260	ND		ug/Kg	49	24	0.98	308301	02/23/23	02/24/23	TRN
Aroclor-1262	ND		ug/Kg	49	16	0.98	308301	02/23/23	02/24/23	TRN
Aroclor-1268	ND		ug/Kg	49	13	0.98	308301	02/23/23	02/24/23	TRN
Surrogates				**Limits**						
Decachlorobiphenyl (PCB)	81%		%REC	19-121	24	0.98	308301	02/23/23	02/24/23	TRN

Results for any subcontracted analyses are not included in this section.

Analysis Results for 479920

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 479920

Sample ID: B5-2	Lab ID: 479920-026	Collected: 02/20/23 11:09
	Matrix: Soil	

479920-026 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3050B										
Arsenic	**9.1**		mg/Kg	1.0	0.75	1	308213	02/22/23	02/22/23	THP
Lead	**8.6**		mg/Kg	0.50	0.091	1	308213	02/22/23	02/22/23	THP
Method: EPA 8081A Prep Method: EPA 3546										
alpha-BHC	ND		ug/Kg	5.0	1.2	1	308301	02/23/23	02/23/23	MES
beta-BHC	ND		ug/Kg	5.0	1.7	1	308301	02/23/23	02/23/23	MES
gamma-BHC	ND		ug/Kg	5.0	1.0	1	308301	02/23/23	02/23/23	MES
delta-BHC	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/23/23	MES
Heptachlor	ND		ug/Kg	5.0	1.5	1	308301	02/23/23	02/23/23	MES
Aldrin	ND		ug/Kg	5.0	1.3	1	308301	02/23/23	02/23/23	MES
Heptachlor epoxide	ND		ug/Kg	5.0	1.8	1	308301	02/23/23	02/23/23	MES
Endosulfan I	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/23/23	MES
Dieldrin	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/23/23	MES
4,4'-DDE	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/23/23	MES
Endrin	ND		ug/Kg	5.0	1.6	1	308301	02/23/23	02/23/23	MES
Endosulfan II	ND		ug/Kg	5.0	1.6	1	308301	02/23/23	02/23/23	MES
Endosulfan sulfate	ND		ug/Kg	5.0	1.6	1	308301	02/23/23	02/23/23	MES
4,4'-DDD	ND		ug/Kg	5.0	1.1	1	308301	02/23/23	02/23/23	MES
Endrin aldehyde	ND		ug/Kg	5.0	1.7	1	308301	02/23/23	02/23/23	MES
Endrin ketone	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/23/23	MES
4,4'-DDT	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/23/23	MES
Methoxychlor	ND		ug/Kg	20	5.1	1	308301	02/23/23	02/23/23	MES
Toxaphene	ND		ug/Kg	100	15	1	308301	02/23/23	02/23/23	MES
Chlordane (Technical)	ND		ug/Kg	50	11	1	308301	02/23/23	02/23/23	MES
Surrogates				**Limits**						
TCMX	68%		%REC	23-120		1	308301	02/23/23	02/23/23	MES
Decachlorobiphenyl	47%		%REC	24-120		1	308301	02/23/23	02/23/23	MES
Method: EPA 8082 Prep Method: EPA 3546										
Aroclor-1016	ND		ug/Kg	50	14	1	308301	02/23/23	02/23/23	MES
Aroclor-1221	ND		ug/Kg	50	23	1	308301	02/23/23	02/23/23	MES
Aroclor-1232	ND		ug/Kg	50	19	1	308301	02/23/23	02/23/23	MES
Aroclor-1242	ND		ug/Kg	50	18	1	308301	02/23/23	02/23/23	MES
Aroclor-1248	ND		ug/Kg	50	21	1	308301	02/23/23	02/23/23	MES
Aroclor-1254	ND		ug/Kg	50	6.6	1	308301	02/23/23	02/23/23	MES
Aroclor-1260	ND		ug/Kg	50	24	1	308301	02/23/23	02/23/23	MES
Aroclor-1262	ND		ug/Kg	50	16	1	308301	02/23/23	02/23/23	MES
Aroclor-1268	ND		ug/Kg	50	13	1	308301	02/23/23	02/23/23	MES
Surrogates				**Limits**						
Decachlorobiphenyl (PCB)	46%		%REC	19-121		1	308301	02/23/23	02/23/23	MES

Results for any subcontracted analyses are not included in this section.

Analysis Results for 479920

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 479920

Sample ID: B6-0.5	Lab ID: 479920-028	Collected: 02/20/23 11:17
	Matrix: Soil	

479920-028 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3050B										
Arsenic	**8.7**		mg/Kg	0.95	0.72	0.95	308213	02/22/23	02/22/23	THP
Lead	**8.4**		mg/Kg	0.48	0.087	0.95	308213	02/22/23	02/22/23	THP
Method: EPA 8081A Prep Method: EPA 3546										
alpha-BHC	ND		ug/Kg	4.9	1.2	0.99	308301	02/23/23	02/24/23	TRN
beta-BHC	ND		ug/Kg	4.9	1.7	0.99	308301	02/23/23	02/24/23	TRN
gamma-BHC	ND		ug/Kg	4.9	1.0	0.99	308301	02/23/23	02/24/23	TRN
delta-BHC	ND		ug/Kg	4.9	1.3	0.99	308301	02/23/23	02/24/23	TRN
Heptachlor	ND		ug/Kg	4.9	1.5	0.99	308301	02/23/23	02/24/23	TRN
Aldrin	ND		ug/Kg	4.9	1.3	0.99	308301	02/23/23	02/24/23	TRN
Heptachlor epoxide	ND		ug/Kg	4.9	1.8	0.99	308301	02/23/23	02/24/23	TRN
Endosulfan I	ND		ug/Kg	4.9	1.4	0.99	308301	02/23/23	02/24/23	TRN
Dieldrin	ND		ug/Kg	4.9	1.4	0.99	308301	02/23/23	02/24/23	TRN
4,4'-DDE	ND		ug/Kg	4.9	1.4	0.99	308301	02/23/23	02/24/23	TRN
Endrin	ND		ug/Kg	4.9	1.5	0.99	308301	02/23/23	02/24/23	TRN
Endosulfan II	ND		ug/Kg	4.9	1.5	0.99	308301	02/23/23	02/24/23	TRN
Endosulfan sulfate	ND		ug/Kg	4.9	1.6	0.99	308301	02/23/23	02/24/23	TRN
4,4'-DDD	ND		ug/Kg	4.9	1.1	0.99	308301	02/23/23	02/24/23	TRN
Endrin aldehyde	ND		ug/Kg	4.9	1.7	0.99	308301	02/23/23	02/24/23	TRN
Endrin ketone	ND		ug/Kg	4.9	1.4	0.99	308301	02/23/23	02/24/23	TRN
4,4'-DDT	ND		ug/Kg	4.9	1.4	0.99	308301	02/23/23	02/24/23	TRN
Methoxychlor	ND		ug/Kg	9.9	5.0	0.99	308301	02/23/23	02/24/23	TRN
Toxaphene	ND		ug/Kg	99	15	0.99	308301	02/23/23	02/24/23	TRN
Chlordane (Technical)	ND		ug/Kg	49	11	0.99	308301	02/23/23	02/24/23	TRN
Surrogates				**Limits**						
TCMX	70%		%REC	23-120		0.99	308301	02/23/23	02/24/23	TRN
Decachlorobiphenyl	76%		%REC	24-120		0.99	308301	02/23/23	02/24/23	TRN
Method: EPA 8082 Prep Method: EPA 3546										
Aroclor-1016	ND		ug/Kg	49	14	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1221	ND		ug/Kg	49	22	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1232	ND		ug/Kg	49	18	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1242	ND		ug/Kg	49	18	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1248	ND		ug/Kg	49	21	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1254	ND		ug/Kg	49	6.5	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1260	ND		ug/Kg	49	24	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1262	ND		ug/Kg	49	16	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1268	ND		ug/Kg	49	13	0.99	308301	02/23/23	02/24/23	TRN
Surrogates				**Limits**						
Decachlorobiphenyl (PCB)	73%		%REC	19-121	24	0.99	308301	02/23/23	02/24/23	TRN

Results for any subcontracted analyses are not included in this section.

Analysis Results for 479920

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 479920

Sample ID: B6-2	Lab ID: 479920-029	Collected: 02/20/23 11:17
	Matrix: Soil	

479920-029 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3050B										
Arsenic	**10**		mg/Kg	0.97	0.73	0.97	308213	02/22/23	02/22/23	THP
Lead	**9.8**		mg/Kg	0.49	0.089	0.97	308213	02/22/23	02/22/23	THP
Method: EPA 8081A Prep Method: EPA 3546										
alpha-BHC	ND		ug/Kg	4.9	1.2	0.99	308301	02/23/23	02/24/23	TRN
beta-BHC	ND		ug/Kg	4.9	1.7	0.99	308301	02/23/23	02/24/23	TRN
gamma-BHC	ND		ug/Kg	4.9	1.0	0.99	308301	02/23/23	02/24/23	TRN
delta-BHC	ND		ug/Kg	4.9	1.3	0.99	308301	02/23/23	02/24/23	TRN
Heptachlor	ND		ug/Kg	4.9	1.5	0.99	308301	02/23/23	02/24/23	TRN
Aldrin	ND		ug/Kg	4.9	1.3	0.99	308301	02/23/23	02/24/23	TRN
Heptachlor epoxide	ND		ug/Kg	4.9	1.8	0.99	308301	02/23/23	02/24/23	TRN
Endosulfan I	ND		ug/Kg	4.9	1.4	0.99	308301	02/23/23	02/24/23	TRN
Dieldrin	ND		ug/Kg	4.9	1.4	0.99	308301	02/23/23	02/24/23	TRN
4,4'-DDE	ND		ug/Kg	4.9	1.4	0.99	308301	02/23/23	02/24/23	TRN
Endrin	ND		ug/Kg	4.9	1.5	0.99	308301	02/23/23	02/24/23	TRN
Endosulfan II	ND		ug/Kg	4.9	1.5	0.99	308301	02/23/23	02/24/23	TRN
Endosulfan sulfate	ND		ug/Kg	4.9	1.6	0.99	308301	02/23/23	02/24/23	TRN
4,4'-DDD	ND		ug/Kg	4.9	1.1	0.99	308301	02/23/23	02/24/23	TRN
Endrin aldehyde	ND		ug/Kg	4.9	1.7	0.99	308301	02/23/23	02/24/23	TRN
Endrin ketone	ND		ug/Kg	4.9	1.4	0.99	308301	02/23/23	02/24/23	TRN
4,4'-DDT	ND		ug/Kg	4.9	1.4	0.99	308301	02/23/23	02/24/23	TRN
Methoxychlor	ND		ug/Kg	9.9	5.0	0.99	308301	02/23/23	02/24/23	TRN
Toxaphene	ND		ug/Kg	99	15	0.99	308301	02/23/23	02/24/23	TRN
Chlordane (Technical)	ND		ug/Kg	49	11	0.99	308301	02/23/23	02/24/23	TRN
Surrogates				**Limits**						
TCMX	69%		%REC	23-120		0.99	308301	02/23/23	02/24/23	TRN
Decachlorobiphenyl	83%		%REC	24-120		0.99	308301	02/23/23	02/24/23	TRN
Method: EPA 8082 Prep Method: EPA 3546										
Aroclor-1016	ND		ug/Kg	49	14	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1221	ND		ug/Kg	49	22	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1232	ND		ug/Kg	49	18	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1242	ND		ug/Kg	49	18	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1248	ND		ug/Kg	49	21	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1254	ND		ug/Kg	49	6.5	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1260	ND		ug/Kg	49	24	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1262	ND		ug/Kg	49	16	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1268	ND		ug/Kg	49	13	0.99	308301	02/23/23	02/24/23	TRN
Surrogates				**Limits**						
Decachlorobiphenyl (PCB)	80%		%REC	19-121	24	0.99	308301	02/23/23	02/24/23	TRN

Results for any subcontracted analyses are not included in this section.

Analysis Results for 479920

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 479920

Sample ID: EBLANK	Lab ID: 479920-031	Collected: 02/20/23 11:20
	Matrix: Water	

479920-031 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 200.8										
Arsenic	ND		ug/L	2.0	0.037	1	308187	02/22/23	02/22/23	JCP
Lead	ND		ug/L	5.0	0.038	1	308187	02/22/23	02/22/23	JCP
Method: EPA 8081A Prep Method: EPA 3510C										
alpha-BHC	ND		ug/L	0.05	0.01	0.94	308045	02/22/23	02/22/23	TRN
beta-BHC	ND		ug/L	0.05	0.008	0.94	308045	02/22/23	02/22/23	TRN
gamma-BHC	ND		ug/L	0.05	0.01	0.94	308045	02/22/23	02/22/23	TRN
delta-BHC	ND		ug/L	0.05	0.007	0.94	308045	02/22/23	02/22/23	TRN
Heptachlor	ND		ug/L	0.05	0.01	0.94	308045	02/22/23	02/22/23	TRN
Aldrin	ND		ug/L	0.05	0.02	0.94	308045	02/22/23	02/22/23	TRN
Heptachlor epoxide	ND		ug/L	0.05	0.01	0.94	308045	02/22/23	02/22/23	TRN
Endosulfan I	ND		ug/L	0.05	0.01	0.94	308045	02/22/23	02/22/23	TRN
Dieldrin	ND		ug/L	0.09	0.01	0.94	308045	02/22/23	02/22/23	TRN
4,4'-DDE	ND		ug/L	0.09	0.01	0.94	308045	02/22/23	02/22/23	TRN
Endrin	ND		ug/L	0.09	0.01	0.94	308045	02/22/23	02/22/23	TRN
Endosulfan II	ND		ug/L	0.09	0.02	0.94	308045	02/22/23	02/22/23	TRN
Endosulfan sulfate	ND		ug/L	0.09	0.02	0.94	308045	02/22/23	02/22/23	TRN
4,4'-DDD	ND		ug/L	0.09	0.03	0.94	308045	02/22/23	02/22/23	TRN
Endrin aldehyde	ND		ug/L	0.09	0.02	0.94	308045	02/22/23	02/22/23	TRN
Endrin ketone	ND		ug/L	0.09	0.02	0.94	308045	02/22/23	02/22/23	TRN
4,4'-DDT	ND		ug/L	0.09	0.02	0.94	308045	02/22/23	02/22/23	TRN
Methoxychlor	ND		ug/L	0.2	0.03	0.94	308045	02/22/23	02/22/23	TRN
Toxaphene	ND		ug/L	1.9	0.3	0.94	308045	02/22/23	02/22/23	TRN
Chlordane (Technical)	ND		ug/L	0.9	0.3	0.94	308045	02/22/23	02/22/23	TRN
Surrogates				**Limits**						
TCMX	81%		%REC	14-120		0.94	308045	02/22/23	02/22/23	TRN
Decachlorobiphenyl	97%		%REC	20-120		0.94	308045	02/22/23	02/22/23	TRN
Method: EPA 8082 Prep Method: EPA 3510C										
Aroclor-1016	ND		ug/L	0.47	0.14	0.94	308045	02/22/23	02/22/23	TRN
Aroclor-1221	ND		ug/L	0.47	0.47	0.94	308045	02/22/23	02/22/23	TRN
Aroclor-1232	ND		ug/L	0.47	0.47	0.94	308045	02/22/23	02/22/23	TRN
Aroclor-1242	ND		ug/L	0.47	0.16	0.94	308045	02/22/23	02/22/23	TRN
Aroclor-1248	ND		ug/L	0.47	0.47	0.94	308045	02/22/23	02/22/23	TRN
Aroclor-1254	ND		ug/L	0.47	0.26	0.94	308045	02/22/23	02/22/23	TRN
Aroclor-1260	ND		ug/L	0.47	0.19	0.94	308045	02/22/23	02/22/23	TRN
Aroclor-1262	ND		ug/L	0.47	0.47	0.94	308045	02/22/23	02/22/23	TRN
Aroclor-1268	ND		ug/L	0.47	0.12	0.94	308045	02/22/23	02/22/23	TRN
Surrogates				**Limits**						
Decachlorobiphenyl (PCB)	96%		%REC	18-126		0.94	308045	02/22/23	02/22/23	TRN

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 479920

479920-031 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 8260B Prep Method: EPA 5030B										
3-Chloropropene	ND		ug/L	5.0	0.7	1	308126	02/22/23	02/22/23	EJB
Freon 12	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
Chloromethane	ND		ug/L	5.0	0.4	1	308126	02/22/23	02/22/23	EJB
Vinyl Chloride	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
Bromomethane	ND		ug/L	5.0	0.4	1	308126	02/22/23	02/22/23	EJB
Chloroethane	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
Trichlorofluoromethane	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
Acetone	ND		ug/L	100	6.8	1	308126	02/22/23	02/22/23	EJB
Freon 113	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
1,1-Dichloroethene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
Methylene Chloride	ND		ug/L	5.0	2.9	1	308126	02/22/23	02/22/23	EJB
MTBE	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
trans-1,2-Dichloroethene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
1,1-Dichloroethane	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
2-Butanone	ND		ug/L	100	0.8	1	308126	02/22/23	02/22/23	EJB
cis-1,2-Dichloroethene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
2,2-Dichloropropane	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
Chloroform	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
Bromochloromethane	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
1,1,1-Trichloroethane	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
1,1-Dichloropropene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
Carbon Tetrachloride	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
1,2-Dichloroethane	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
Benzene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
Trichloroethene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
1,2-Dichloropropane	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
Bromodichloromethane	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
Dibromomethane	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
4-Methyl-2-Pentanone	ND		ug/L	5.0	0.7	1	308126	02/22/23	02/22/23	EJB
cis-1,3-Dichloropropene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
Toluene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
trans-1,3-Dichloropropene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
1,1,2-Trichloroethane	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
1,3-Dichloropropane	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
Tetrachloroethene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
Dibromochloromethane	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
1,2-Dibromoethane	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
Chlorobenzene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
1,1,1,2-Tetrachloroethane	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
Ethylbenzene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
m,p-Xylenes	ND		ug/L	10	0.4	1	308126	02/22/23	02/22/23	EJB
o-Xylene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
Styrene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
Bromoform	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 479920

479920-031 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Isopropylbenzene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
1,1,2,2-Tetrachloroethane	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
1,2,3-Trichloropropane	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
Propylbenzene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
Bromobenzene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
1,3,5-Trimethylbenzene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
2-Chlorotoluene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
4-Chlorotoluene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
tert-Butylbenzene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
1,2,4-Trimethylbenzene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
sec-Butylbenzene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
para-Isopropyl Toluene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
1,3-Dichlorobenzene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
1,4-Dichlorobenzene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
n-Butylbenzene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
1,2-Dichlorobenzene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
1,2-Dibromo-3-Chloropropane	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
1,2,4-Trichlorobenzene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
Hexachlorobutadiene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
Naphthalene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
1,2,3-Trichlorobenzene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
cis-1,4-Dichloro-2-butene	ND		ug/L	5.0	0.8	1	308126	02/22/23	02/22/23	EJB
trans-1,4-Dichloro-2-butene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
Xylene (total)	ND		ug/L	5.0		1	308126	02/22/23	02/22/23	EJB
Surrogates				**Limits**						
Dibromofluoromethane	110%		%REC	70-140	1.7	1	308126	02/22/23	02/22/23	EJB
1,2-Dichloroethane-d4	100%		%REC	70-140		1	308126	02/22/23	02/22/23	EJB
Toluene-d8	99%		%REC	70-140	5.7	1	308126	02/22/23	02/22/23	EJB
Bromofluorobenzene	103%		%REC	70-140		1	308126	02/22/23	02/22/23	EJB

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 479920

Sample ID: B10-0.5	Lab ID: 479920-032	Collected: 02/20/23 12:32
	Matrix: Soil	

479920-032 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3050B										
Arsenic	**10**		mg/Kg	0.95	0.72	0.95	308213	02/22/23	02/22/23	THP
Lead	**10**		mg/Kg	0.48	0.087	0.95	308213	02/22/23	02/22/23	THP
Method: EPA 8081A Prep Method: EPA 3546										
alpha-BHC	ND		ug/Kg	5.0	1.2	1	308301	02/23/23	02/24/23	TRN
beta-BHC	ND		ug/Kg	5.0	1.7	1	308301	02/23/23	02/24/23	TRN
gamma-BHC	ND		ug/Kg	5.0	1.0	1	308301	02/23/23	02/24/23	TRN
delta-BHC	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/24/23	TRN
Heptachlor	ND		ug/Kg	5.0	1.5	1	308301	02/23/23	02/24/23	TRN
Aldrin	ND		ug/Kg	5.0	1.3	1	308301	02/23/23	02/24/23	TRN
Heptachlor epoxide	ND		ug/Kg	5.0	1.8	1	308301	02/23/23	02/24/23	TRN
Endosulfan I	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/24/23	TRN
Dieldrin	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/24/23	TRN
4,4'-DDE	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/24/23	TRN
Endrin	ND		ug/Kg	5.0	1.6	1	308301	02/23/23	02/24/23	TRN
Endosulfan II	ND		ug/Kg	5.0	1.6	1	308301	02/23/23	02/24/23	TRN
Endosulfan sulfate	ND		ug/Kg	5.0	1.6	1	308301	02/23/23	02/24/23	TRN
4,4'-DDD	ND		ug/Kg	5.0	1.1	1	308301	02/23/23	02/24/23	TRN
Endrin aldehyde	ND		ug/Kg	5.0	1.7	1	308301	02/23/23	02/24/23	TRN
Endrin ketone	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/24/23	TRN
4,4'-DDT	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/24/23	TRN
Methoxychlor	ND		ug/Kg	10	5.1	1	308301	02/23/23	02/24/23	TRN
Toxaphene	ND		ug/Kg	100	15	1	308301	02/23/23	02/24/23	TRN
Chlordane (Technical)	ND		ug/Kg	50	11	1	308301	02/23/23	02/24/23	TRN
Surrogates				**Limits**						
TCMX	71%		%REC	23-120		1	308301	02/23/23	02/24/23	TRN
Decachlorobiphenyl	91%		%REC	24-120		1	308301	02/23/23	02/24/23	TRN

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 479920

Sample ID: B10-2	Lab ID: 479920-033	Collected: 02/20/23 12:32
	Matrix: Soil	

479920-033 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3050B										
Arsenic	**18**		mg/Kg	0.99	0.74	0.99	308213	02/22/23	02/22/23	THP
Lead	**13**		mg/Kg	0.50	0.090	0.99	308213	02/22/23	02/22/23	THP
Method: EPA 8081A Prep Method: EPA 3546										
alpha-BHC	ND		ug/Kg	4.9	1.2	0.98	308301	02/23/23	02/24/23	TRN
beta-BHC	ND		ug/Kg	4.9	1.6	0.98	308301	02/23/23	02/24/23	TRN
gamma-BHC	ND		ug/Kg	4.9	1.0	0.98	308301	02/23/23	02/24/23	TRN
delta-BHC	ND		ug/Kg	4.9	1.3	0.98	308301	02/23/23	02/24/23	TRN
Heptachlor	ND		ug/Kg	4.9	1.5	0.98	308301	02/23/23	02/24/23	TRN
Aldrin	ND		ug/Kg	4.9	1.3	0.98	308301	02/23/23	02/24/23	TRN
Heptachlor epoxide	ND		ug/Kg	4.9	1.8	0.98	308301	02/23/23	02/24/23	TRN
Endosulfan I	ND		ug/Kg	4.9	1.4	0.98	308301	02/23/23	02/24/23	TRN
Dieldrin	ND		ug/Kg	4.9	1.4	0.98	308301	02/23/23	02/24/23	TRN
4,4'-DDE	ND		ug/Kg	4.9	1.4	0.98	308301	02/23/23	02/24/23	TRN
Endrin	ND		ug/Kg	4.9	1.5	0.98	308301	02/23/23	02/24/23	TRN
Endosulfan II	ND		ug/Kg	4.9	1.5	0.98	308301	02/23/23	02/24/23	TRN
Endosulfan sulfate	ND		ug/Kg	4.9	1.6	0.98	308301	02/23/23	02/24/23	TRN
4,4'-DDD	ND		ug/Kg	4.9	1.1	0.98	308301	02/23/23	02/24/23	TRN
Endrin aldehyde	ND		ug/Kg	4.9	1.7	0.98	308301	02/23/23	02/24/23	TRN
Endrin ketone	ND		ug/Kg	4.9	1.4	0.98	308301	02/23/23	02/24/23	TRN
4,4'-DDT	ND		ug/Kg	4.9	1.4	0.98	308301	02/23/23	02/24/23	TRN
Methoxychlor	ND		ug/Kg	9.8	5.0	0.98	308301	02/23/23	02/24/23	TRN
Toxaphene	ND		ug/Kg	98	15	0.98	308301	02/23/23	02/24/23	TRN
Chlordane (Technical)	ND		ug/Kg	49	11	0.98	308301	02/23/23	02/24/23	TRN
Surrogates				**Limits**						
TCMX	66%		%REC	23-120		0.98	308301	02/23/23	02/24/23	TRN
Decachlorobiphenyl	71%		%REC	24-120		0.98	308301	02/23/23	02/24/23	TRN

Sample ID: B10-4	Lab ID: 479920-034	Collected: 02/20/23 12:32
	Matrix: Soil	

479920-034 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3050B										
Arsenic	**17**		mg/Kg	0.97	0.27	0.97	309379	03/09/23	03/09/23	JCP

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 479920

Sample ID: B7-0.5	Lab ID: 479920-035	Collected: 02/20/23 12:32
	Matrix: Soil	

479920-035 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3050B										
Arsenic	**9.6**		mg/Kg	0.95	0.72	0.95	308213	02/22/23	02/22/23	THP
Lead	**10**		mg/Kg	0.48	0.087	0.95	308213	02/22/23	02/22/23	THP
Method: EPA 8081A Prep Method: EPA 3546										
alpha-BHC	ND		ug/Kg	4.9	1.2	0.99	308301	02/23/23	02/24/23	TRN
beta-BHC	ND		ug/Kg	4.9	1.7	0.99	308301	02/23/23	02/24/23	TRN
gamma-BHC	ND		ug/Kg	4.9	1.0	0.99	308301	02/23/23	02/24/23	TRN
delta-BHC	ND		ug/Kg	4.9	1.3	0.99	308301	02/23/23	02/24/23	TRN
Heptachlor	ND		ug/Kg	4.9	1.5	0.99	308301	02/23/23	02/24/23	TRN
Aldrin	ND		ug/Kg	4.9	1.3	0.99	308301	02/23/23	02/24/23	TRN
Heptachlor epoxide	ND		ug/Kg	4.9	1.8	0.99	308301	02/23/23	02/24/23	TRN
Endosulfan I	ND		ug/Kg	4.9	1.4	0.99	308301	02/23/23	02/24/23	TRN
Dieldrin	ND		ug/Kg	4.9	1.4	0.99	308301	02/23/23	02/24/23	TRN
4,4'-DDE	ND		ug/Kg	4.9	1.4	0.99	308301	02/23/23	02/24/23	TRN
Endrin	ND		ug/Kg	4.9	1.5	0.99	308301	02/23/23	02/24/23	TRN
Endosulfan II	ND		ug/Kg	4.9	1.5	0.99	308301	02/23/23	02/24/23	TRN
Endosulfan sulfate	ND		ug/Kg	4.9	1.6	0.99	308301	02/23/23	02/24/23	TRN
4,4'-DDD	ND		ug/Kg	4.9	1.1	0.99	308301	02/23/23	02/24/23	TRN
Endrin aldehyde	ND		ug/Kg	4.9	1.7	0.99	308301	02/23/23	02/24/23	TRN
Endrin ketone	ND		ug/Kg	4.9	1.4	0.99	308301	02/23/23	02/24/23	TRN
4,4'-DDT	ND		ug/Kg	4.9	1.4	0.99	308301	02/23/23	02/24/23	TRN
Methoxychlor	ND		ug/Kg	9.9	5.0	0.99	308301	02/23/23	02/24/23	TRN
Toxaphene	ND		ug/Kg	99	15	0.99	308301	02/23/23	02/24/23	TRN
Chlordane (Technical)	ND		ug/Kg	49	11	0.99	308301	02/23/23	02/24/23	TRN
Surrogates				**Limits**						
TCMX	65%		%REC	23-120		0.99	308301	02/23/23	02/24/23	TRN
Decachlorobiphenyl	72%		%REC	24-120		0.99	308301	02/23/23	02/24/23	TRN
Method: EPA 8082 Prep Method: EPA 3546										
Aroclor-1016	ND		ug/Kg	49	14	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1221	ND		ug/Kg	49	22	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1232	ND		ug/Kg	49	18	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1242	ND		ug/Kg	49	18	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1248	ND		ug/Kg	49	21	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1254	ND		ug/Kg	49	6.5	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1260	ND		ug/Kg	49	24	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1262	ND		ug/Kg	49	16	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1268	ND		ug/Kg	49	13	0.99	308301	02/23/23	02/24/23	TRN
Surrogates				**Limits**						
Decachlorobiphenyl (PCB)	70%		%REC	19-121	24	0.99	308301	02/23/23	02/24/23	TRN

Results for any subcontracted analyses are not included in this section.

Analysis Results for 479920

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 479920

Sample ID: B7-0.5 DUP	Lab ID: 479920-036	Collected: 02/20/23 12:40
	Matrix: Soil	

479920-036 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3050B										
Arsenic	**9.5**		mg/Kg	1.0	0.75	1	308213	02/22/23	02/22/23	THP
Lead	**9.1**		mg/Kg	0.50	0.091	1	308213	02/22/23	02/22/23	THP
Method: EPA 8081A Prep Method: EPA 3546										
alpha-BHC	ND		ug/Kg	5.0	1.2	1	308301	02/23/23	02/24/23	TRN
beta-BHC	ND		ug/Kg	5.0	1.7	1	308301	02/23/23	02/24/23	TRN
gamma-BHC	ND		ug/Kg	5.0	1.0	1	308301	02/23/23	02/24/23	TRN
delta-BHC	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/24/23	TRN
Heptachlor	ND		ug/Kg	5.0	1.5	1	308301	02/23/23	02/24/23	TRN
Aldrin	ND		ug/Kg	5.0	1.3	1	308301	02/23/23	02/24/23	TRN
Heptachlor epoxide	ND		ug/Kg	5.0	1.8	1	308301	02/23/23	02/24/23	TRN
Endosulfan I	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/24/23	TRN
Dieldrin	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/24/23	TRN
4,4'-DDE	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/24/23	TRN
Endrin	ND		ug/Kg	5.0	1.6	1	308301	02/23/23	02/24/23	TRN
Endosulfan II	ND		ug/Kg	5.0	1.6	1	308301	02/23/23	02/24/23	TRN
Endosulfan sulfate	ND		ug/Kg	5.0	1.6	1	308301	02/23/23	02/24/23	TRN
4,4'-DDD	ND		ug/Kg	5.0	1.1	1	308301	02/23/23	02/24/23	TRN
Endrin aldehyde	ND		ug/Kg	5.0	1.7	1	308301	02/23/23	02/24/23	TRN
Endrin ketone	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/24/23	TRN
4,4'-DDT	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/24/23	TRN
Methoxychlor	ND		ug/Kg	10	5.1	1	308301	02/23/23	02/24/23	TRN
Toxaphene	ND		ug/Kg	100	15	1	308301	02/23/23	02/24/23	TRN
Chlordane (Technical)	ND		ug/Kg	50	11	1	308301	02/23/23	02/24/23	TRN
Surrogates				**Limits**						
TCMX	60%		%REC	23-120		1	308301	02/23/23	02/24/23	TRN
Decachlorobiphenyl	66%		%REC	24-120		1	308301	02/23/23	02/24/23	TRN
Method: EPA 8082 Prep Method: EPA 3546										
Aroclor-1016	ND		ug/Kg	50	14	1	308301	02/23/23	02/24/23	TRN
Aroclor-1221	ND		ug/Kg	50	23	1	308301	02/23/23	02/24/23	TRN
Aroclor-1232	ND		ug/Kg	50	19	1	308301	02/23/23	02/24/23	TRN
Aroclor-1242	ND		ug/Kg	50	18	1	308301	02/23/23	02/24/23	TRN
Aroclor-1248	ND		ug/Kg	50	21	1	308301	02/23/23	02/24/23	TRN
Aroclor-1254	ND		ug/Kg	50	6.6	1	308301	02/23/23	02/24/23	TRN
Aroclor-1260	ND		ug/Kg	50	24	1	308301	02/23/23	02/24/23	TRN
Aroclor-1262	ND		ug/Kg	50	16	1	308301	02/23/23	02/24/23	TRN
Aroclor-1268	ND		ug/Kg	50	13	1	308301	02/23/23	02/24/23	TRN
Surrogates				**Limits**						
Decachlorobiphenyl (PCB)	63%		%REC	19-121	24	1	308301	02/23/23	02/24/23	TRN

Results for any subcontracted analyses are not included in this section.

Analysis Results for 479920

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 479920

Sample ID: B7-2	Lab ID: 479920-037	Collected: 02/20/23 12:40
	Matrix: Soil	

479920-037 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3050B										
Arsenic	**19**		mg/Kg	0.96	0.72	0.96	308213	02/22/23	02/22/23	THP
Lead	**13**		mg/Kg	0.48	0.088	0.96	308213	02/22/23	02/22/23	THP
Method: EPA 8081A Prep Method: EPA 3546										
alpha-BHC	ND		ug/Kg	5.0	1.2	1	308301	02/23/23	02/24/23	TRN
beta-BHC	ND		ug/Kg	5.0	1.7	1	308301	02/23/23	02/24/23	TRN
gamma-BHC	ND		ug/Kg	5.0	1.0	1	308301	02/23/23	02/24/23	TRN
delta-BHC	ND		ug/Kg	5.0	1.3	1	308301	02/23/23	02/24/23	TRN
Heptachlor	ND		ug/Kg	5.0	1.5	1	308301	02/23/23	02/24/23	TRN
Aldrin	ND		ug/Kg	5.0	1.3	1	308301	02/23/23	02/24/23	TRN
Heptachlor epoxide	ND		ug/Kg	5.0	1.8	1	308301	02/23/23	02/24/23	TRN
Endosulfan I	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/24/23	TRN
Dieldrin	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/24/23	TRN
4,4'-DDE	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/24/23	TRN
Endrin	ND		ug/Kg	5.0	1.6	1	308301	02/23/23	02/24/23	TRN
Endosulfan II	ND		ug/Kg	5.0	1.6	1	308301	02/23/23	02/24/23	TRN
Endosulfan sulfate	ND		ug/Kg	5.0	1.6	1	308301	02/23/23	02/24/23	TRN
4,4'-DDD	ND		ug/Kg	5.0	1.1	1	308301	02/23/23	02/24/23	TRN
Endrin aldehyde	ND		ug/Kg	5.0	1.7	1	308301	02/23/23	02/24/23	TRN
Endrin ketone	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/24/23	TRN
4,4'-DDT	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/24/23	TRN
Methoxychlor	ND		ug/Kg	10	5.0	1	308301	02/23/23	02/24/23	TRN
Toxaphene	ND		ug/Kg	100	15	1	308301	02/23/23	02/24/23	TRN
Chlordane (Technical)	ND		ug/Kg	50	11	1	308301	02/23/23	02/24/23	TRN
Surrogates				**Limits**						
TCMX	70%		%REC	23-120		1	308301	02/23/23	02/24/23	TRN
Decachlorobiphenyl	81%		%REC	24-120		1	308301	02/23/23	02/24/23	TRN
Method: EPA 8082 Prep Method: EPA 3546										
Aroclor-1016	ND		ug/Kg	50	14	1	308301	02/23/23	02/24/23	TRN
Aroclor-1221	ND		ug/Kg	50	23	1	308301	02/23/23	02/24/23	TRN
Aroclor-1232	ND		ug/Kg	50	18	1	308301	02/23/23	02/24/23	TRN
Aroclor-1242	ND		ug/Kg	50	18	1	308301	02/23/23	02/24/23	TRN
Aroclor-1248	ND		ug/Kg	50	21	1	308301	02/23/23	02/24/23	TRN
Aroclor-1254	ND		ug/Kg	50	6.5	1	308301	02/23/23	02/24/23	TRN
Aroclor-1260	ND		ug/Kg	50	24	1	308301	02/23/23	02/24/23	TRN
Aroclor-1262	ND		ug/Kg	50	16	1	308301	02/23/23	02/24/23	TRN
Aroclor-1268	ND		ug/Kg	50	13	1	308301	02/23/23	02/24/23	TRN
Surrogates				**Limits**						
Decachlorobiphenyl (PCB)	80%		%REC	19-121	24	1	308301	02/23/23	02/24/23	TRN

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 479920

Sample ID: B7-4	Lab ID: 479920-038	Collected: 02/20/23 12:40
	Matrix: Soil	

479920-038 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3050B										
Arsenic	**16**		mg/Kg	0.93	0.26	0.93	309379	03/09/23	03/09/23	JCP

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 479920

Sample ID: B8-0.5	Lab ID: 479920-039	Collected: 02/20/23 12:51
	Matrix: Soil	

479920-039 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3050B										
Arsenic	**8.7**		mg/Kg	0.96	0.72	0.96	308213	02/22/23	02/22/23	THP
Lead	**8.7**		mg/Kg	0.48	0.088	0.96	308213	02/22/23	02/22/23	THP
Method: EPA 8081A Prep Method: EPA 3546										
alpha-BHC	ND		ug/Kg	4.9	1.2	0.98	308301	02/23/23	02/24/23	TRN
beta-BHC	ND		ug/Kg	4.9	1.7	0.98	308301	02/23/23	02/24/23	TRN
gamma-BHC	ND		ug/Kg	4.9	1.0	0.98	308301	02/23/23	02/24/23	TRN
delta-BHC	ND		ug/Kg	4.9	1.3	0.98	308301	02/23/23	02/24/23	TRN
Heptachlor	ND		ug/Kg	4.9	1.5	0.98	308301	02/23/23	02/24/23	TRN
Aldrin	ND		ug/Kg	4.9	1.3	0.98	308301	02/23/23	02/24/23	TRN
Heptachlor epoxide	ND		ug/Kg	4.9	1.8	0.98	308301	02/23/23	02/24/23	TRN
Endosulfan I	ND		ug/Kg	4.9	1.4	0.98	308301	02/23/23	02/24/23	TRN
Dieldrin	ND		ug/Kg	4.9	1.4	0.98	308301	02/23/23	02/24/23	TRN
4,4'-DDE	ND		ug/Kg	4.9	1.4	0.98	308301	02/23/23	02/24/23	TRN
Endrin	ND		ug/Kg	4.9	1.5	0.98	308301	02/23/23	02/24/23	TRN
Endosulfan II	ND		ug/Kg	4.9	1.5	0.98	308301	02/23/23	02/24/23	TRN
Endosulfan sulfate	ND		ug/Kg	4.9	1.6	0.98	308301	02/23/23	02/24/23	TRN
4,4'-DDD	ND		ug/Kg	4.9	1.1	0.98	308301	02/23/23	02/24/23	TRN
Endrin aldehyde	ND		ug/Kg	4.9	1.7	0.98	308301	02/23/23	02/24/23	TRN
Endrin ketone	ND		ug/Kg	4.9	1.4	0.98	308301	02/23/23	02/24/23	TRN
4,4'-DDT	ND		ug/Kg	4.9	1.4	0.98	308301	02/23/23	02/24/23	TRN
Methoxychlor	ND		ug/Kg	9.8	5.0	0.98	308301	02/23/23	02/24/23	TRN
Toxaphene	ND		ug/Kg	98	15	0.98	308301	02/23/23	02/24/23	TRN
Chlordane (Technical)	ND		ug/Kg	49	11	0.98	308301	02/23/23	02/24/23	TRN
Surrogates				**Limits**						
TCMX	70%		%REC	23-120		0.98	308301	02/23/23	02/24/23	TRN
Decachlorobiphenyl	76%		%REC	24-120		0.98	308301	02/23/23	02/24/23	TRN
Method: EPA 8082 Prep Method: EPA 3546										
Aroclor-1016	ND		ug/Kg	49	14	0.98	308301	02/23/23	02/24/23	TRN
Aroclor-1221	ND		ug/Kg	49	22	0.98	308301	02/23/23	02/24/23	TRN
Aroclor-1232	ND		ug/Kg	49	18	0.98	308301	02/23/23	02/24/23	TRN
Aroclor-1242	ND		ug/Kg	49	18	0.98	308301	02/23/23	02/24/23	TRN
Aroclor-1248	ND		ug/Kg	49	21	0.98	308301	02/23/23	02/24/23	TRN
Aroclor-1254	ND		ug/Kg	49	6.5	0.98	308301	02/23/23	02/24/23	TRN
Aroclor-1260	ND		ug/Kg	49	24	0.98	308301	02/23/23	02/24/23	TRN
Aroclor-1262	ND		ug/Kg	49	16	0.98	308301	02/23/23	02/24/23	TRN
Aroclor-1268	ND		ug/Kg	49	13	0.98	308301	02/23/23	02/24/23	TRN
Surrogates				**Limits**						
Decachlorobiphenyl (PCB)	73%		%REC	19-121	24	0.98	308301	02/23/23	02/24/23	TRN

Results for any subcontracted analyses are not included in this section.

Analysis Results for 479920

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 479920

Sample ID: B8-2	Lab ID: 479920-040	Collected: 02/20/23 12:51
	Matrix: Soil	

479920-040 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3050B										
Arsenic	**18**		mg/Kg	0.99	0.74	0.99	308213	02/22/23	02/22/23	THP
Lead	**13**		mg/Kg	0.50	0.090	0.99	308213	02/22/23	02/22/23	THP
Method: EPA 8081A Prep Method: EPA 3546										
alpha-BHC	ND		ug/Kg	5.0	1.2	0.99	308301	02/23/23	02/24/23	TRN
beta-BHC	ND		ug/Kg	5.0	1.7	0.99	308301	02/23/23	02/24/23	TRN
gamma-BHC	ND		ug/Kg	5.0	1.0	0.99	308301	02/23/23	02/24/23	TRN
delta-BHC	ND		ug/Kg	5.0	1.3	0.99	308301	02/23/23	02/24/23	TRN
Heptachlor	ND		ug/Kg	5.0	1.5	0.99	308301	02/23/23	02/24/23	TRN
Aldrin	ND		ug/Kg	5.0	1.3	0.99	308301	02/23/23	02/24/23	TRN
Heptachlor epoxide	ND		ug/Kg	5.0	1.8	0.99	308301	02/23/23	02/24/23	TRN
Endosulfan I	ND		ug/Kg	5.0	1.4	0.99	308301	02/23/23	02/24/23	TRN
Dieldrin	ND		ug/Kg	5.0	1.4	0.99	308301	02/23/23	02/24/23	TRN
4,4'-DDE	ND		ug/Kg	5.0	1.4	0.99	308301	02/23/23	02/24/23	TRN
Endrin	ND		ug/Kg	5.0	1.6	0.99	308301	02/23/23	02/24/23	TRN
Endosulfan II	ND		ug/Kg	5.0	1.6	0.99	308301	02/23/23	02/24/23	TRN
Endosulfan sulfate	ND		ug/Kg	5.0	1.6	0.99	308301	02/23/23	02/24/23	TRN
4,4'-DDD	ND		ug/Kg	5.0	1.1	0.99	308301	02/23/23	02/24/23	TRN
Endrin aldehyde	ND		ug/Kg	5.0	1.7	0.99	308301	02/23/23	02/24/23	TRN
Endrin ketone	ND		ug/Kg	5.0	1.4	0.99	308301	02/23/23	02/24/23	TRN
4,4'-DDT	ND		ug/Kg	5.0	1.4	0.99	308301	02/23/23	02/24/23	TRN
Methoxychlor	ND		ug/Kg	9.9	5.0	0.99	308301	02/23/23	02/24/23	TRN
Toxaphene	ND		ug/Kg	99	15	0.99	308301	02/23/23	02/24/23	TRN
Chlordane (Technical)	ND		ug/Kg	50	11	0.99	308301	02/23/23	02/24/23	TRN
Surrogates				**Limits**						
TCMX	68%		%REC	23-120		0.99	308301	02/23/23	02/24/23	TRN
Decachlorobiphenyl	76%		%REC	24-120		0.99	308301	02/23/23	02/24/23	TRN
Method: EPA 8082 Prep Method: EPA 3546										
Aroclor-1016	ND		ug/Kg	50	14	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1221	ND		ug/Kg	50	22	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1232	ND		ug/Kg	50	18	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1242	ND		ug/Kg	50	18	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1248	ND		ug/Kg	50	21	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1254	ND		ug/Kg	50	6.5	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1260	ND		ug/Kg	50	24	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1262	ND		ug/Kg	50	16	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1268	ND		ug/Kg	50	13	0.99	308301	02/23/23	02/24/23	TRN
Surrogates				**Limits**						
Decachlorobiphenyl (PCB)	73%		%REC	19-121	24	0.99	308301	02/23/23	02/24/23	TRN

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 479920

Sample ID: B8-4	Lab ID: 479920-041	Collected: 02/20/23 12:51
	Matrix: Soil	

479920-041 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3050B										
Arsenic	**17**		mg/Kg	0.90	0.25	0.9	309379	03/09/23	03/09/23	JCP

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 479920

Sample ID: B9-0.5	Lab ID: 479920-042	Collected: 02/20/23 12:59
	Matrix: Soil	

479920-042 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3050B										
Arsenic	**2.5**		mg/Kg	0.96	0.72	0.96	308213	02/22/23	02/22/23	THP
Lead	**9.8**		mg/Kg	0.48	0.088	0.96	308213	02/22/23	02/22/23	THP
Method: EPA 8081A Prep Method: EPA 3546										
alpha-BHC	ND		ug/Kg	100	24	20	308301	02/23/23	02/24/23	TRN
beta-BHC	ND		ug/Kg	100	33	20	308301	02/23/23	02/24/23	TRN
gamma-BHC	ND		ug/Kg	100	21	20	308301	02/23/23	02/24/23	TRN
delta-BHC	ND		ug/Kg	100	27	20	308301	02/23/23	02/24/23	TRN
Heptachlor	ND		ug/Kg	100	30	20	308301	02/23/23	02/24/23	TRN
Aldrin	ND		ug/Kg	100	26	20	308301	02/23/23	02/24/23	TRN
Heptachlor epoxide	ND		ug/Kg	100	36	20	308301	02/23/23	02/24/23	TRN
Endosulfan I	ND		ug/Kg	100	28	20	308301	02/23/23	02/24/23	TRN
Dieldrin	ND		ug/Kg	100	29	20	308301	02/23/23	02/24/23	TRN
4,4'-DDE	ND		ug/Kg	100	29	20	308301	02/23/23	02/24/23	TRN
Endrin	ND		ug/Kg	100	31	20	308301	02/23/23	02/24/23	TRN
Endosulfan II	ND		ug/Kg	100	31	20	308301	02/23/23	02/24/23	TRN
Endosulfan sulfate	ND		ug/Kg	100	32	20	308301	02/23/23	02/24/23	TRN
4,4'-DDD	ND		ug/Kg	100	22	20	308301	02/23/23	02/24/23	TRN
Endrin aldehyde	ND		ug/Kg	100	34	20	308301	02/23/23	02/24/23	TRN
Endrin ketone	ND		ug/Kg	100	28	20	308301	02/23/23	02/24/23	TRN
4,4'-DDT	ND		ug/Kg	100	29	20	308301	02/23/23	02/24/23	TRN
Methoxychlor	ND		ug/Kg	200	100	20	308301	02/23/23	02/24/23	TRN
Toxaphene	ND		ug/Kg	2,000	290	20	308301	02/23/23	02/24/23	TRN
Chlordane (Technical)	ND		ug/Kg	1,000	220	20	308301	02/23/23	02/24/23	TRN
Surrogates				**Limits**						
TCMX		DO	%REC	23-120		20	308301	02/23/23	02/24/23	TRN
Decachlorobiphenyl		DO	%REC	24-120		20	308301	02/23/23	02/24/23	TRN
Method: EPA 8082 Prep Method: EPA 3546										
Aroclor-1016	ND		ug/Kg	250	72	5	308301	02/23/23	02/24/23	TRN
Aroclor-1221	ND		ug/Kg	250	110	5	308301	02/23/23	02/24/23	TRN
Aroclor-1232	ND		ug/Kg	250	92	5	308301	02/23/23	02/24/23	TRN
Aroclor-1242	ND		ug/Kg	250	89	5	308301	02/23/23	02/24/23	TRN
Aroclor-1248	ND		ug/Kg	250	110	5	308301	02/23/23	02/24/23	TRN
Aroclor-1254	ND		ug/Kg	250	33	5	308301	02/23/23	02/24/23	TRN
Aroclor-1260	ND		ug/Kg	250	120	5	308301	02/23/23	02/24/23	TRN
Aroclor-1262	ND		ug/Kg	250	82	5	308301	02/23/23	02/24/23	TRN
Aroclor-1268	ND		ug/Kg	250	67	5	308301	02/23/23	02/24/23	TRN
Surrogates				**Limits**						
Decachlorobiphenyl (PCB)	78%		%REC	19-121	120	5	308301	02/23/23	02/24/23	TRN

Results for any subcontracted analyses are not included in this section.

Analysis Results for 479920

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 479920

Sample ID: B9-2	Lab ID: 479920-043	Collected: 02/20/23 12:59
	Matrix: Soil	

479920-043 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3050B										
Arsenic	**10**		mg/Kg	0.97	0.73	0.97	308213	02/22/23	02/22/23	THP
Lead	**9.5**		mg/Kg	0.49	0.089	0.97	308213	02/22/23	02/22/23	THP
Method: EPA 8081A Prep Method: EPA 3546										
alpha-BHC	ND		ug/Kg	5.0	1.2	0.99	308301	02/23/23	02/24/23	TRN
beta-BHC	ND		ug/Kg	5.0	1.7	0.99	308301	02/23/23	02/24/23	TRN
gamma-BHC	ND		ug/Kg	5.0	1.0	0.99	308301	02/23/23	02/24/23	TRN
delta-BHC	ND		ug/Kg	5.0	1.3	0.99	308301	02/23/23	02/24/23	TRN
Heptachlor	ND		ug/Kg	5.0	1.5	0.99	308301	02/23/23	02/24/23	TRN
Aldrin	ND		ug/Kg	5.0	1.3	0.99	308301	02/23/23	02/24/23	TRN
Heptachlor epoxide	ND		ug/Kg	5.0	1.8	0.99	308301	02/23/23	02/24/23	TRN
Endosulfan I	ND		ug/Kg	5.0	1.4	0.99	308301	02/23/23	02/24/23	TRN
Dieldrin	ND		ug/Kg	5.0	1.4	0.99	308301	02/23/23	02/24/23	TRN
4,4'-DDE	ND		ug/Kg	5.0	1.4	0.99	308301	02/23/23	02/24/23	TRN
Endrin	ND		ug/Kg	5.0	1.6	0.99	308301	02/23/23	02/24/23	TRN
Endosulfan II	ND		ug/Kg	5.0	1.6	0.99	308301	02/23/23	02/24/23	TRN
Endosulfan sulfate	ND		ug/Kg	5.0	1.6	0.99	308301	02/23/23	02/24/23	TRN
4,4'-DDD	ND		ug/Kg	5.0	1.1	0.99	308301	02/23/23	02/24/23	TRN
Endrin aldehyde	ND		ug/Kg	5.0	1.7	0.99	308301	02/23/23	02/24/23	TRN
Endrin ketone	ND		ug/Kg	5.0	1.4	0.99	308301	02/23/23	02/24/23	TRN
4,4'-DDT	ND		ug/Kg	5.0	1.4	0.99	308301	02/23/23	02/24/23	TRN
Methoxychlor	ND		ug/Kg	9.9	5.0	0.99	308301	02/23/23	02/24/23	TRN
Toxaphene	ND		ug/Kg	99	15	0.99	308301	02/23/23	02/24/23	TRN
Chlordane (Technical)	ND		ug/Kg	50	11	0.99	308301	02/23/23	02/24/23	TRN
Surrogates				**Limits**						
TCMX	70%		%REC	23-120		0.99	308301	02/23/23	02/24/23	TRN
Decachlorobiphenyl	82%		%REC	24-120		0.99	308301	02/23/23	02/24/23	TRN
Method: EPA 8082 Prep Method: EPA 3546										
Aroclor-1016	ND		ug/Kg	50	14	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1221	ND		ug/Kg	50	22	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1232	ND		ug/Kg	50	18	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1242	ND		ug/Kg	50	18	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1248	ND		ug/Kg	50	21	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1254	ND		ug/Kg	50	6.5	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1260	ND		ug/Kg	50	24	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1262	ND		ug/Kg	50	16	0.99	308301	02/23/23	02/24/23	TRN
Aroclor-1268	ND		ug/Kg	50	13	0.99	308301	02/23/23	02/24/23	TRN
Surrogates				**Limits**						
Decachlorobiphenyl (PCB)	79%		%REC	19-121	24	0.99	308301	02/23/23	02/24/23	TRN

Results for any subcontracted analyses are not included in this section.

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Analysis Results for 479920

Sample ID: B11-0.5	Lab ID: 479920-045	Collected: 02/20/23 13:12
	Matrix: Soil	

479920-045 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3050B										
Arsenic	**8.9**		mg/Kg	0.95	0.72	0.95	308213	02/22/23	02/22/23	THP
Lead	**8.7**		mg/Kg	0.48	0.087	0.95	308213	02/22/23	02/22/23	THP
Method: EPA 8081A Prep Method: EPA 3546										
alpha-BHC	ND		ug/Kg	5.0	1.2	1	308301	02/23/23	02/24/23	TRN
beta-BHC	ND		ug/Kg	5.0	1.7	1	308301	02/23/23	02/24/23	TRN
gamma-BHC	ND		ug/Kg	5.0	1.0	1	308301	02/23/23	02/24/23	TRN
delta-BHC	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/24/23	TRN
Heptachlor	ND		ug/Kg	5.0	1.5	1	308301	02/23/23	02/24/23	TRN
Aldrin	ND		ug/Kg	5.0	1.3	1	308301	02/23/23	02/24/23	TRN
Heptachlor epoxide	ND		ug/Kg	5.0	1.8	1	308301	02/23/23	02/24/23	TRN
Endosulfan I	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/24/23	TRN
Dieldrin	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/24/23	TRN
4,4'-DDE	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/24/23	TRN
Endrin	ND		ug/Kg	5.0	1.6	1	308301	02/23/23	02/24/23	TRN
Endosulfan II	ND		ug/Kg	5.0	1.6	1	308301	02/23/23	02/24/23	TRN
Endosulfan sulfate	ND		ug/Kg	5.0	1.6	1	308301	02/23/23	02/24/23	TRN
4,4'-DDD	ND		ug/Kg	5.0	1.1	1	308301	02/23/23	02/24/23	TRN
Endrin aldehyde	ND		ug/Kg	5.0	1.7	1	308301	02/23/23	02/24/23	TRN
Endrin ketone	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/24/23	TRN
4,4'-DDT	ND		ug/Kg	5.0	1.4	1	308301	02/23/23	02/24/23	TRN
Methoxychlor	ND		ug/Kg	10	5.1	1	308301	02/23/23	02/24/23	TRN
Toxaphene	ND		ug/Kg	100	15	1	308301	02/23/23	02/24/23	TRN
Chlordane (Technical)	ND		ug/Kg	50	11	1	308301	02/23/23	02/24/23	TRN
Surrogates				**Limits**						
TCMX	73%		%REC	23-120		1	308301	02/23/23	02/24/23	TRN
Decachlorobiphenyl	79%		%REC	24-120		1	308301	02/23/23	02/24/23	TRN

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 479920

Sample ID: B11-2	Lab ID: 479920-046	Collected: 02/20/23 13:12
	Matrix: Soil	

479920-046 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3050B										
Arsenic	**13**		mg/Kg	0.98	0.68	0.98	308281	02/23/23	02/23/23	THP
Lead	**12**		mg/Kg	0.49	0.067	0.98	308281	02/23/23	02/23/23	THP
Method: EPA 8081A Prep Method: EPA 3546										
alpha-BHC	ND		ug/Kg	4.9	1.2	0.99	308301	02/23/23	02/24/23	TRN
beta-BHC	ND		ug/Kg	4.9	1.7	0.99	308301	02/23/23	02/24/23	TRN
gamma-BHC	ND		ug/Kg	4.9	1.0	0.99	308301	02/23/23	02/24/23	TRN
delta-BHC	ND		ug/Kg	4.9	1.3	0.99	308301	02/23/23	02/24/23	TRN
Heptachlor	ND		ug/Kg	4.9	1.5	0.99	308301	02/23/23	02/24/23	TRN
Aldrin	ND		ug/Kg	4.9	1.3	0.99	308301	02/23/23	02/24/23	TRN
Heptachlor epoxide	ND		ug/Kg	4.9	1.8	0.99	308301	02/23/23	02/24/23	TRN
Endosulfan I	ND		ug/Kg	4.9	1.4	0.99	308301	02/23/23	02/24/23	TRN
Dieldrin	ND		ug/Kg	4.9	1.4	0.99	308301	02/23/23	02/24/23	TRN
4,4'-DDE	ND		ug/Kg	4.9	1.4	0.99	308301	02/23/23	02/24/23	TRN
Endrin	ND		ug/Kg	4.9	1.5	0.99	308301	02/23/23	02/24/23	TRN
Endosulfan II	ND		ug/Kg	4.9	1.5	0.99	308301	02/23/23	02/24/23	TRN
Endosulfan sulfate	ND		ug/Kg	4.9	1.6	0.99	308301	02/23/23	02/24/23	TRN
4,4'-DDD	ND		ug/Kg	4.9	1.1	0.99	308301	02/23/23	02/24/23	TRN
Endrin aldehyde	ND		ug/Kg	4.9	1.7	0.99	308301	02/23/23	02/24/23	TRN
Endrin ketone	ND		ug/Kg	4.9	1.4	0.99	308301	02/23/23	02/24/23	TRN
4,4'-DDT	ND		ug/Kg	4.9	1.4	0.99	308301	02/23/23	02/24/23	TRN
Methoxychlor	ND		ug/Kg	9.9	5.0	0.99	308301	02/23/23	02/24/23	TRN
Toxaphene	ND		ug/Kg	99	15	0.99	308301	02/23/23	02/24/23	TRN
Chlordane (Technical)	ND		ug/Kg	49	11	0.99	308301	02/23/23	02/24/23	TRN
Surrogates				**Limits**						
TCMX	74%		%REC	23-120		0.99	308301	02/23/23	02/24/23	TRN
Decachlorobiphenyl	80%		%REC	24-120		0.99	308301	02/23/23	02/24/23	TRN

Sample ID: B11-4	Lab ID: 479920-047	Collected: 02/20/23 13:12
	Matrix: Soil	

479920-047 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 6020 Prep Method: EPA 3050B										
Arsenic	**19**		mg/Kg	0.96	0.27	0.96	309379	03/09/23	03/09/23	JCP

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 479920

Sample ID: TRIP BLANK	Lab ID: 479920-048	Collected: 02/20/23 14:00
	Matrix: Water	

479920-048 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
Method: EPA 8260B Prep Method: EPA 5030B										
3-Chloropropene	ND		ug/L	5.0	0.7	1	308126	02/22/23	02/22/23	EJB
Freon 12	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
Chloromethane	ND		ug/L	5.0	0.4	1	308126	02/22/23	02/22/23	EJB
Vinyl Chloride	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
Bromomethane	ND		ug/L	5.0	0.4	1	308126	02/22/23	02/22/23	EJB
Chloroethane	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
Trichlorofluoromethane	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
Acetone	ND		ug/L	100	6.8	1	308126	02/22/23	02/22/23	EJB
Freon 113	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
1,1-Dichloroethene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
Methylene Chloride	ND		ug/L	5.0	2.9	1	308126	02/22/23	02/22/23	EJB
MTBE	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
trans-1,2-Dichloroethene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
1,1-Dichloroethane	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
2-Butanone	ND		ug/L	100	0.8	1	308126	02/22/23	02/22/23	EJB
cis-1,2-Dichloroethene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
2,2-Dichloropropane	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
Chloroform	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
Bromochloromethane	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
1,1,1-Trichloroethane	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
1,1-Dichloropropene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
Carbon Tetrachloride	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
1,2-Dichloroethane	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
Benzene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
Trichloroethene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
1,2-Dichloropropane	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
Bromodichloromethane	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
Dibromomethane	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
4-Methyl-2-Pentanone	ND		ug/L	5.0	0.7	1	308126	02/22/23	02/22/23	EJB
cis-1,3-Dichloropropene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
Toluene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
trans-1,3-Dichloropropene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
1,1,2-Trichloroethane	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
1,3-Dichloropropane	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
Tetrachloroethene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
Dibromochloromethane	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
1,2-Dibromoethane	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
Chlorobenzene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
1,1,1,2-Tetrachloroethane	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
Ethylbenzene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 479920

479920-048 Analyte	Result	Qual	Units	RL	MDL	DF	Batch	Prepared	Analyzed	Chemist
m,p-Xylenes	ND		ug/L	10	0.4	1	308126	02/22/23	02/22/23	EJB
o-Xylene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
Styrene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
Bromoform	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
Isopropylbenzene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
1,1,2,2-Tetrachloroethane	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
1,2,3-Trichloropropane	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
Propylbenzene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
Bromobenzene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
1,3,5-Trimethylbenzene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
2-Chlorotoluene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
4-Chlorotoluene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
tert-Butylbenzene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
1,2,4-Trimethylbenzene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
sec-Butylbenzene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
para-Isopropyl Toluene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
1,3-Dichlorobenzene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
1,4-Dichlorobenzene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
n-Butylbenzene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
1,2-Dichlorobenzene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
1,2-Dibromo-3-Chloropropane	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
1,2,4-Trichlorobenzene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
Hexachlorobutadiene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
Naphthalene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
1,2,3-Trichlorobenzene	ND		ug/L	5.0	0.3	1	308126	02/22/23	02/22/23	EJB
cis-1,4-Dichloro-2-butene	ND		ug/L	5.0	0.8	1	308126	02/22/23	02/22/23	EJB
trans-1,4-Dichloro-2-butene	ND		ug/L	5.0	0.2	1	308126	02/22/23	02/22/23	EJB
Xylene (total)	ND		ug/L	5.0		1	308126	02/22/23	02/22/23	EJB
Surrogates				**Limits**						
Dibromofluoromethane	107%		%REC	70-140	1.7	1	308126	02/22/23	02/22/23	EJB
1,2-Dichloroethane-d4	102%		%REC	70-140		1	308126	02/22/23	02/22/23	EJB
Toluene-d8	100%		%REC	70-140	5.7	1	308126	02/22/23	02/22/23	EJB
Bromofluorobenzene	98%		%REC	70-140		1	308126	02/22/23	02/22/23	EJB

DO Diluted Out
J Estimated value
ND Not Detected

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type: Blank	Lab ID: QC1047416	Batch: 308187
Matrix: Water	Method: EPA 6020	Prep Method: EPA 200.8

QC1047416 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Arsenic	ND		ug/L	2.0	0.037	02/22/23	02/22/23
Lead	ND		ug/L	5.0	0.038	02/22/23	02/22/23

Type: Lab Control Sample	Lab ID: QC1047417	Batch: 308187
Matrix: Water	Method: EPA 6020	Prep Method: EPA 200.8

QC1047417 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Arsenic	97.61	100.0	ug/L	98%		80-120
Lead	96.27	100.0	ug/L	96%		80-120

Type: Matrix Spike	Lab ID: QC1047418	Batch: 308187
Matrix (Source ID): Water (479920-031)	Method: EPA 6020	Prep Method: EPA 200.8

QC1047418 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Arsenic	98.69	ND	100.0	ug/L	99%		75-125	1
Lead	97.34	ND	100.0	ug/L	97%		75-125	1

Type: Matrix Spike Duplicate	Lab ID: QC1047419	Batch: 308187
Matrix (Source ID): Water (479920-031)	Method: EPA 6020	Prep Method: EPA 200.8

QC1047419 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Arsenic	96.34	ND	100.0	ug/L	96%		75-125	2	20	1
Lead	95.12	ND	100.0	ug/L	95%		75-125	2	20	1

Type: Blank	Lab ID: QC1047349	Batch: 308147
Matrix: Soil	Method: EPA 6020	Prep Method: EPA 3050B

QC1047349 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Arsenic	ND		mg/Kg	1.0	0.75	02/22/23	02/22/23
Lead	ND		mg/Kg	0.50	0.091	02/22/23	02/22/23

Type: Lab Control Sample	Lab ID: QC1047350	Batch: 308147
Matrix: Soil	Method: EPA 6020	Prep Method: EPA 3050B

QC1047350 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Arsenic	49.37	50.00	mg/Kg	99%		80-120
Lead	48.21	50.00	mg/Kg	96%		80-120

ENTHALPY ANALYTICAL

Batch QC

Type:	Matrix Spike	Lab ID:	QC1047351	Batch:	308147
Matrix (Source ID):	Soil (479807-005)	Method:	EPA 6020	Prep Method:	EPA 3050B

QC1047351 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Arsenic	49.44	2.175	49.50	mg/Kg	95%		75-125	0.99
Lead	52.93	23.15	49.50	mg/Kg	60%	*	75-125	0.99

Type:	Matrix Spike Duplicate	Lab ID:	QC1047352	Batch:	308147
Matrix (Source ID):	Soil (479807-005)	Method:	EPA 6020	Prep Method:	EPA 3050B

QC1047352 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Arsenic	52.84	2.175	49.50	mg/Kg	102%		75-125	7	20	0.99
Lead	62.83	23.15	49.50	mg/Kg	80%		75-125	17	20	0.99

Type:	Blank	Lab ID:	QC1047504	Batch:	308213
Matrix:	Soil	Method:	EPA 6020	Prep Method:	EPA 3050B

QC1047504 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Arsenic	ND		mg/Kg	1.0	0.75	02/22/23	02/22/23
Lead	ND		mg/Kg	0.50	0.091	02/22/23	02/22/23

Type:	Lab Control Sample	Lab ID:	QC1047505	Batch:	308213
Matrix:	Soil	Method:	EPA 6020	Prep Method:	EPA 3050B

QC1047505 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Arsenic	48.71	50.00	mg/Kg	97%		80-120
Lead	47.50	50.00	mg/Kg	95%		80-120

Type:	Matrix Spike	Lab ID:	QC1047506	Batch:	308213
Matrix (Source ID):	Soil (479920-016)	Method:	EPA 6020	Prep Method:	EPA 3050B

QC1047506 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Arsenic	57.61	9.902	49.50	mg/Kg	96%		75-125	0.99
Lead	56.99	9.488	49.50	mg/Kg	96%		75-125	0.99

ENTHALPY ANALYTICAL

Batch QC

Type:	Matrix Spike Duplicate	Lab ID:	QC1047507	Batch:	308213
Matrix (Source ID):	Soil (479920-016)	Method:	EPA 6020	Prep Method:	EPA 3050B

QC1047507 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Arsenic	59.11	9.902	49.50	mg/Kg	99%		75-125	3	20	0.99
Lead	57.52	9.488	49.50	mg/Kg	97%		75-125	1	20	0.99

Type:	Blank	Lab ID:	QC1047683	Batch:	308281
Matrix:	Soil	Method:	EPA 6020	Prep Method:	EPA 3050B

QC1047683 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Arsenic	ND		mg/Kg	1.0	0.69	02/23/23	02/23/23
Lead	ND		mg/Kg	0.50	0.068	02/23/23	02/23/23

Type:	Lab Control Sample	Lab ID:	QC1047684	Batch:	308281
Matrix:	Soil	Method:	EPA 6020	Prep Method:	EPA 3050B

QC1047684 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Arsenic	50.55	50.00	mg/Kg	101%		80-120
Lead	50.52	50.00	mg/Kg	101%		80-120

Type:	Matrix Spike	Lab ID:	QC1047685	Batch:	308281
Matrix (Source ID):	Soil (479920-046)	Method:	EPA 6020	Prep Method:	EPA 3050B

QC1047685 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Arsenic	59.39	13.01	49.02	mg/Kg	95%		75-125	0.98
Lead	58.47	12.12	49.02	mg/Kg	95%		75-125	0.98

Type:	Matrix Spike Duplicate	Lab ID:	QC1047686	Batch:	308281
Matrix (Source ID):	Soil (479920-046)	Method:	EPA 6020	Prep Method:	EPA 3050B

QC1047686 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Arsenic	62.25	13.01	49.50	mg/Kg	99%		75-125	4	20	0.99
Lead	59.99	12.12	49.50	mg/Kg	97%		75-125	2	20	0.99

ENTHALPY ANALYTICAL

Batch QC

Type:	Blank	Lab ID:	QC1051041	Batch:	309379
Matrix:	Soil	Method:	EPA 6020	Prep Method:	EPA 3050B

QC1051041 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Arsenic	ND		mg/Kg	1.0	0.28	03/09/23	03/09/23
Lead	ND		mg/Kg	0.50	0.068	03/09/23	03/09/23

Type:	Lab Control Sample	Lab ID:	QC1051042	Batch:	309379
Matrix:	Soil	Method:	EPA 6020	Prep Method:	EPA 3050B

QC1051042 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Arsenic	50.55	50.00	mg/Kg	101%		80-120
Lead	50.13	50.00	mg/Kg	100%		80-120

Type:	Matrix Spike	Lab ID:	QC1051043	Batch:	309379
Matrix (Source ID):	Soil (479920-047)	Method:	EPA 6020	Prep Method:	EPA 3050B

QC1051043 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Arsenic	69.11	18.52	51.02	mg/Kg	99%		75-125	1
Lead	63.32	13.17	51.02	mg/Kg	98%		75-125	1

Type:	Matrix Spike Duplicate	Lab ID:	QC1051044	Batch:	309379
Matrix (Source ID):	Soil (479920-047)	Method:	EPA 6020	Prep Method:	EPA 3050B

QC1051044 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Arsenic	68.15	18.52	50.00	mg/Kg	99%		75-125	0	20	1
Lead	62.61	13.17	50.00	mg/Kg	99%		75-125	0	20	1

ENTHALPY ANALYTICAL

Batch QC

Type: Blank	Lab ID: QC1047020	Batch: 308045
Matrix: Water		

QC1047020 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Method: EPA 8081A Prep Method: EPA 3510C							
alpha-BHC	ND		ug/L	0.05	0.01	02/21/23	02/22/23
beta-BHC	ND		ug/L	0.05	0.008	02/21/23	02/22/23
gamma-BHC	ND		ug/L	0.05	0.01	02/21/23	02/22/23
delta-BHC	ND		ug/L	0.05	0.007	02/21/23	02/22/23
Heptachlor	ND		ug/L	0.05	0.01	02/21/23	02/22/23
Aldrin	ND		ug/L	0.05	0.02	02/21/23	02/22/23
Heptachlor epoxide	ND		ug/L	0.05	0.01	02/21/23	02/22/23
Endosulfan I	ND		ug/L	0.05	0.01	02/21/23	02/22/23
Dieldrin	ND		ug/L	0.1	0.01	02/21/23	02/22/23
4,4'-DDE	ND		ug/L	0.1	0.01	02/21/23	02/22/23
Endrin	ND		ug/L	0.1	0.02	02/21/23	02/22/23
Endosulfan II	ND		ug/L	0.1	0.02	02/21/23	02/22/23
Endosulfan sulfate	ND		ug/L	0.1	0.02	02/21/23	02/22/23
4,4'-DDD	ND		ug/L	0.1	0.03	02/21/23	02/22/23
Endrin aldehyde	ND		ug/L	0.1	0.02	02/21/23	02/22/23
Endrin ketone	ND		ug/L	0.1	0.02	02/21/23	02/22/23
4,4'-DDT	ND		ug/L	0.1	0.02	02/21/23	02/22/23
Methoxychlor	ND		ug/L	0.2	0.03	02/21/23	02/22/23
Toxaphene	ND		ug/L	2.0	0.3	02/21/23	02/22/23
Chlordane (Technical)	ND		ug/L	1.0	0.3	02/21/23	02/22/23
Surrogates				**Limits**			
TCMX	69%		%REC	14-120		02/21/23	02/22/23
Decachlorobiphenyl	75%		%REC	20-120		02/21/23	02/22/23
Method: EPA 8082 Prep Method: EPA 3510C							
Aroclor-1016	ND		ug/L	0.50	0.15	02/21/23	02/22/23
Aroclor-1221	ND		ug/L	0.50	0.50	02/21/23	02/22/23
Aroclor-1232	ND		ug/L	0.50	0.50	02/21/23	02/22/23
Aroclor-1242	ND		ug/L	0.50	0.17	02/21/23	02/22/23
Aroclor-1248	ND		ug/L	0.50	0.50	02/21/23	02/22/23
Aroclor-1254	ND		ug/L	0.50	0.27	02/21/23	02/22/23
Aroclor-1260	ND		ug/L	0.50	0.20	02/21/23	02/22/23
Aroclor-1262	ND		ug/L	0.50	0.50	02/21/23	02/22/23
Aroclor-1268	ND		ug/L	0.50	0.12	02/21/23	02/22/23
Surrogates				**Limits**			
Decachlorobiphenyl (PCB)	74%		%REC	18-126		02/21/23	02/22/23

ENTHALPY ANALYTICAL

Batch QC

Type:	Lab Control Sample	Lab ID:	QC1047158	Batch:	308045
Matrix:	Water	Method:	EPA 8081A	Prep Method:	EPA 3510C

QC1047158 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
alpha-BHC	0.3981	0.5000	ug/L	80%		53-120
beta-BHC	0.4167	0.5000	ug/L	83%		59-120
gamma-BHC	0.4034	0.5000	ug/L	81%		54-120
delta-BHC	0.4166	0.5000	ug/L	83%		58-120
Heptachlor	0.4048	0.5000	ug/L	81%		49-120
Aldrin	0.3688	0.5000	ug/L	74%		47-120
Heptachlor epoxide	0.4243	0.5000	ug/L	85%		53-120
Endosulfan I	0.3980	0.5000	ug/L	80%		56-120
Dieldrin	0.4139	0.5000	ug/L	83%		55-120
4,4'-DDE	0.4240	0.5000	ug/L	85%		55-120
Endrin	0.4495	0.5000	ug/L	90%		57-120
Endosulfan II	0.4121	0.5000	ug/L	82%		58-120
Endosulfan sulfate	0.4142	0.5000	ug/L	83%		56-120
4,4'-DDD	0.4054	0.5000	ug/L	81%		53-120
Endrin aldehyde	0.3653	0.5000	ug/L	73%		45-120
Endrin ketone	0.3925	0.5000	ug/L	78%		61-120
4,4'-DDT	0.4193	0.5000	ug/L	84%		58-120
Methoxychlor	0.4369	0.5000	ug/L	87%		54-120
Surrogates						
TCMX	0.3770	0.5000	ug/L	75%		14-120
Decachlorobiphenyl	0.4064	0.5000	ug/L	81%		20-120

ENTHALPY ANALYTICAL

Batch QC

Type:	Lab Control Sample Duplicate	Lab ID:	QC1047159	Batch:	308045
Matrix:	Water	Method:	EPA 8081A	Prep Method:	EPA 3510C

QC1047159 Analyte	Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim
alpha-BHC	0.4221	0.5000	ug/L	84%		53-120	6	20
beta-BHC	0.4407	0.5000	ug/L	88%		59-120	6	20
gamma-BHC	0.4119	0.5000	ug/L	82%		54-120	2	20
delta-BHC	0.4369	0.5000	ug/L	87%		58-120	5	20
Heptachlor	0.4245	0.5000	ug/L	85%		49-120	5	20
Aldrin	0.3852	0.5000	ug/L	77%		47-120	4	20
Heptachlor epoxide	0.4465	0.5000	ug/L	89%		53-120	5	20
Endosulfan I	0.4220	0.5000	ug/L	84%		56-120	6	20
Dieldrin	0.4527	0.5000	ug/L	91%		55-120	9	20
4,4'-DDE	0.4496	0.5000	ug/L	90%		55-120	6	20
Endrin	0.4715	0.5000	ug/L	94%		57-120	5	20
Endosulfan II	0.4384	0.5000	ug/L	88%		58-120	6	20
Endosulfan sulfate	0.4396	0.5000	ug/L	88%		56-120	6	20
4,4'-DDD	0.4313	0.5000	ug/L	86%		53-120	6	20
Endrin aldehyde	0.3910	0.5000	ug/L	78%		45-120	7	20
Endrin ketone	0.4213	0.5000	ug/L	84%		61-120	7	20
4,4'-DDT	0.4427	0.5000	ug/L	89%		58-120	5	20
Methoxychlor	0.4713	0.5000	ug/L	94%		54-120	8	20
Surrogates								
TCMX	0.3893	0.5000	ug/L	78%		14-120		
Decachlorobiphenyl	0.4364	0.5000	ug/L	87%		20-120		

Type:	Lab Control Sample	Lab ID:	QC1047160	Batch:	308045
Matrix:	Water	Method:	EPA 8082	Prep Method:	EPA 3510C

QC1047160 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Aroclor-1016	3.758	5.000	ug/L	75%		36-143
Aroclor-1260	4.357	5.000	ug/L	87%		31-153
Surrogates						
Decachlorobiphenyl (PCB)	0.4260	0.5000	ug/L	85%		18-126

Type:	Lab Control Sample Duplicate	Lab ID:	QC1047161	Batch:	308045
Matrix:	Water	Method:	EPA 8082	Prep Method:	EPA 3510C

QC1047161 Analyte	Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim
Aroclor-1016	3.748	5.000	ug/L	75%		36-143	0	39
Aroclor-1260	4.426	5.000	ug/L	89%		31-153	2	20
Surrogates								
Decachlorobiphenyl (PCB)	0.4503	0.5000	ug/L	90%		18-126		

ENTHALPY ANALYTICAL

Batch QC

Type: Blank	Lab ID: QC1047725	Batch: 308299
Matrix: Soil		

QC1047725 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Method: EPA 8081A Prep Method: EPA 3546							
alpha-BHC	ND		ug/Kg	5.0	1.2	02/23/23	02/23/23
beta-BHC	ND		ug/Kg	5.0	1.7	02/23/23	02/23/23
gamma-BHC	ND		ug/Kg	5.0	1.0	02/23/23	02/23/23
delta-BHC	ND		ug/Kg	5.0	1.4	02/23/23	02/23/23
Heptachlor	ND		ug/Kg	5.0	1.5	02/23/23	02/23/23
Aldrin	ND		ug/Kg	5.0	1.3	02/23/23	02/23/23
Heptachlor epoxide	ND		ug/Kg	5.0	1.8	02/23/23	02/23/23
Endosulfan I	ND		ug/Kg	5.0	1.4	02/23/23	02/23/23
Dieldrin	ND		ug/Kg	5.0	1.4	02/23/23	02/23/23
4,4'-DDE	ND		ug/Kg	5.0	1.4	02/23/23	02/23/23
Endrin	ND		ug/Kg	5.0	1.6	02/23/23	02/23/23
Endosulfan II	ND		ug/Kg	5.0	1.6	02/23/23	02/23/23
Endosulfan sulfate	ND		ug/Kg	5.0	1.6	02/23/23	02/23/23
4,4'-DDD	ND		ug/Kg	5.0	1.1	02/23/23	02/23/23
Endrin aldehyde	ND		ug/Kg	5.0	1.7	02/23/23	02/23/23
Endrin ketone	ND		ug/Kg	5.0	1.4	02/23/23	02/23/23
4,4'-DDT	ND		ug/Kg	5.0	1.4	02/23/23	02/23/23
Methoxychlor	ND		ug/Kg	10	5.1	02/23/23	02/23/23
Toxaphene	ND		ug/Kg	100	15	02/23/23	02/23/23
Chlordane (Technical)	ND		ug/Kg	50	11	02/23/23	02/23/23
Surrogates				**Limits**			
TCMX	112%		%REC	23-120		02/23/23	02/23/23
Decachlorobiphenyl	109%		%REC	24-120		02/23/23	02/23/23
Method: EPA 8082 Prep Method: EPA 3546							
Aroclor-1016	ND		ug/Kg	50	14	02/23/23	02/23/23
Aroclor-1221	ND		ug/Kg	50	23	02/23/23	02/23/23
Aroclor-1232	ND		ug/Kg	50	19	02/23/23	02/23/23
Aroclor-1242	ND		ug/Kg	50	18	02/23/23	02/23/23
Aroclor-1248	ND		ug/Kg	50	21	02/23/23	02/23/23
Aroclor-1254	ND		ug/Kg	50	6.6	02/23/23	02/23/23
Aroclor-1260	ND		ug/Kg	50	24	02/23/23	02/23/23
Aroclor-1262	ND		ug/Kg	50	16	02/23/23	02/23/23
Aroclor-1268	ND		ug/Kg	50	13	02/23/23	02/23/23
Surrogates				**Limits**			
Decachlorobiphenyl (PCB)	90%		%REC	19-121		02/23/23	02/23/23

ENTHALPY ANALYTICAL

Batch QC

Type:	Lab Control Sample	Lab ID:	QC1047726	Batch:	308299
Matrix:	Soil	Method:	EPA 8081A	Prep Method:	EPA 3546

QC1047726 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
alpha-BHC	50.62	49.90	ug/Kg	101%		22-129
beta-BHC	48.51	49.90	ug/Kg	97%		28-125
gamma-BHC	50.56	49.90	ug/Kg	101%		22-128
delta-BHC	50.50	49.90	ug/Kg	101%		24-131
Heptachlor	49.96	49.90	ug/Kg	100%		18-124
Aldrin	40.54	49.90	ug/Kg	81%		23-120
Heptachlor epoxide	51.08	49.90	ug/Kg	102%		26-120
Endosulfan I	51.69	49.90	ug/Kg	104%		25-126
Dieldrin	51.80	49.90	ug/Kg	104%		23-124
4,4'-DDE	51.95	49.90	ug/Kg	104%		28-121
Endrin	55.49	49.90	ug/Kg	111%		25-127
Endosulfan II	51.38	49.90	ug/Kg	103%		29-121
Endosulfan sulfate	48.72	49.90	ug/Kg	98%		30-121
4,4'-DDD	54.22	49.90	ug/Kg	109%		26-120
Endrin aldehyde	32.09	49.90	ug/Kg	64%	#	10-120
Endrin ketone	50.12	49.90	ug/Kg	100%	#	28-125
4,4'-DDT	48.70	49.90	ug/Kg	98%		22-125
Methoxychlor	51.59	49.90	ug/Kg	103%		28-130
Surrogates						
TCMX	46.81	49.90	ug/Kg	94%		23-120
Decachlorobiphenyl	44.44	49.90	ug/Kg	89%		24-120

ENTHALPY ANALYTICAL

Batch QC

Type:	**Matrix Spike**	**Lab ID:**	**QC1047727**	**Batch:**	**308299**
Matrix (Source ID):	**Soil (479913-001)**	**Method:**	**EPA 8081A**	**Prep Method:**	**EPA 3546**

QC1047727 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
alpha-BHC	36.25	2.579	49.02	ug/Kg	69%		46-120	2
beta-BHC	37.29	ND	49.02	ug/Kg	76%		41-120	2
gamma-BHC	37.21	2.194	49.02	ug/Kg	71%		41-120	2
delta-BHC	35.58	ND	49.02	ug/Kg	73%		38-123	2
Heptachlor	39.28	ND	49.02	ug/Kg	80%		39-120	2
Aldrin	34.64	ND	49.02	ug/Kg	71%		34-120	2
Heptachlor epoxide	37.44	ND	49.02	ug/Kg	76%		43-120	2
Endosulfan I	37.47	ND	49.02	ug/Kg	76%		45-120	2
Dieldrin	35.92	ND	49.02	ug/Kg	73%		45-120	2
4,4'-DDE	36.97	ND	49.02	ug/Kg	75%		34-120	2
Endrin	39.61	ND	49.02	ug/Kg	81%		40-120	2
Endosulfan II	38.01	ND	49.02	ug/Kg	78%		41-120	2
Endosulfan sulfate	36.46	ND	49.02	ug/Kg	74%		42-120	2
4,4'-DDD	36.53	ND	49.02	ug/Kg	75%		41-120	2
Endrin aldehyde	28.62	ND	49.02	ug/Kg	58%		30-120	2
Endrin ketone	38.01	ND	49.02	ug/Kg	78%		45-120	2
4,4'-DDT	37.31	ND	49.02	ug/Kg	76%		35-127	2
Methoxychlor	42.30	ND	49.02	ug/Kg	86%		42-136	2
Surrogates								
TCMX	35.19		49.02	ug/Kg	72%		23-120	2
Decachlorobiphenyl	50.23		49.02	ug/Kg	102%		24-120	2

ENTHALPY ANALYTICAL

Batch QC

Type:	Matrix Spike Duplicate	Lab ID:	QC1047728	Batch:	308299
Matrix (Source ID):	Soil (479913-001)	Method:	EPA 8081A	Prep Method:	EPA 3546

QC1047728 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
alpha-BHC	30.81	2.579	49.55	ug/Kg	57%		46-120	17	30	2
beta-BHC	32.75	ND	49.55	ug/Kg	66%		41-120	14	30	2
gamma-BHC	31.19	2.194	49.55	ug/Kg	59%		41-120	19	30	2
delta-BHC	29.28	ND	49.55	ug/Kg	59%		38-123	21	30	2
Heptachlor	32.35	ND	49.55	ug/Kg	65%		39-120	20	30	2
Aldrin	30.78	ND	49.55	ug/Kg	62%		34-120	13	30	2
Heptachlor epoxide	33.47	ND	49.55	ug/Kg	68%		43-120	12	30	2
Endosulfan I	33.81	ND	49.55	ug/Kg	68%		45-120	11	30	2
Dieldrin	32.00	ND	49.55	ug/Kg	65%		45-120	13	30	2
4,4'-DDE	33.06	ND	49.55	ug/Kg	67%		34-120	12	30	2
Endrin	34.52	ND	49.55	ug/Kg	70%		40-120	15	30	2
Endosulfan II	32.76	ND	49.55	ug/Kg	66%		41-120	16	30	2
Endosulfan sulfate	31.49	ND	49.55	ug/Kg	64%		42-120	16	30	2
4,4'-DDD	31.99	ND	49.55	ug/Kg	65%		41-120	14	30	2
Endrin aldehyde	22.15	ND	49.55	ug/Kg	45%		30-120	27	30	2
Endrin ketone	32.81	ND	49.55	ug/Kg	66%		45-120	16	30	2
4,4'-DDT	27.50	ND	49.55	ug/Kg	55%		35-127	31*	30	2
Methoxychlor	36.54	ND	49.55	ug/Kg	74%		42-136	16	30	2
Surrogates										
TCMX	31.40		49.55	ug/Kg	63%		23-120			2
Decachlorobiphenyl	46.38		49.55	ug/Kg	94%		24-120			2

Type:	Lab Control Sample	Lab ID:	QC1047729	Batch:	308299
Matrix:	Soil	Method:	EPA 8082	Prep Method:	EPA 3546

QC1047729 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Aroclor-1016	388.8	497.5	ug/Kg	78%		14-150
Aroclor-1260	419.0	497.5	ug/Kg	84%		10-150
Surrogates						
Decachlorobiphenyl (PCB)	40.03	49.75	ug/Kg	80%		19-121

ENTHALPY ANALYTICAL

Batch QC

Type:	**Matrix Spike**	**Lab ID:**	**QC1047730**	**Batch:**	**308299**
Matrix (Source ID):	**Soil (479913-001)**	**Method:**	**EPA 8082**	**Prep Method:**	**EPA 3546**

QC1047730 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Aroclor-1016	339.0	ND	499.5	ug/Kg	68%		42-127	1
Aroclor-1260	386.1	ND	499.5	ug/Kg	77%		38-130	1
Surrogates								
Decachlorobiphenyl (PCB)	35.85		49.95	ug/Kg	72%		19-121	1

Type:	**Matrix Spike Duplicate**	**Lab ID:**	**QC1047731**	**Batch:**	**308299**
Matrix (Source ID):	**Soil (479913-001)**	**Method:**	**EPA 8082**	**Prep Method:**	**EPA 3546**

QC1047731 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Aroclor-1016	380.4	ND	500.0	ug/Kg	76%		42-127	11	30	1
Aroclor-1260	414.3	ND	500.0	ug/Kg	83%		38-130	7	30	1
Surrogates										
Decachlorobiphenyl (PCB)	38.41		50.00	ug/Kg	77%		19-121			1

ENTHALPY ANALYTICAL

Batch QC

Type: Blank	Lab ID: QC1047732	Batch: 308301
Matrix: Soil		

QC1047732 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Method: EPA 8081A Prep Method: EPA 3546							
alpha-BHC	ND		ug/Kg	5.0	1.2	02/23/23	02/23/23
beta-BHC	ND		ug/Kg	5.0	1.7	02/23/23	02/23/23
gamma-BHC	ND		ug/Kg	5.0	1.0	02/23/23	02/23/23
delta-BHC	ND		ug/Kg	5.0	1.4	02/23/23	02/23/23
Heptachlor	ND		ug/Kg	5.0	1.5	02/23/23	02/23/23
Aldrin	ND		ug/Kg	5.0	1.3	02/23/23	02/23/23
Heptachlor epoxide	ND		ug/Kg	5.0	1.8	02/23/23	02/23/23
Endosulfan I	ND		ug/Kg	5.0	1.4	02/23/23	02/23/23
Dieldrin	ND		ug/Kg	5.0	1.4	02/23/23	02/23/23
4,4'-DDE	ND		ug/Kg	5.0	1.4	02/23/23	02/23/23
Endrin	ND		ug/Kg	5.0	1.6	02/23/23	02/23/23
Endosulfan II	ND		ug/Kg	5.0	1.6	02/23/23	02/23/23
Endosulfan sulfate	ND		ug/Kg	5.0	1.6	02/23/23	02/23/23
4,4'-DDD	ND		ug/Kg	5.0	1.1	02/23/23	02/23/23
Endrin aldehyde	ND		ug/Kg	5.0	1.7	02/23/23	02/23/23
Endrin ketone	ND		ug/Kg	5.0	1.4	02/23/23	02/23/23
4,4'-DDT	ND		ug/Kg	5.0	1.4	02/23/23	02/23/23
Methoxychlor	ND		ug/Kg	20	5.1	02/23/23	02/23/23
Toxaphene	ND		ug/Kg	100	15	02/23/23	02/23/23
Chlordane (Technical)	ND		ug/Kg	50	11	02/23/23	02/23/23
Surrogates				**Limits**			
TCMX	73%		%REC	23-120		02/23/23	02/23/23
Decachlorobiphenyl	54%		%REC	24-120		02/23/23	02/23/23
Method: EPA 8082 Prep Method: EPA 3546							
Aroclor-1016	ND		ug/Kg	50	14	02/23/23	02/24/23
Aroclor-1221	ND		ug/Kg	50	23	02/23/23	02/24/23
Aroclor-1232	ND		ug/Kg	50	19	02/23/23	02/24/23
Aroclor-1242	ND		ug/Kg	50	18	02/23/23	02/24/23
Aroclor-1248	ND		ug/Kg	50	21	02/23/23	02/24/23
Aroclor-1254	ND		ug/Kg	50	6.6	02/23/23	02/24/23
Aroclor-1260	ND		ug/Kg	50	24	02/23/23	02/24/23
Aroclor-1262	ND		ug/Kg	50	16	02/23/23	02/24/23
Aroclor-1268	ND		ug/Kg	50	13	02/23/23	02/24/23
Surrogates				**Limits**			
Decachlorobiphenyl (PCB)	81%		%REC	19-121	24	02/23/23	02/24/23

ENTHALPY ANALYTICAL

Batch QC

Type:	Lab Control Sample	Lab ID:	QC1047733	Batch:	308301
Matrix:	Soil	Method:	EPA 8081A	Prep Method:	EPA 3546

QC1047733 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
alpha-BHC	41.49	49.65	ug/Kg	84%		22-129
beta-BHC	41.99	49.65	ug/Kg	85%		28-125
gamma-BHC	42.50	49.65	ug/Kg	86%		22-128
delta-BHC	42.55	49.65	ug/Kg	86%		24-131
Heptachlor	44.90	49.65	ug/Kg	90%		18-124
Aldrin	36.53	49.65	ug/Kg	74%		23-120
Heptachlor epoxide	43.01	49.65	ug/Kg	87%		26-120
Endosulfan I	43.80	49.65	ug/Kg	88%		25-126
Dieldrin	42.12	49.65	ug/Kg	85%		23-124
4,4'-DDE	45.10	49.65	ug/Kg	91%		28-121
Endrin	43.81	49.65	ug/Kg	88%		25-127
Endosulfan II	45.29	49.65	ug/Kg	91%		29-121
Endosulfan sulfate	45.63	49.65	ug/Kg	92%		30-121
4,4'-DDD	50.10	49.65	ug/Kg	101%		26-120
Endrin aldehyde	34.88	49.65	ug/Kg	70%		10-120
Endrin ketone	48.20	49.65	ug/Kg	97%		28-125
4,4'-DDT	45.16	49.65	ug/Kg	91%		22-125
Methoxychlor	51.95	49.65	ug/Kg	105%		28-130
Surrogates						
TCMX	39.35	49.65	ug/Kg	79%		23-120
Decachlorobiphenyl	44.39	49.65	ug/Kg	89%		24-120

ENTHALPY ANALYTICAL

Batch QC

Type:	**Matrix Spike**	**Lab ID:**	**QC1047734**	**Batch:**	**308301**
Matrix (Source ID):	**Soil (479920-026)**	**Method:**	**EPA 8081A**	**Prep Method:**	**EPA 3546**

QC1047734 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
alpha-BHC	36.09	ND	50.00	ug/Kg	72%		46-120	1
beta-BHC	35.53	ND	50.00	ug/Kg	71%		41-120	1
gamma-BHC	36.25	ND	50.00	ug/Kg	73%		41-120	1
delta-BHC	36.20	ND	50.00	ug/Kg	72%		38-123	1
Heptachlor	39.06	ND	50.00	ug/Kg	78%		39-120	1
Aldrin	33.03	ND	50.00	ug/Kg	66%		34-120	1
Heptachlor epoxide	36.64	ND	50.00	ug/Kg	73%		43-120	1
Endosulfan I	38.47	ND	50.00	ug/Kg	77%		45-120	1
Dieldrin	35.99	ND	50.00	ug/Kg	72%		45-120	1
4,4'-DDE	37.67	ND	50.00	ug/Kg	75%		34-120	1
Endrin	37.03	ND	50.00	ug/Kg	74%		40-120	1
Endosulfan II	38.03	ND	50.00	ug/Kg	76%		41-120	1
Endosulfan sulfate	37.66	ND	50.00	ug/Kg	75%		42-120	1
4,4'-DDD	40.71	ND	50.00	ug/Kg	81%		41-120	1
Endrin aldehyde	29.86	ND	50.00	ug/Kg	60%		30-120	1
Endrin ketone	40.51	ND	50.00	ug/Kg	81%		45-120	1
4,4'-DDT	39.58	ND	50.00	ug/Kg	79%		35-127	1
Methoxychlor	45.08	ND	50.00	ug/Kg	90%		42-136	1
Surrogates								
TCMX	34.66		50.00	ug/Kg	69%		23-120	1
Decachlorobiphenyl	38.20		50.00	ug/Kg	76%		24-120	1

ENTHALPY ANALYTICAL

Batch QC

Type:	Matrix Spike Duplicate	Lab ID:	QC1047735	Batch:	308301
Matrix (Source ID):	Soil (479920-026)	Method:	EPA 8081A	Prep Method:	EPA 3546

QC1047735 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
alpha-BHC	38.20	ND	49.90	ug/Kg	77%		46-120	6	30	1
beta-BHC	39.00	ND	49.90	ug/Kg	78%		41-120	9	30	1
gamma-BHC	38.61	ND	49.90	ug/Kg	77%		41-120	6	30	1
delta-BHC	39.90	ND	49.90	ug/Kg	80%		38-123	10	30	1
Heptachlor	40.28	ND	49.90	ug/Kg	81%		39-120	3	30	1
Aldrin	35.43	ND	49.90	ug/Kg	71%		34-120	7	30	1
Heptachlor epoxide	39.54	ND	49.90	ug/Kg	79%		43-120	8	30	1
Endosulfan I	41.81	ND	49.90	ug/Kg	84%		45-120	9	30	1
Dieldrin	39.75	ND	49.90	ug/Kg	80%		45-120	10	30	1
4,4'-DDE	41.95	ND	49.90	ug/Kg	84%		34-120	11	30	1
Endrin	41.24	ND	49.90	ug/Kg	83%		40-120	11	30	1
Endosulfan II	43.60	ND	49.90	ug/Kg	87%		41-120	14	30	1
Endosulfan sulfate	43.60	ND	49.90	ug/Kg	87%		42-120	15	30	1
4,4'-DDD	47.40	ND	49.90	ug/Kg	95%		41-120	15	30	1
Endrin aldehyde	34.58	ND	49.90	ug/Kg	69%		30-120	15	30	1
Endrin ketone	46.97	ND	49.90	ug/Kg	94%		45-120	15	30	1
4,4'-DDT	45.31	ND	49.90	ug/Kg	91%		35-127	14	30	1
Methoxychlor	57.63	ND	49.90	ug/Kg	115%		42-136	25	30	1
Surrogates										
TCMX	36.75		49.90	ug/Kg	74%		23-120			1
Decachlorobiphenyl	42.07		49.90	ug/Kg	84%		24-120			1

Type:	Lab Control Sample	Lab ID:	QC1047736	Batch:	308301
Matrix:	Soil	Method:	EPA 8082	Prep Method:	EPA 3546

QC1047736 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Aroclor-1016	370.7	499.0	ug/Kg	74%		14-150
Aroclor-1260	400.4	499.0	ug/Kg	80%		10-150
Surrogates						
Decachlorobiphenyl (PCB)	42.96	49.90	ug/Kg	86%		19-121

ENTHALPY ANALYTICAL

Batch QC

Type:	**Matrix Spike**	**Lab ID:**	**QC1047737**	**Batch:**	**308301**
Matrix (Source ID):	**Soil (479920-026)**	**Method:**	**EPA 8082**	**Prep Method:**	**EPA 3546**

QC1047737 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Aroclor-1016	369.5	ND	494.6	ug/Kg	75%		42-127	0.99
Aroclor-1260	378.1	ND	494.6	ug/Kg	76%		38-130	0.99
Surrogates								
Decachlorobiphenyl (PCB)	34.04		49.46	ug/Kg	69%		19-121	0.99

Type:	**Matrix Spike Duplicate**	**Lab ID:**	**QC1047738**	**Batch:**	**308301**
Matrix (Source ID):	**Soil (479920-026)**	**Method:**	**EPA 8082**	**Prep Method:**	**EPA 3546**

QC1047738 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Aroclor-1016	277.6	ND	499.0	ug/Kg	56%		42-127	29	30	1
Aroclor-1260	228.4	ND	499.0	ug/Kg	46%		38-130	50*	30	1
Surrogates										
Decachlorobiphenyl (PCB)	19.22		49.90	ug/Kg	39%		19-121			1

Type:	**Lab Control Sample**	**Lab ID:**	**QC1047282**	**Batch:**	**308126**
Matrix:	**Water**	**Method:**	**EPA 8260B**	**Prep Method:**	**EPA 5030B**

QC1047282 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
1,1-Dichloroethene	53.01	50.00	ug/L	106%		70-135
MTBE	46.07	50.00	ug/L	92%		70-130
Benzene	53.94	50.00	ug/L	108%		70-130
Trichloroethene	54.05	50.00	ug/L	108%		70-130
Toluene	55.31	50.00	ug/L	111%		70-130
Chlorobenzene	54.14	50.00	ug/L	108%		70-130
Surrogates						
Dibromofluoromethane	52.26	50.00	ug/L	105%		70-140
1,2-Dichloroethane-d4	48.04	50.00	ug/L	96%		70-140
Toluene-d8	50.64	50.00	ug/L	101%		70-140
Bromofluorobenzene	49.77	50.00	ug/L	100%		70-140

ENTHALPY ANALYTICAL

Batch QC

Type:	**Lab Control Sample Duplicate**	**Lab ID:**	**QC1047283**	**Batch:**	**308126**
Matrix:	**Water**	**Method:**	**EPA 8260B**	**Prep Method:**	**EPA 5030B**

QC1047283 Analyte	Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim
1,1-Dichloroethene	46.57	50.00	ug/L	93%		70-135	13	30
MTBE	40.53	50.00	ug/L	81%		70-130	13	30
Benzene	46.88	50.00	ug/L	94%		70-130	14	30
Trichloroethene	46.64	50.00	ug/L	93%		70-130	15	30
Toluene	47.79	50.00	ug/L	96%		70-130	15	30
Chlorobenzene	46.52	50.00	ug/L	93%		70-130	15	30
Surrogates								
Dibromofluoromethane	50.88	50.00	ug/L	102%		70-140		
1,2-Dichloroethane-d4	47.92	50.00	ug/L	96%		70-140		
Toluene-d8	50.21	50.00	ug/L	100%		70-140		
Bromofluorobenzene	49.85	50.00	ug/L	100%		70-140		

ENTHALPY ANALYTICAL

Batch QC

Type: Blank	Lab ID: QC1047286	Batch: 308126
Matrix: Water	Method: EPA 8260B	Prep Method: EPA 5030B

QC1047286 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
3-Chloropropene	ND		ug/L	5.0	0.7	02/22/23	02/22/23
Freon 12	ND		ug/L	5.0	0.2	02/22/23	02/22/23
Chloromethane	ND		ug/L	5.0	0.4	02/22/23	02/22/23
Vinyl Chloride	ND		ug/L	5.0	0.2	02/22/23	02/22/23
Bromomethane	ND		ug/L	5.0	0.4	02/22/23	02/22/23
Chloroethane	ND		ug/L	5.0	0.3	02/22/23	02/22/23
Trichlorofluoromethane	ND		ug/L	5.0	0.2	02/22/23	02/22/23
Acetone	ND		ug/L	100	6.8	02/22/23	02/22/23
Freon 113	ND		ug/L	5.0	0.3	02/22/23	02/22/23
1,1-Dichloroethene	ND		ug/L	5.0	0.2	02/22/23	02/22/23
Methylene Chloride	ND		ug/L	5.0	2.9	02/22/23	02/22/23
MTBE	ND		ug/L	5.0	0.3	02/22/23	02/22/23
trans-1,2-Dichloroethene	ND		ug/L	5.0	0.2	02/22/23	02/22/23
1,1-Dichloroethane	ND		ug/L	5.0	0.3	02/22/23	02/22/23
2-Butanone	ND		ug/L	100	0.8	02/22/23	02/22/23
cis-1,2-Dichloroethene	ND		ug/L	5.0	0.3	02/22/23	02/22/23
2,2-Dichloropropane	ND		ug/L	5.0	0.3	02/22/23	02/22/23
Chloroform	ND		ug/L	5.0	0.2	02/22/23	02/22/23
Bromochloromethane	ND		ug/L	5.0	0.3	02/22/23	02/22/23
1,1,1-Trichloroethane	ND		ug/L	5.0	0.3	02/22/23	02/22/23
1,1-Dichloropropene	ND		ug/L	5.0	0.3	02/22/23	02/22/23
Carbon Tetrachloride	ND		ug/L	5.0	0.3	02/22/23	02/22/23
1,2-Dichloroethane	ND		ug/L	5.0	0.2	02/22/23	02/22/23
Benzene	ND		ug/L	5.0	0.2	02/22/23	02/22/23
Trichloroethene	ND		ug/L	5.0	0.2	02/22/23	02/22/23
1,2-Dichloropropane	ND		ug/L	5.0	0.3	02/22/23	02/22/23
Bromodichloromethane	ND		ug/L	5.0	0.3	02/22/23	02/22/23
Dibromomethane	ND		ug/L	5.0	0.3	02/22/23	02/22/23
4-Methyl-2-Pentanone	ND		ug/L	5.0	0.7	02/22/23	02/22/23
cis-1,3-Dichloropropene	ND		ug/L	5.0	0.2	02/22/23	02/22/23
Toluene	ND		ug/L	5.0	0.3	02/22/23	02/22/23
trans-1,3-Dichloropropene	ND		ug/L	5.0	0.2	02/22/23	02/22/23
1,1,2-Trichloroethane	ND		ug/L	5.0	0.2	02/22/23	02/22/23
1,3-Dichloropropane	ND		ug/L	5.0	0.2	02/22/23	02/22/23
Tetrachloroethene	ND		ug/L	5.0	0.2	02/22/23	02/22/23
Dibromochloromethane	ND		ug/L	5.0	0.3	02/22/23	02/22/23
1,2-Dibromoethane	ND		ug/L	5.0	0.2	02/22/23	02/22/23
Chlorobenzene	ND		ug/L	5.0	0.3	02/22/23	02/22/23
1,1,1,2-Tetrachloroethane	ND		ug/L	5.0	0.3	02/22/23	02/22/23
Ethylbenzene	ND		ug/L	5.0	0.3	02/22/23	02/22/23
m,p-Xylenes	ND		ug/L	10	0.4	02/22/23	02/22/23
o-Xylene	ND		ug/L	5.0	0.3	02/22/23	02/22/23

ENTHALPY ANALYTICAL

Batch QC

QC1047286 Analyte	Result	Qual	Units	RL	MDL	Prepared	Analyzed
Styrene	ND		ug/L	5.0	0.3	02/22/23	02/22/23
Bromoform	ND		ug/L	5.0	0.3	02/22/23	02/22/23
Isopropylbenzene	ND		ug/L	5.0	0.2	02/22/23	02/22/23
1,1,2,2-Tetrachloroethane	ND		ug/L	5.0	0.2	02/22/23	02/22/23
1,2,3-Trichloropropane	ND		ug/L	5.0	0.3	02/22/23	02/22/23
Propylbenzene	ND		ug/L	5.0	0.2	02/22/23	02/22/23
Bromobenzene	ND		ug/L	5.0	0.3	02/22/23	02/22/23
1,3,5-Trimethylbenzene	ND		ug/L	5.0	0.2	02/22/23	02/22/23
2-Chlorotoluene	ND		ug/L	5.0	0.2	02/22/23	02/22/23
4-Chlorotoluene	ND		ug/L	5.0	0.3	02/22/23	02/22/23
tert-Butylbenzene	ND		ug/L	5.0	0.3	02/22/23	02/22/23
1,2,4-Trimethylbenzene	ND		ug/L	5.0	0.2	02/22/23	02/22/23
sec-Butylbenzene	ND		ug/L	5.0	0.3	02/22/23	02/22/23
para-Isopropyl Toluene	ND		ug/L	5.0	0.2	02/22/23	02/22/23
1,3-Dichlorobenzene	ND		ug/L	5.0	0.3	02/22/23	02/22/23
1,4-Dichlorobenzene	ND		ug/L	5.0	0.2	02/22/23	02/22/23
n-Butylbenzene	ND		ug/L	5.0	0.2	02/22/23	02/22/23
1,2-Dichlorobenzene	ND		ug/L	5.0	0.2	02/22/23	02/22/23
1,2-Dibromo-3-Chloropropane	ND		ug/L	5.0	0.3	02/22/23	02/22/23
1,2,4-Trichlorobenzene	ND		ug/L	5.0	0.3	02/22/23	02/22/23
Hexachlorobutadiene	ND		ug/L	5.0	0.3	02/22/23	02/22/23
Naphthalene	ND		ug/L	5.0	0.3	02/22/23	02/22/23
1,2,3-Trichlorobenzene	ND		ug/L	5.0	0.3	02/22/23	02/22/23
cis-1,4-Dichloro-2-butene	ND		ug/L	5.0	0.8	02/22/23	02/22/23
trans-1,4-Dichloro-2-butene	ND		ug/L	5.0	0.2	02/22/23	02/22/23
Xylene (total)	ND		ug/L	5.0		02/22/23	02/22/23
Surrogates				**Limits**			
Dibromofluoromethane	106%		%REC	70-140	1.7	02/22/23	02/22/23
1,2-Dichloroethane-d4	97%		%REC	70-140		02/22/23	02/22/23
Toluene-d8	100%		%REC	70-140	5.7	02/22/23	02/22/23
Bromofluorobenzene	100%		%REC	70-140		02/22/23	02/22/23

\# CCV drift outside limits; average CCV drift within limits per method requirements

* Value is outside QC limits

ND Not Detected

JONES ENVIRONMENTAL, INC.

714-449-9937
562-646-1611

11007 FOREST PLACE
SANTA FE SPRINGS, CA 90670
WWW.JONESENV.COM

27 February 2023

Eric Fraske
NV5 (Formerly Alta)
19700 Fairchild Rd., Suite 170
Irvine, CA 92612

Re: Mckinley Elementary School

Enclosed are the results of analyses for samples received by the laboratory on 02/20/23. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Colby Wakeman
Lab Director

11007 FOREST PLACE
SANTA FE SPRINGS, CA 90670
714-449-9937 PHONE
562-646-1611 FAX

NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	02/27/23 12:08

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SV1-5	JEI230378-01	Soil Gas	02/20/2023 11:27	02/20/2023 13:50
SV1-15	JEI230378-02	Soil Gas	02/20/2023 11:30	02/20/2023 13:50
SV2-5 REP	JEI230378-03	Soil Gas	02/20/2023 11:57	02/20/2023 13:50
SV2-5	JEI230378-04	Soil Gas	02/20/2023 12:06	02/20/2023 13:50
SV2-15	JEI230378-05	Soil Gas	02/20/2023 12:58	02/20/2023 13:50
SV3-5	JEI230378-06	Soil Gas	02/20/2023 12:28	02/20/2023 13:50
SV3-15	JEI230378-07	Soil Gas	02/20/2023 12:31	02/20/2023 13:50

Jones Environmental, Inc.

Colby Wakeman
Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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SANTA FE SPRINGS, CA 90670
714-449-9937 PHONE
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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	02/27/23 12:08

DETECTIONS SUMMARY

Sample ID: SV1-5 **Laboratory ID:** JEI230378-01

Analyte	Result	Reporting Limit	Units	Method	Notes
Benzene	18	8	µg/m3	EPA 8260	
Bromodichloromethane	53	8	µg/m3	EPA 8260	
Bromoform	10	8	µg/m3	EPA 8260	
Chloroform	163	8	µg/m3	EPA 8260	
Dibromochloromethane	22	8	µg/m3	EPA 8260	
Ethylbenzene	36	8	µg/m3	EPA 8260	
n-Propylbenzene	17	8	µg/m3	EPA 8260	
Tetrachloroethene	13	8	µg/m3	EPA 8260	
Toluene	101	8	µg/m3	EPA 8260	
1,2,4-Trimethylbenzene	75	8	µg/m3	EPA 8260	
1,3,5-Trimethylbenzene	26	8	µg/m3	EPA 8260	
m,p-Xylene	177	16	µg/m3	EPA 8260	
o-Xylene	58	8	µg/m3	EPA 8260	

Sample ID: SV1-15 **Laboratory ID:** JEI230378-02

Analyte	Result	Reporting Limit	Units	Method	Notes
Ethylbenzene	41	8	µg/m3	EPA 8260	
n-Propylbenzene	15	8	µg/m3	EPA 8260	
Tetrachloroethene	690	8	µg/m3	EPA 8260	
Toluene	100	8	µg/m3	EPA 8260	
1,2,4-Trimethylbenzene	85	8	µg/m3	EPA 8260	
1,3,5-Trimethylbenzene	27	8	µg/m3	EPA 8260	
m,p-Xylene	183	16	µg/m3	EPA 8260	
o-Xylene	61	8	µg/m3	EPA 8260	

Sample ID: SV2-5 REP **Laboratory ID:** JEI230378-03

Analyte	Result	Reporting Limit	Units	Method	Notes

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Colby Wakeman
Lab Director

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	02/27/23 12:08

DETECTIONS SUMMARY

Sample ID: SV2-5 REP **Laboratory ID:** JEI230378-03

Analyte	Result	Reporting Limit	Units	Method	Notes
Benzene	251	8	µg/m3	EPA 8260	
Bromodichloromethane	29	8	µg/m3	EPA 8260	
Chloroform	111	8	µg/m3	EPA 8260	
Dibromochloromethane	15	8	µg/m3	EPA 8260	
Ethylbenzene	131	8	µg/m3	EPA 8260	
n-Propylbenzene	26	8	µg/m3	EPA 8260	
Tetrachloroethene	10	8	µg/m3	EPA 8260	
Toluene	1270	8	µg/m3	EPA 8260	
Trichloroethene	11	8	µg/m3	EPA 8260	
1,2,4-Trimethylbenzene	82	8	µg/m3	EPA 8260	
1,3,5-Trimethylbenzene	33	8	µg/m3	EPA 8260	
m,p-Xylene	519	16	µg/m3	EPA 8260	
o-Xylene	156	8	µg/m3	EPA 8260	

Sample ID: SV2-5 **Laboratory ID:** JEI230378-04

Analyte	Result	Reporting Limit	Units	Method	Notes
Benzene	334	8	µg/m3	EPA 8260	
Bromodichloromethane	45	8	µg/m3	EPA 8260	
Chloroform	139	8	µg/m3	EPA 8260	
Dibromochloromethane	17	8	µg/m3	EPA 8260	
Ethylbenzene	164	8	µg/m3	EPA 8260	
n-Propylbenzene	27	8	µg/m3	EPA 8260	
Tetrachloroethene	10	8	µg/m3	EPA 8260	
Toluene	1620	8	µg/m3	EPA 8260	
1,2,4-Trimethylbenzene	97	8	µg/m3	EPA 8260	
1,3,5-Trimethylbenzene	38	8	µg/m3	EPA 8260	
m,p-Xylene	602	16	µg/m3	EPA 8260	

Jones Environmental, Inc.

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Colby Wakeman
Lab Director

11007 FOREST PLACE
SANTA FE SPRINGS, CA 90670
714-449-9937 PHONE
562-646-1611 FAX

NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	02/27/23 12:08

DETECTIONS SUMMARY

Sample ID: SV2-5 **Laboratory ID:** JEI230378-04

Analyte	Result	Reporting Limit	Units	Method	Notes
o-Xylene	179	8	µg/m3	EPA 8260	

Sample ID: SV2-15 **Laboratory ID:** JEI230378-05

Analyte	Result	Reporting Limit	Units	Method	Notes
Ethylbenzene	50	8	µg/m3	EPA 8260	
n-Propylbenzene	23	8	µg/m3	EPA 8260	
Tetrachloroethene	1330	8	µg/m3	EPA 8260	
Toluene	97	8	µg/m3	EPA 8260	
1,2,4-Trimethylbenzene	107	8	µg/m3	EPA 8260	
1,3,5-Trimethylbenzene	39	8	µg/m3	EPA 8260	
m,p-Xylene	241	16	µg/m3	EPA 8260	
o-Xylene	83	8	µg/m3	EPA 8260	

Sample ID: SV3-5 **Laboratory ID:** JEI230378-06

Analyte	Result	Reporting Limit	Units	Method	Notes
Benzene	751	8	µg/m3	EPA 8260	
Bromodichloromethane	44	8	µg/m3	EPA 8260	
Chloroform	107	8	µg/m3	EPA 8260	
Dibromochloromethane	20	8	µg/m3	EPA 8260	
Ethylbenzene	702	8	µg/m3	EPA 8260	
n-Propylbenzene	100	8	µg/m3	EPA 8260	
Toluene	5060	8	µg/m3	EPA 8260	
1,2,4-Trimethylbenzene	372	8	µg/m3	EPA 8260	
1,3,5-Trimethylbenzene	148	8	µg/m3	EPA 8260	
m,p-Xylene	2540	16	µg/m3	EPA 8260	
o-Xylene	729	8	µg/m3	EPA 8260	

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Colby Wakeman
Lab Director

11007 FOREST PLACE
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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	02/27/23 12:08

DETECTIONS SUMMARY

Sample ID: SV3-15 **Laboratory ID:** JEI230378-07

Analyte	Result	Reporting Limit	Units	Method	Notes
Ethylbenzene	31	8	µg/m3	EPA 8260	
n-Propylbenzene	19	8	µg/m3	EPA 8260	
Tetrachloroethene	653	8	µg/m3	EPA 8260	
Toluene	55	8	µg/m3	EPA 8260	
1,2,4-Trimethylbenzene	109	8	µg/m3	EPA 8260	
1,3,5-Trimethylbenzene	36	8	µg/m3	EPA 8260	
m,p-Xylene	148	16	µg/m3	EPA 8260	
o-Xylene	58	8	µg/m3	EPA 8260	

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19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	02/27/23 12:08

SV1-5

JEI230378-01(Soil Gas)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260									
Benzene	18	8	µg/m3	1	QC2302350		02/21/23	EPA 8260	
Bromodichloromethane	53	8	µg/m3	"	"		"	"	
Bromoform	10	8	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	µg/m3	"	"		"	"	
sec-Butylbenzene	ND	12	µg/m3	"	"		"	"	
tert-Butylbenzene	ND	12	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	µg/m3	"	"		"	"	
Chloroform	163	8	µg/m3	"	"		"	"	
Dibromochloromethane	22	8	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
Freon 12	ND	16	µg/m3	"	"		"	"	
Freon 11	ND	16	µg/m3	"	"		"	"	
Freon 113	ND	16	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	µg/m3	"	"		"	"	
Ethylbenzene	36	8	µg/m3	"	"		"	"	
Isopropylbenzene	ND	8	µg/m3	"	"		"	"	
4-Isopropyltoluene	ND	8	µg/m3	"	"		"	"	
Methylene chloride	ND	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	µg/m3	"	"		"	"	
n-Propylbenzene	17	8	µg/m3	"	"		"	"	
Styrene	ND	8	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	µg/m3	"	"		"	"	
Tetrachloroethene	13	8	µg/m3	"	"		"	"	
Toluene	101	8	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	µg/m3	"	"		"	"	
Trichloroethene	ND	8	µg/m3	"	"		"	"	
1,2,4-Trimethylbenzene	75	8	µg/m3	"	"		"	"	
1,3,5-Trimethylbenzene	26	8	µg/m3	"	"		"	"	

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	02/27/23 12:08

SV1-5

JEI230378-01(Soil Gas)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260									
Vinyl chloride	ND	8	µg/m3	1	QC2302350		02/21/23	EPA 8260	
m,p-Xylene	177	16	µg/m3	"	"		"	"	
o-Xylene	58	8	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80	µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80	µg/m3	"	"		"	"	
Isopropanol (LCC)	ND	80	µg/m3	"	"		"	"	
n-Propanol (LCC)	ND	80	µg/m3	"	"		"	"	
Surrogate: Toluene-d8	*99.02 %*	*60 - 140*							
Surrogate: Dibromofluoromethane	*95.75 %*	*60 - 140*							
Surrogate: 4-Bromofluorobenzene	*99.17 %*	*60 - 140*							

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19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	02/27/23 12:08

SV1-15

JEI230378-02(Soil Gas)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260									
Benzene	ND	8	µg/m3	1	QC2302350		02/21/23	EPA 8260	
Bromodichloromethane	ND	8	µg/m3	"	"		"	"	
Bromoform	ND	8	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	µg/m3	"	"		"	"	
sec-Butylbenzene	ND	12	µg/m3	"	"		"	"	
tert-Butylbenzene	ND	12	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	µg/m3	"	"		"	"	
Chloroform	ND	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
Freon 12	ND	16	µg/m3	"	"		"	"	
Freon 11	ND	16	µg/m3	"	"		"	"	
Freon 113	ND	16	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	µg/m3	"	"		"	"	
Ethylbenzene	41	8	µg/m3	"	"		"	"	
Isopropylbenzene	ND	8	µg/m3	"	"		"	"	
4-Isopropyltoluene	ND	8	µg/m3	"	"		"	"	
Methylene chloride	ND	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	µg/m3	"	"		"	"	
n-Propylbenzene	15	8	µg/m3	"	"		"	"	
Styrene	ND	8	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	µg/m3	"	"		"	"	
Tetrachloroethene	690	8	µg/m3	"	"		"	"	
Toluene	100	8	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	µg/m3	"	"		"	"	
Trichloroethene	ND	8	µg/m3	"	"		"	"	
1,2,4-Trimethylbenzene	85	8	µg/m3	"	"		"	"	
1,3,5-Trimethylbenzene	27	8	µg/m3	"	"		"	"	

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19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	02/27/23 12:08

SV1-15

JEI230378-02(Soil Gas)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260									
Vinyl chloride	ND	8	µg/m3	1	QC2302350		02/21/23	EPA 8260	
m,p-Xylene	183	16	µg/m3	"	"		"	"	
o-Xylene	61	8	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80	µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80	µg/m3	"	"		"	"	
Isopropanol (LCC)	ND	80	µg/m3	"	"		"	"	
n-Propanol (LCC)	ND	80	µg/m3	"	"		"	"	
Surrogate: Toluene-d8	*98.14 %*	*60 - 140*							
Surrogate: Dibromofluoromethane	*94.64 %*	*60 - 140*							
Surrogate: 4-Bromofluorobenzene	*97.99 %*	*60 - 140*							

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19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	02/27/23 12:08

SV2-5 REP

JEI230378-03(Soil Gas)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260									
Benzene	251	8	µg/m3	1	QC2302350		02/21/23	EPA 8260	
Bromodichloromethane	29	8	µg/m3	"	"		"	"	
Bromoform	ND	8	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	µg/m3	"	"		"	"	
sec-Butylbenzene	ND	12	µg/m3	"	"		"	"	
tert-Butylbenzene	ND	12	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	µg/m3	"	"		"	"	
Chloroform	111	8	µg/m3	"	"		"	"	
Dibromochloromethane	15	8	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
Freon 12	ND	16	µg/m3	"	"		"	"	
Freon 11	ND	16	µg/m3	"	"		"	"	
Freon 113	ND	16	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	µg/m3	"	"		"	"	
Ethylbenzene	131	8	µg/m3	"	"		"	"	
Isopropylbenzene	ND	8	µg/m3	"	"		"	"	
4-Isopropyltoluene	ND	8	µg/m3	"	"		"	"	
Methylene chloride	ND	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	µg/m3	"	"		"	"	
n-Propylbenzene	26	8	µg/m3	"	"		"	"	
Styrene	ND	8	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	µg/m3	"	"		"	"	
Tetrachloroethene	10	8	µg/m3	"	"		"	"	
Toluene	1270	8	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	µg/m3	"	"		"	"	
Trichloroethene	11	8	µg/m3	"	"		"	"	
1,2,4-Trimethylbenzene	82	8	µg/m3	"	"		"	"	
1,3,5-Trimethylbenzene	33	8	µg/m3	"	"		"	"	

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	02/27/23 12:08

SV2-5 REP

JEI230378-03(Soil Gas)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260									
Vinyl chloride	ND	8	µg/m3	1	QC2302350		02/21/23	EPA 8260	
m,p-Xylene	519	16	µg/m3	"	"		"	"	
o-Xylene	156	8	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80	µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80	µg/m3	"	"		"	"	
Isopropanol (LCC)	ND	80	µg/m3	"	"		"	"	
n-Propanol (LCC)	ND	80	µg/m3	"	"		"	"	

Surrogate: Toluene-d8	*100.33 %*	*60 - 140*
Surrogate: Dibromofluoromethane	*94.53 %*	*60 - 140*
Surrogate: 4-Bromofluorobenzene	*100.46 %*	*60 - 140*

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19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	02/27/23 12:08

SV2-5

JEI230378-04(Soil Gas)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260									
Benzene	334	8	µg/m3	1	QC2302350		02/21/23	EPA 8260	
Bromodichloromethane	45	8	µg/m3	"	"		"	"	
Bromoform	ND	8	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	µg/m3	"	"		"	"	
sec-Butylbenzene	ND	12	µg/m3	"	"		"	"	
tert-Butylbenzene	ND	12	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	µg/m3	"	"		"	"	
Chloroform	139	8	µg/m3	"	"		"	"	
Dibromochloromethane	17	8	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
Freon 12	ND	16	µg/m3	"	"		"	"	
Freon 11	ND	16	µg/m3	"	"		"	"	
Freon 113	ND	16	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	µg/m3	"	"		"	"	
Ethylbenzene	164	8	µg/m3	"	"		"	"	
Isopropylbenzene	ND	8	µg/m3	"	"		"	"	
4-Isopropyltoluene	ND	8	µg/m3	"	"		"	"	
Methylene chloride	ND	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	µg/m3	"	"		"	"	
n-Propylbenzene	27	8	µg/m3	"	"		"	"	
Styrene	ND	8	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	µg/m3	"	"		"	"	
Tetrachloroethene	10	8	µg/m3	"	"		"	"	
Toluene	1620	8	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	µg/m3	"	"		"	"	
Trichloroethene	ND	8	µg/m3	"	"		"	"	
1,2,4-Trimethylbenzene	97	8	µg/m3	"	"		"	"	
1,3,5-Trimethylbenzene	38	8	µg/m3	"	"		"	"	

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19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	02/27/23 12:08

SV2-5

JEI230378-04(Soil Gas)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260									
Vinyl chloride	ND	8	µg/m3	1	QC2302350		02/21/23	EPA 8260	
m,p-Xylene	602	16	µg/m3	"	"		"	"	
o-Xylene	179	8	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80	µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80	µg/m3	"	"		"	"	
Isopropanol (LCC)	ND	80	µg/m3	"	"		"	"	
n-Propanol (LCC)	ND	80	µg/m3	"	"		"	"	
Surrogate: Toluene-d8	*99.90 %*	*60 - 140*							
Surrogate: Dibromofluoromethane	*92.50 %*	*60 - 140*							
Surrogate: 4-Bromofluorobenzene	*99.59 %*	*60 - 140*							

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SANTA FE SPRINGS, CA 90670
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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	02/27/23 12:08

SV2-15

JEI230378-05(Soil Gas)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260									
Benzene	ND	8	µg/m3	1	QC2302350		02/21/23	EPA 8260	
Bromodichloromethane	ND	8	µg/m3	"	"		"	"	
Bromoform	ND	8	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	µg/m3	"	"		"	"	
sec-Butylbenzene	ND	12	µg/m3	"	"		"	"	
tert-Butylbenzene	ND	12	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	µg/m3	"	"		"	"	
Chloroform	ND	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
Freon 12	ND	16	µg/m3	"	"		"	"	
Freon 11	ND	16	µg/m3	"	"		"	"	
Freon 113	ND	16	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	µg/m3	"	"		"	"	
Ethylbenzene	50	8	µg/m3	"	"		"	"	
Isopropylbenzene	ND	8	µg/m3	"	"		"	"	
4-Isopropyltoluene	ND	8	µg/m3	"	"		"	"	
Methylene chloride	ND	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	µg/m3	"	"		"	"	
n-Propylbenzene	23	8	µg/m3	"	"		"	"	
Styrene	ND	8	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	µg/m3	"	"		"	"	
Tetrachloroethene	1330	8	µg/m3	"	"		"	"	
Toluene	97	8	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	µg/m3	"	"		"	"	
Trichloroethene	ND	8	µg/m3	"	"		"	"	
1,2,4-Trimethylbenzene	107	8	µg/m3	"	"		"	"	
1,3,5-Trimethylbenzene	39	8	µg/m3	"	"		"	"	

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	02/27/23 12:08

SV2-15

JEI230378-05(Soil Gas)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260									
Vinyl chloride	ND	8	µg/m3	1	QC2302350		02/21/23	EPA 8260	
m,p-Xylene	241	16	µg/m3	"	"		"	"	
o-Xylene	83	8	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80	µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80	µg/m3	"	"		"	"	
Isopropanol (LCC)	ND	80	µg/m3	"	"		"	"	
n-Propanol (LCC)	ND	80	µg/m3	"	"		"	"	
Surrogate: Toluene-d8	*96.73 %*	*60 - 140*							
Surrogate: Dibromofluoromethane	*96.16 %*	*60 - 140*							
Surrogate: 4-Bromofluorobenzene	*98.79 %*	*60 - 140*							

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	02/27/23 12:08

SV3-5

JEI230378-06(Soil Gas)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260									
Benzene	751	8	µg/m3	1	QC2302350		02/21/23	EPA 8260	
Bromodichloromethane	44	8	µg/m3	"	"		"	"	
Bromoform	ND	8	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	µg/m3	"	"		"	"	
sec-Butylbenzene	ND	12	µg/m3	"	"		"	"	
tert-Butylbenzene	ND	12	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	µg/m3	"	"		"	"	
Chloroform	107	8	µg/m3	"	"		"	"	
Dibromochloromethane	20	8	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
Freon 12	ND	16	µg/m3	"	"		"	"	
Freon 11	ND	16	µg/m3	"	"		"	"	
Freon 113	ND	16	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	µg/m3	"	"		"	"	
Ethylbenzene	702	8	µg/m3	"	"		"	"	
Isopropylbenzene	ND	8	µg/m3	"	"		"	"	
4-Isopropyltoluene	ND	8	µg/m3	"	"		"	"	
Methylene chloride	ND	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	µg/m3	"	"		"	"	
n-Propylbenzene	100	8	µg/m3	"	"		"	"	
Styrene	ND	8	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	µg/m3	"	"		"	"	
Tetrachloroethene	ND	8	µg/m3	"	"		"	"	
Toluene	5060	8	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	µg/m3	"	"		"	"	
Trichloroethene	ND	8	µg/m3	"	"		"	"	
1,2,4-Trimethylbenzene	372	8	µg/m3	"	"		"	"	
1,3,5-Trimethylbenzene	148	8	µg/m3	"	"		"	"	

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Irvine, CA 92612	Project Manager: Eric Fraske	02/27/23 12:08

SV3-5

JEI230378-06(Soil Gas)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260									
Vinyl chloride	ND	8	µg/m3	1	QC2302350		02/21/23	EPA 8260	
m,p-Xylene	2540	16	µg/m3	"	"		"	"	
o-Xylene	729	8	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80	µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80	µg/m3	"	"		"	"	
Isopropanol (LCC)	ND	80	µg/m3	"	"		"	"	
n-Propanol (LCC)	ND	80	µg/m3	"	"		"	"	
Surrogate: Toluene-d8	*99.98 %*	*60 - 140*							
Surrogate: Dibromofluoromethane	*90.56 %*	*60 - 140*							
Surrogate: 4-Bromofluorobenzene	*99.20 %*	*60 - 140*							

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19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	02/27/23 12:08

SV3-15

JEI230378-07(Soil Gas)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260									
Benzene	ND	8	µg/m3	1	QC2302350		02/21/23	EPA 8260	
Bromodichloromethane	ND	8	µg/m3	"	"		"	"	
Bromoform	ND	8	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	µg/m3	"	"		"	"	
sec-Butylbenzene	ND	12	µg/m3	"	"		"	"	
tert-Butylbenzene	ND	12	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	µg/m3	"	"		"	"	
Chloroform	ND	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	µg/m3	"	"		"	"	
Freon 12	ND	16	µg/m3	"	"		"	"	
Freon 11	ND	16	µg/m3	"	"		"	"	
Freon 113	ND	16	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	µg/m3	"	"		"	"	
Ethylbenzene	31	8	µg/m3	"	"		"	"	
Isopropylbenzene	ND	8	µg/m3	"	"		"	"	
4-Isopropyltoluene	ND	8	µg/m3	"	"		"	"	
Methylene chloride	ND	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	µg/m3	"	"		"	"	
n-Propylbenzene	19	8	µg/m3	"	"		"	"	
Styrene	ND	8	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	µg/m3	"	"		"	"	
Tetrachloroethene	653	8	µg/m3	"	"		"	"	
Toluene	55	8	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	µg/m3	"	"		"	"	
Trichloroethene	ND	8	µg/m3	"	"		"	"	
1,2,4-Trimethylbenzene	109	8	µg/m3	"	"		"	"	
1,3,5-Trimethylbenzene	36	8	µg/m3	"	"		"	"	

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	02/27/23 12:08

SV3-15

JEI230378-07(Soil Gas)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260									
Vinyl chloride	ND	8	µg/m3	1	QC2302350		02/21/23	EPA 8260	
m,p-Xylene	148	16	µg/m3	"	"		"	"	
o-Xylene	58	8	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80	µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80	µg/m3	"	"		"	"	
Isopropanol (LCC)	ND	80	µg/m3	"	"		"	"	
n-Propanol (LCC)	ND	80	µg/m3	"	"		"	"	
Surrogate: Toluene-d8	*98.56 %*	*60 - 140*							
Surrogate: Dibromofluoromethane	*93.88 %*	*60 - 140*							
Surrogate: 4-Bromofluorobenzene	*98.28 %*	*60 - 140*							

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	02/27/23 12:08

Volatile Organic Compounds by EPA 8260 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	%REC Limits	Notes
Batch QC2302350 - EPA 8260										
CCV 1										
Benzene	10	8	%	10		101	80 - 120		120	
Chlorobenzene	11	8	%	10		106	80 - 120		120	
1,1-Dichloroethene	9	8	%	10		92	80 - 120		120	
cis-1,2-Dichloroethene	9	8	%	10		94	80 - 120		120	
Ethylbenzene	10	8	%	10		96	80 - 120		120	
Tetrachloroethene	9	8	%	10		92	80 - 120		120	
Toluene	10	8	%	10		101	80 - 120		120	
1,1,1-Trichloroethane	9	8	%	10		92	80 - 120		120	
Trichloroethene	9	8	%	10		90	80 - 120		120	
Vinyl chloride	10	8	%	10		103	80 - 120		120	
LCS 1										
Benzene	2.98	8	%	2.5		119	70 - 130			
Chlorobenzene	3.18	8	%	2.5		127	70 - 130			
1,1-Dichloroethene	2.98	8	%	2.5		119	60 - 140			
cis-1,2-Dichloroethene	2.86	8	%	2.5		114	70 - 130			
Ethylbenzene	2.65	8	%	2.5		106	70 - 130			
Tetrachloroethene	2.74	8	%	2.5		110	70 - 130			
Toluene	3.15	8	%	2.5		126	70 - 130			
1,1,1-Trichloroethane	2.65	8	%	2.5		106	70 - 130			
Trichloroethene	2.98	8	%	2.5		119	70 - 130			
Vinyl chloride	3.23	8	%	2.5		129	60 - 140			
Surrogate: Toluene-d8		*99.91 %*	*60 - 140*							
Surrogate: Dibromofluoromethane		*96.57 %*	*60 - 140*							
Surrogate: 4-Bromofluorobenzene		*102.35 %*	*60 - 140*							
LCSD 1										
Benzene	2.94	8	%	2.5		118	70 - 130	1.36	130	
Chlorobenzene	2.99	8	%	2.5		119	70 - 130	6.13	130	
1,1-Dichloroethene	2.80	8	%	2.5		112	60 - 140	6.29	140	
cis-1,2-Dichloroethene	2.80	8	%	2.5		112	70 - 130	1.98	130	

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19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	02/27/23 12:08

Volatile Organic Compounds by EPA 8260 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	%REC Limits	Notes
Batch QC2302350 - EPA 8260										
LCSD 1										
Ethylbenzene	2.63	8	%	2.5		105	70 - 130	0.76	130	
Tetrachloroethene	2.67	8	%	2.5		107	70 - 130	2.75	130	
Toluene	2.93	8	%	2.5		117	70 - 130	7.33	130	
1,1,1-Trichloroethane	2.49	8	%	2.5		100	70 - 130	6.10	130	
Trichloroethene	2.60	8	%	2.5		104	70 - 130	13.62	130	
Vinyl chloride	2.92	8	%	2.5		117	60 - 140	10.00	140	
Surrogate: Toluene-d8		*97.98 %*	*60 - 140*							
Surrogate: Dibromofluoromethane		*95.29 %*	*60 - 140*							
Surrogate: 4-Bromofluorobenzene		*98.53 %*	*60 - 140*							
Method Blank 1										
Benzene	ND	8	µg/m3							
Bromodichloromethane	ND	8	µg/m3							
Bromoform	ND	8	µg/m3							
n-Butylbenzene	ND	12	µg/m3							
sec-Butylbenzene	ND	12	µg/m3							
tert-Butylbenzene	ND	12	µg/m3							
Carbon tetrachloride	ND	8	µg/m3							
Chlorobenzene	ND	8	µg/m3							
Chloroform	ND	8	µg/m3							
Dibromochloromethane	ND	8	µg/m3							
1,2-Dibromoethane (EDB)	ND	8	µg/m3							
1,2-Dichlorobenzene	ND	16	µg/m3							
1,3-Dichlorobenzene	ND	16	µg/m3							
1,4-Dichlorobenzene	ND	16	µg/m3							
Freon 12	ND	16	µg/m3							
Freon 11	ND	16	µg/m3							
Freon 113	ND	16	µg/m3							
1,1-Dichloroethane	ND	8	µg/m3							
1,2-Dichloroethane	ND	8	µg/m3							
1,1-Dichloroethene	ND	8	µg/m3							
cis-1,2-Dichloroethene	ND	8	µg/m3							
trans-1,2-Dichloroethene	ND	8	µg/m3							
Ethylbenzene	ND	8	µg/m3							
Isopropylbenzene	ND	8	µg/m3							
4-Isopropyltoluene	ND	8	µg/m3							

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Irvine, CA 92612	Project Manager: Eric Fraske	02/27/23 12:08

Volatile Organic Compounds by EPA 8260 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	%REC Limits	Notes
Batch QC2302350 - EPA 8260										
Method Blank 1										
Methylene chloride	ND	8	µg/m3							
Naphthalene	ND	40	µg/m3							
n-Propylbenzene	ND	8	µg/m3							
Styrene	ND	8	µg/m3							
1,1,1,2-Tetrachloroethane	ND	8	µg/m3							
1,1,2,2-Tetrachloroethane	ND	16	µg/m3							
Tetrachloroethene	ND	8	µg/m3							
Toluene	ND	8	µg/m3							
1,1,1-Trichloroethane	ND	8	µg/m3							
1,1,2-Trichloroethane	ND	8	µg/m3							
Trichloroethene	ND	8	µg/m3							
1,2,4-Trimethylbenzene	ND	8	µg/m3							
1,3,5-Trimethylbenzene	ND	8	µg/m3							
Vinyl chloride	ND	8	µg/m3							
m,p-Xylene	ND	16	µg/m3							
o-Xylene	ND	8	µg/m3							
Methyl-tert-butylether	ND	40	µg/m3							
Ethyl-tert-butylether	ND	40	µg/m3							
Di-isopropylether	ND	40	µg/m3							
tert-amylmethylether	ND	40	µg/m3							
tert-Butylalcohol	ND	400	µg/m3							
n-Hexane (LCC)	ND	80	µg/m3							
n-Pentane (LCC)	ND	80	µg/m3							
Isopropanol (LCC)	ND	80	µg/m3							
n-Propanol (LCC)	ND	80	µg/m3							
Surrogate: Toluene-d8		*97.09 %*	*60 - 140*							
Surrogate: Dibromofluoromethane		*94.35 %*	*60 - 140*							
Surrogate: 4-Bromofluorobenzene		*94.70 %*	*60 - 140*							
Sample Blank 1										
Benzene	ND	8	µg/m3							
Bromodichloromethane	ND	8	µg/m3							
Bromoform	ND	8	µg/m3							
n-Butylbenzene	ND	12	µg/m3							
sec-Butylbenzene	ND	12	µg/m3							
tert-Butylbenzene	ND	12	µg/m3							

Jones Environmental, Inc.

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Colby Wakeman
Lab Director

11007 FOREST PLACE
SANTA FE SPRINGS, CA 90670
714-449-9937 PHONE
562-646-1611 FAX

NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	02/27/23 12:08

Volatile Organic Compounds by EPA 8260 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	%REC Limits	Notes
Batch QC2302350 - EPA 8260										
Sample Blank 1										
Carbon tetrachloride	ND	8	µg/m3							
Chlorobenzene	ND	8	µg/m3							
Chloroform	ND	8	µg/m3							
Dibromochloromethane	ND	8	µg/m3							
1,2-Dibromoethane (EDB)	ND	8	µg/m3							
1,2-Dichlorobenzene	ND	16	µg/m3							
1,3-Dichlorobenzene	ND	16	µg/m3							
1,4-Dichlorobenzene	ND	16	µg/m3							
Freon 12	ND	16	µg/m3							
Freon 11	ND	16	µg/m3							
Freon 113	ND	16	µg/m3							
1,1-Dichloroethane	ND	8	µg/m3							
1,2-Dichloroethane	ND	8	µg/m3							
1,1-Dichloroethene	ND	8	µg/m3							
cis-1,2-Dichloroethene	ND	8	µg/m3							
trans-1,2-Dichloroethene	ND	8	µg/m3							
Ethylbenzene	ND	8	µg/m3							
Isopropylbenzene	ND	8	µg/m3							
4-Isopropyltoluene	ND	8	µg/m3							
Methylene chloride	ND	8	µg/m3							
Naphthalene	ND	40	µg/m3							
n-Propylbenzene	ND	8	µg/m3							
Styrene	ND	8	µg/m3							
1,1,1,2-Tetrachloroethane	ND	8	µg/m3							
1,1,2,2-Tetrachloroethane	ND	16	µg/m3							
Tetrachloroethene	ND	8	µg/m3							
Toluene	ND	8	µg/m3							
1,1,1-Trichloroethane	ND	8	µg/m3							
1,1,2-Trichloroethane	ND	8	µg/m3							
Trichloroethene	ND	8	µg/m3							
1,2,4-Trimethylbenzene	ND	8	µg/m3							
1,3,5-Trimethylbenzene	ND	8	µg/m3							
Vinyl chloride	ND	8	µg/m3							
m,p-Xylene	ND	16	µg/m3							
o-Xylene	ND	8	µg/m3							
Methyl-tert-butylether	ND	40	µg/m3							
Ethyl-tert-butylether	ND	40	µg/m3							

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Colby Wakeman
Lab Director

11007 FOREST PLACE
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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	02/27/23 12:08

Volatile Organic Compounds by EPA 8260 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	%REC Limits	Notes
Batch QC2302350 - EPA 8260										
Sample Blank 1										
Di-isopropylether	ND	40	µg/m3							
tert-amylmethylether	ND	40	µg/m3							
tert-Butylalcohol	ND	400	µg/m3							
n-Hexane (LCC)	ND	80	µg/m3							
n-Pentane (LCC)	ND	80	µg/m3							
Isopropanol (LCC)	ND	80	µg/m3							
n-Propanol (LCC)	ND	80	µg/m3							
Surrogate: Toluene-d8		*96.55 %*	*60 - 140*							
Surrogate: Dibromofluoromethane		*94.59 %*	*60 - 140*							
Surrogate: 4-Bromofluorobenzene		*95.40 %*	*60 - 140*							

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Lab Director

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562-646-1611 FAX

NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	02/27/23 12:08

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry
RPD	Relative Percent Difference
E	Estimated Concentration; concentration exceeds calibration range.
LCC	Leak Check Compound
MDL	Compound Reported to Method Detection Limit
I	Recovery outside of acceptable limits. LCS/LCSD recoveries and %RSD were within QC limits, therefore data was accepted.

Jones Environmental, Inc.

Colby Wakeman
Lab Director

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JONES ENVIRONMENTAL, INC.
11007 Forest Pl.
Santa Fe Springs, CA 90670
(714) 449-9937
Fax (714) 449-9685
www.jonesenv.com

Air Chain-of-Custody Record

Lab Use Only
Jones Project # JE1230378
Page 1 of 1

Client: NVS
Client Address: 3777 Long Beach Blvd, Long Beach, CA
Project Name: McKinley Elementary School
Project Address: 2401 Santa Monica Blvd, Santa Monica, CA
Report To: Eric Frashe
Email/Phone:
Sampler: S.L

Date: 02/20/2023
Client Project #: SMSD-23-11335

Purge Rate: 200 cc/min
Shut In Test: (Y) / N

Turn Around Requested
- □ Immediate Attention - 200%
- □ Rush 24 Hours - 100%
- □ Rush 48 Hours - 50%
- □ Rush 72 Hours - 25%
- □ Rush 96 Hours - 10%
- ☑ Normal - No Surcharge

Summa Cannister Size: □ 1L □ 6L

Tracer
- ☑ n-pentane
- ☑ n-hexane
- ☑ n-heptane
- □ Helium
- □ 1,1-DFA
- ☑ n-propane

Report Options
- EDD ✓
- EDF* - 10% Surcharge
- *Global ID

Gasoline Range Organics: □ Yes ☑ No

Units Requested: ☑ ug/m3 □ ug/L □ ppmV

Analysis Requested

Sample ID	Date Collected	Purge Number	Purge Volume	Laboratory Sample ID	Canister ID	Cannister Start Pressure	Cannister End Pressure	Flow Rate (cc/min)	Sampling Start Time	Sampling End Time	TO-15	8260B	Magnehelic Reading (in/H_2O)	Number of Containers
SV1-5'	02/20/23	<3	2380	JE1230378-01	01517	-30	-5	<200	1127	1130		X		1
SV1-15'	02/20/23	<3	2550	JE1230378-02	01805	-30	-5	<200	1130	1136		X		1
SV2-5 REP	02/20/23	<3	2380	JE1230378-03	01781	-30	-5	<2	1157	1201		X		1
SV2-5 ~~DUP~~	02/20/23	<3	2380	JE1230378-04	01779	-30	-5	<2	1206	1212		X		1
SV-2-15'	02/20/23	<3	2550	JE1230378-05	01823	-30	-5	<2	1158	1204		X		1
SV3-5'	02/20/23	<3	2380	JE1230378-06	01519	-30	-5	<2	1228	1233		X		1
SV3-15'	02/20/23	<3	2550	JE1230378-07	B2415	-30	-5	<2	1231	1238		X		1

Relinquished By (Signature)	Date	Time	Recieved By (Signature)	Date	Time
Ruta Badziadzie	02/20/23	1243	[signature]	02/20/23	1242
Company: NVS			Company: JONES		
Relinquished By (Signature): [signature]	02/20/23	1350	Recieved By Laboratory (Signature): [signature]	2/20/23	1350
Company: JONES			Company: Jones		

The delivery of samples and the signature on this Chain of Custody form constitutes authorization to perform the analyses specificied above under the Terms and Conditions set forth

APPENDIX D

Waste Manifests

NO. 770159

NON-HAZARDOUS WASTE DATA FORM

BESI # 353578

GENERATOR

Generator's Name and Mailing Address
SANTA MONICA-MALIBU UNIFIED SCHOOL DISTRICT
FACILITIES IMPROVEMENTS PROJECTS
2828 FOURTH STREET
SANTA MONICA, CA 90405

Generator's Site Address (if different than mailing address)
MCKINLEY ELEMENTARY SCHOOL
2401 SANTA MONICA BLVD.
SANTA MONICA, CA 90404

Generator's Phone: 310-399-5865

Container type removed from site:
XX ☐ Drums ☐ Vacuum Truck ☐ Roll-off Truck ☐ Dump Truck
☐ Other _____
Quantity 1

Container type transported to receiving facility:
☐ Drums ☐ Vacuum Truck ☐ Roll-off Truck ☐ Dump Truck
☐ Other _____
Quantity _____ Volume _____

WASTE DESCRIPTION NON-HAZARDOUS SOLID

GENERATING PROCESS ENVIRONMENTAL SAMPLING

COMPONENTS OF WASTE	PPM	%
1. Soil		90%
2. PPE		0-10%
3.		
4.		

☐ SOLID ☐ LIQUID ☐ SLUDGE ☐ SLURRY ☐ OTHER _____

Waste Profile 070128043-17880 PROPERTIES: pH _____

HANDLING INSTRUCTIONS: WEAR ALL APPROPRIATE PERSONAL PROTECTIVE CLOTHING.

Generator Printed/Typed Name ERIC FRANKE FOR SMMUSD Signature [signature] Month 4 Day 13 Year 23

The Generator certifies that the waste as described is 100% non-hazardous

TRANSPORTER

Transporter 1 Company Name BELSHIRE Phone# 949-460-5200

Transporter 1 Printed/Typed Name PAUL VENEGAS Signature [signature] Month 4 Day 13 Year 23

Transporter Acknowledgment of Receipt of Materials

Transporter 2 Company Name Phone# Month Day Year

Transporter 2 Printed/Typed Name Signature

Transporter Acknowledgment of Receipt of Materials

RECEIVING FACILITY

Designated Facility Name and Site Address
U.S. ECOLOGY, NEVADA OPERATIONS
HIGHWAY 95, 11 MILES S. OF BEATTY
BEATTY, NV 89003

Phone# 775-553-2203

Printed/Typed Name Signature Month Day Year

Designated Facility Owner or Operator: Certification of receipt of materials covered by this data form.

APPENDIX E

Statistical Analysis of Arsenic Data

Technical Memorandum

Date: April 17, 2023

To: Mr. Eric Fraske
Senior Engineer III
NV5
3777 Long Beach Boulevard, Annex Building
Long Beach, California 90807

From: Heriberto Robles, Ph.D., D.A.B.T.

Subject: ***Statistical Analysis of Soil Arsenic Data***
McKinley Elementary School
Santa Monica, California

At the request of NV5, Enviro-Tox Services, Inc. (Enviro-Tox) conducted a statistical analysis of soil arsenic data collected at the McKinley Elementary School located at 2401 Santa Monica Boulevard in Santa Monica, California (the Site). The objective of the statistical analyses was to determine the upper limit concentration for naturally occurring arsenic in soil at the Site. In accordance with California Department of Toxic Substances Control (DTSC; 2009) guidance, all available soil arsenic data for the Site (Table 1) were included in the statistical analyses.

The statistical methods used in the data evaluation were taken directly from the guidance for setting arsenic soil cleanup goals (DTSC, 2009). The first objective of the statistical analysis is to determine if the soil arsenic data are likely to be drawn from the same population (i.e., all samples collected from a non-contaminated site). For this type of analysis, the DTSC recommends creating normality plots using the available soil arsenic data. Specifically, the DTSC (2009) states that plots should be created using both raw and log-transformed data. The arsenic concentrations should be plotted from the least value to the highest value as the cumulative percent of samples.

Visual inspection of the probability plots yields a determination of an inflection point, which represents a break between the ambient level of arsenic for the Site and the portion of the curve that represents a separate, higher population, which may be a consequence of a release to the environment.

The probability plot of the raw soil arsenic data for the McKinley site is presented in Figure 1. The probability plot for the log-transformed data is shown in Figure 2. As can be seen in Figures 1 and 2, there is a distinct inflection and break point that occurs between arsenic concentrations of 10 milligrams per kilogram (mg/kg) and 13 mg/kg (Figure 1) or at the Log10 arsenic concentration value of 1, which corresponds to 10 mg/kg (Figure 2).

As can be seen from the plots, the data appear to be somewhat linear in the range from 2.5 up to about 10 mg/kg (Figure 2), where a distinct change in slope can be seen. This linear portion of the curve would be representative of ambient arsenic in this typical, urban environment. The inflection points where the slopes change are indicative of a population different from ambient arsenic (i.e., site contamination).

The line breaking points between 10 mg/kg and 13 mg/kg correlate well with the upper bound soil arsenic concentration of 12 mg/kg established for Southern California by the DTSC (2020). Therefore, based on these analyses, it appears that the upper limit soil arsenic background concentration at the Site is around 12.0 mg/kg.

For sites where arsenic soil concentrations exceed ambient, background concentrations, the DTSC (2009) recommends that Risk Control or Risk Management actions be considered to make sure surface soils, or exposed soils, do not contain arsenic at concentrations higher than natural, background concentrations. Soil samples collected at the Site found to contain arsenic at concentrations higher than 12 mg/kg included samples B7-2, B7-4, B8-2, B8-4, B10-2, B10-4, B11-2, and B11-4 (Table 1).

Enviro-Tox recommends that surface soil samples be collected at the locations deemed to contain arsenic-impacted soils. Then, if arsenic-impacted soils are found at the soil surface, Engineering or Administrative Controls should be implemented to prevent exposure to those arsenic-impacted soils. If soils are to be disturbed during redevelopment or remediation, step-out samples are recommended around the samples containing arsenic at concentrations higher than 12 mg/kg. Arsenic-impacted soils can be reused at the Site, provided those soils are located under at least 3 feet of clean soil.

References

DTSC. 2009. Arsenic Strategies, Determination of Arsenic Remediation, Determination of Arsenic Cleanup Goals for Proposed and Existing School Sites. March 21.

DTSC. 2020. Human and Ecological Risk Office, Human Health Risk Assessment (HHRA) Note Number 11, Southern California Ambient Arsenic Screening Level. December 28.

Attachments

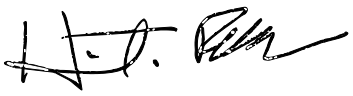
Figure 1 – Arsenic Probability Plot

Figure 2 – Log-Transformed Arsenic Probability Plot

Table 1 – Soil Arsenic Data Summary

This memorandum was prepared by:

Enviro-Tox Services, Inc.



Heriberto Robles, Ph.D., D.A.B.T.
Principal Toxicologist

ATTACHMENTS

FIGURES

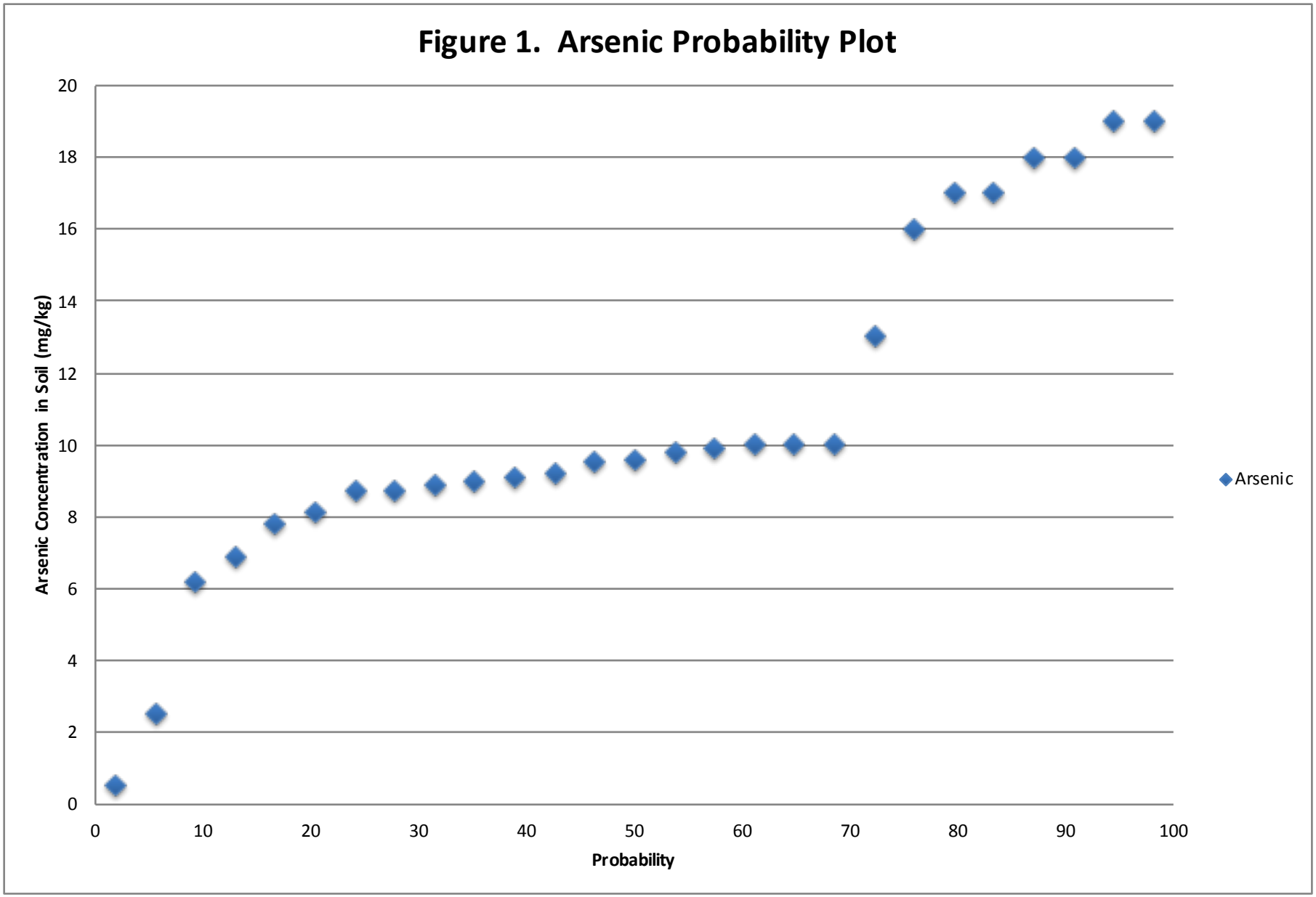


Figure 1. Arsenic Probability Plot
Arsenic Concentration in Soil (mg/kg)
20
18
16
14
12
10
8
6
4
2
0
0
10
20
30
40
50
60
70
80
90
100
Probability
Arsenic

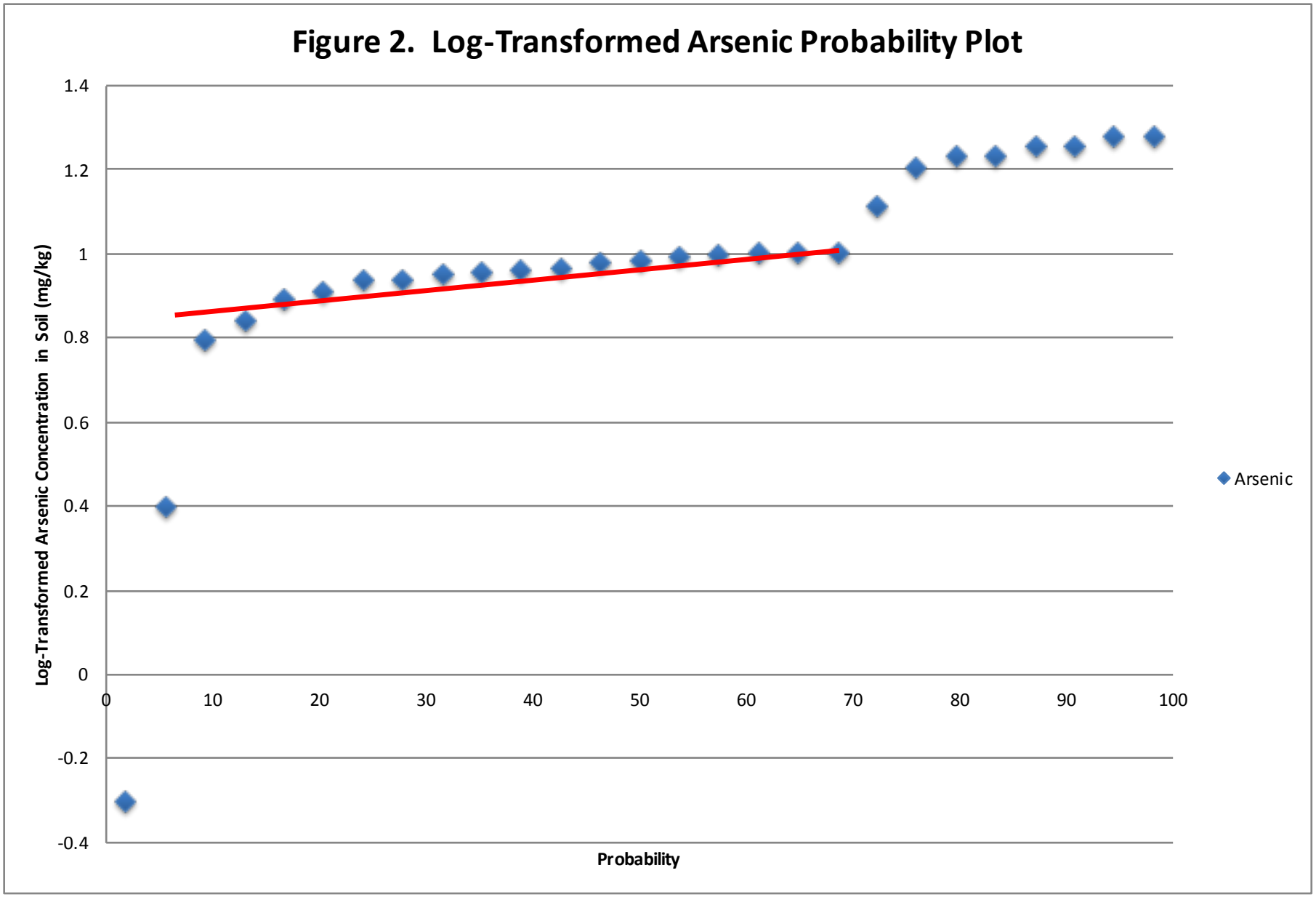


Figure 2. Log-Transformed Arsenic Probability Plot
Log-Transformed Arsenic Concentration in Soil (mg/kg)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
0
10
20
30
40
50
60
70
80
90
100
Probability
Arsenic

TABLE

Table 1
Soil Arsenic Data Summary
McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, California

Sample ID	Arsenic (mg/kg)
B1-0.5	--
B1-2	--
B2-0.5	9.9
B2-2	9.2
B3-0.5	6.2
B3-2	7.8
B4-0.5	6.9
B4-2	9.0
B5-0.5	9.8
B5-2	9.1
B6-0.5	8.7
B6-2	10
B7-0.5	9.6
B7-0.5 DUP	9.5
B7-2	19
B7-4	16
B8-0.5	8.7
B8-2	18
B8-4	17
B9-0.5	2.5
B9-2	10
B10-0.5	10
B10-2	18
B10-4	17
B11-0.5	8.9
B11-2	13
B11-4	19
B12-0.5	8.1
B12-2	ND (<0.99)

NOTES:

mg/kg = milligrams per kilogram

ND = Not detected at or above the method detection limit (MDL)

"- -" = Not Analyzed

DUP = Duplicate sample

SOIL VAPOR INVESTIGATION REPORT

McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, California 90404

Prepared for:

Santa Monica-Malibu Unified School District
2828 4th Street
Santa Monica, California 90405

Project Number: SMSD-23-11532
July 19, 2023

Alta Environmental LP, an NV5 Company
3777 Long Beach Boulevard, Annex Building
Long Beach, CA 90807 www.NV5.com

PROFESSIONAL CERTIFICATION

We appreciate the opportunity to provide our services to you. If you have any questions, please contact us at (562) 544-3910.

This report has been prepared by:

Eric Fraske, PE

Senior Engineer/Project Manager

Trevor L. Atkinson, PE

Vice President – Site Assessment and Remediation

TABLE OF CONTENTS

1. INTRODUCTION 1

2. BACKGROUND 1
   2.1 Site Location and Description 1
   2.2 Previous Investigations 1

3. SOIL VAPOR INVESTIGATION 3
   3.1 Pre-field Activities 3
      3.1.1 Health and Safety Plan 3
      3.1.2 Utility Clearance and Geophysical Survey 3
   3.2 Sample Collection and Analysis 3
      3.2.1 Pavement Coring 3
      3.2.2 Soil-Matrix Sample Collection and Analysis 4
      3.2.3 Soil Vapor Sampling 4
         3.2.3.1 Soil Vapor Probe Installation 4
         3.2.3.2 Soil Vapor Sample Collection 4
      3.2.4 Equipment Decontamination 5
      3.2.5 Quality Assurance/Quality Control (QA/QC) 5
      3.2.6 Investigation Derived Waste (IDW) 5

4. INVESTIGATION RESULTS 5
   4.1 Lithology 5
   4.2 Laboratory Analytical Results 5
      4.2.1 VOCs in Soil 6
      4.2.2 VOCs in Soil Vapor 6
      4.2.3 QA/QC 7

5. VAPOR INTRUSION RISK EVALUATION 8
      5.2.1 Non-Carcinogenic Health Hazard Evaluation 8
      5.2.2 Carcinogenic Health Hazard Evaluation 9

6. CONCLUSIONS AND RECOMMENDATIONS 10

7. WARRANTY 11
   7.1 Warranty 11
   7.2 Use by Third Parties 12

8. REFERENCES 12
   8.1 References 12

TABLE OF CONTENTS

Tables

Table 1 Soil Sample Laboratory Analysis Summary
Table 2 Soil Vapor Sample Laboratory Analysis Summary

Figures

Figure 1 Site Location Map
Figure 2 Site Vicinity Map
Figure 3 Sample Locations
Figure 4 Select VOC Concentrations in Soil Vapor at 5 ft. bgs
Figure 5 Select VOC Concentrations in Soil Vapor at 15 ft. bgs
Figure 6 PCE in Soil Vapor at 5 ft. bgs
Figure 7 PCE in Soil Vapor at 15 ft. bgs

Appendices

Appendix A Soil Sampling Logs
Appendix B Laboratory Analytical Reports
Appendix C Waste Manifests
Appendix D VIRE Report

1. INTRODUCTION

Alta Environmental LP, an NV5 Company (NV5) has prepared this Soil Vapor Investigation Report for the assessment of the proposed construction work areas associated with campus upgrades planned for McKinley Elementary School, located at 2401 Santa Monica Boulevard in Santa Monica, California (herein identified as the "Site"). The assessment was completed for the Santa Monica-Malibu Unified School District (SMMUSD) in accordance with NV5 proposal number SMSD-23-11532 dated May 12, 2023. The objective of the assessment was to further assess the extent of volatile organic compound (VOC) impacts at the Site and to assess if vapor intrusion mitigation efforts would be required.

2. BACKGROUND

2.1 Site Location and Description

McKinley Elementary School is an approximately 6.50-acre rectangular shaped elementary school property located at 2401 Santa Monica Boulevard in the City of Santa Monica (Figure 1), with approximately 450 students, serving transitional kindergarten through fifth grades. The current campus has four educational buildings and 11 portable buildings, as well as play yards and sports fields, staff and visitor parking, and programmed and unprogrammed open space. Vehicular access is from Chelsea Avenue, with student drop-off/pick-up occurring on-site. The school campus is bounded by Santa Monica Boulevard and commercial uses to the southeast, Arizona Avenue and multi-family residential uses to the northwest, and mixed multi-family and commercial uses to the northeast across Chelsea Avenue and to the southwest across 23rd Court. A dry cleaner facility is located across Chelsea Avenue near the eastern corner of the campus.

The subject of this investigation is an approximately 1.06-acre area located along the northeastern portion of the McKinley Elementary School campus (Site). As part of a proposed campus upgrade, the first phase of work will include new building construction, renovation of existing buildings, and new on-campus parking and roadways. A new two-story classroom and administration building is proposed to be constructed within the area that currently serves as staff and visitor parking. In addition, proposed renovations of the existing main campus building will include new ground and second floor connections to the main building, new staff and visitor parking lots, and construction of a new on campus drop-off/pick-up lane adjacent to Chelsea Avenue. The limits of the proposed construction activities (Site) are shown in the attached Figure 2.

2.2 Previous Investigations

Previous environmental investigations conducted at the Site are listed below.

Phase I Environmental Site Assessment Report – McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. Prepared by NV5. April 19, 2022.

According to historical resources reviewed during the Phase I, the larger school campus in which the Site is located was first developed for use as a school around 1925. Multiple other classroom structures were subsequently constructed throughout the campus, but the Site has historically only been developed with playground areas and paved parking lots.

This assessment identified the following evidence of recognized environmental conditions (RECs) in connection with the Site.

- *Regulatory database records and historical records indicate that a drycleaner has operated at the northeast adjoining property located at 2441 Santa Monica Boulevard from at least 1991 to present day. Records indicate that dry-cleaning equipment that utilized perchloroethylene (PCE, a chlorinated solvent) was used at this facility. While evidence of violations, leaks, spills, or releases were not identified, based on the proximity of this facility to the Site and the inherent environmental risk associated with dry-cleaning facilities, these listings are considered to represent a REC.*
- *Based on the age of historical and current structures on the Site, arsenic, lead-based paint, asbestos, pesticides, and polychlorinated biphenyls (PCBs) in caulking may have been historically used at the Site. As a result, there is a potential for these compounds to be present in the shallow soils onsite.*

NV5 recommended conducting a limited Phase II ESA to determine if dry-cleaning operations on the northeastern adjoining property had negatively impacted the Site. Additionally, NV5 recommended a limited Phase II subsurface investigation be conducted in areas of proposed soil disturbance to evaluate shallow soil conditions with respect to lead, arsenic, PCBs, and pesticides.

Environmental Site Investigation Report – McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. Prepared by NV5. April 27, 2023.

This assessment included the collection and analysis of soil samples from twelve locations for lead, arsenic, PCBs, and pesticides and the collection of soil vapor samples from three soil vapor probe locations on the eastern portion of the Site.

The results of the laboratory analysis identified trace concentrations of PCBs and pesticides in samples collected at two locations; however, all detected concentrations were well below applicable health risk screening levels. Lead was detected in all collected soil samples; however, none of the detected concentrations exceeded the residential risk screening level for lead in soil. Arsenic was detected at four locations at concentrations that exceeded the State of California Department of Toxic Substances Control (DTSC) upper-bound arsenic screening level for Southern California soils of 12 milligrams per kilogram (mg/kg). Based on these findings, NV5 recommended that additional step-out sampling be conducted to determine the extent of arsenic impacted soils above health risk screening levels and that once delineated, the impacted soil should be excavated and removed from the Site for disposal . NV5 will conduct additional step-out soil sampling on July 25 and 26, 2023 to delineate the extent of arsenic impacted soils at the Site.

Concentrations of multiple VOCs in excess of risk screening levels were identified in soil vapor samples collected from both the 5-foot and 15-foot depth probes at all three soil vapor sample locations (SV1 through SV3). Concentrations of PCE tended to increase with depth and proximity to the existing adjoining upgradient dry-cleaner property. Conversely, concentrations of petroleum hydrocarbon (benzene, toluene, ethylbenzene, etc.) related constituents decreased with depth and proximity to the adjoining dry-cleaner.

Historical resources indicated that the original structures at the campus were constructed in the 1920's on vacant land that was reported to have been used for the cultivation of beans. No historical or current

uses of chlorinated solvents or petroleum products at the McKinley school campus were identified during the Phase I ESA, thereby indicating the source of the VOC impacts to be from an unknown off-site source. As the off-site source(s) and extent of soil vapor impacts are currently unknown, NV5 recommended that additional soil vapor assessment be conducted at the Site to further evaluate the potential risk of vapor intrusion to proposed structures and to assess if mitigation measures would be warranted.

3. SOIL VAPOR INVESTIGATION

3.1 Pre-field Activities

3.1.1 Health and Safety Plan

Prior to conducting field work for the project, NV5 prepared a site-specific Health and Safety Plan (HASP) that was implemented per California Occupational Safety and Health Administration (OSHA) California Code of Regulations (CCR) Title 8, Section 5192 requirements. The HASP presented an overview of the scope of work and discussions of potential job hazards that could be encountered during the investigation. All field personnel were required to review and sign the HASP before beginning any fieldwork.

Daily tailgate meetings were held with NV5 personnel and subcontractors at the beginning of each day during the investigation. The plan of the day, potential safety hazards, and site-specific safety procedures were discussed during the tailgate meetings.

All NV5 personnel conducting field work onsite have received the OSHA Hazardous Waste Operations training in accordance with 29 CFR 1910.120 and CCR Title 8, Section 5192. The investigation work was completed with no reportable injuries or illnesses.

3.1.2 Utility Clearance and Geophysical Survey

NV5 conducted a geophysical survey (survey) of the Site to independently clear each of the soil boring/soil vapor probe locations to ensure that buried utilities would not be encountered during soil sampling. On May 20, 2023, NV5's subcontractor, SoCal Locators, surveyed the Site using a combination of electromagnetic induction, magnetometry, and ground penetrating radar.

The proposed boring locations were marked with white spray paint, as required by Underground Service Alert (USA). On May 22, 2023, NV5 notified USA of the proposed sampling activities (USA Notification ID: A231420280-00A). USA then notified the companies and agencies that may have underground utilities in the vicinity to mark their respective utilities on the ground with spray paint so that the utilities could be avoided during sampling.

3.2 Sample Collection and Analysis

Subsurface soil sampling and soil vapor probe installation activities were conducted at the Site on June 3, 2023. Soil and soil vapor sampling activities were conducted by properly trained NV5 staff under the supervision of Eric Fraske, a State of California registered Professional Engineer (PE).

3.2.1 Pavement Coring

All of the locations identified for subsurface sampling were overlain by asphalt pavement. At these locations, coring equipment operated by BC2 Environmental was used to access the soil beneath the pavement for sampling.

3.2.2 Soil-Matrix Sample Collection and Analysis

Ten shallow soil borings (SV4 through SV13) were advanced throughout the Site (Figure 3) using direct push drilling equipment or hand tools operated by BC2 Environmental. At each boring, soil samples were collected at depths of 5 feet, 10 feet, and 15 feet below ground surface (bgs).

Soil samples were collected in core samplers lined with acetate tubes, sealed with Teflon® sleeves and plastic endcaps, and labeled with the boring identification number, sample depth, date, and time of collection. All samples collected for analysis of volatile compounds were preserved using in-field preservation kits in accordance with EPA Method 5035. Following collection, each sample was placed in a chilled cooler for transport to a California-certified environmental laboratory, Eurofins Calscience of Tustin, California. The details of the soil samples were recorded on a chain-of-custody form including the sample identification, date and time of collection, sample matrix, containers, preservative, requested analyses, sampler's name, couriers used, and responsible laboratory personnel.

The soil encountered during the investigation was logged continuously using the Unified Soils Classification System (USCS) under the supervision of a California PE. The volatile organic vapor concentrations observed during the collection of each soil sample were determined using a photoionization detector (PID) calibrated to 50 parts per million (ppm) hexane. The lithology, PID readings, field observations, and sampling depths of the borings were documented on sampling logs (included in Appendix A).

All collected soil samples were analyzed for VOCs by United States Environmental Protection Agency (USEPA) method 8260B. Laboratory analytical reports and chain-of-custody documentation for the soil samples are presented in Appendix B.

3.2.3 Soil Vapor Sampling

Following completion of the soil sampling, all ten soil borings (SV4 through SV13) were converted into nested soil vapor sampling wells.

3.2.3.1 Soil Vapor Probe Installation

At each location, nested soil vapor probes were installed at the depths of 5 and 15 feet bgs. Each probe was placed within a one-foot sand pack, with one foot of dry granular bentonite placed on top of each sand pack to preclude the infiltration of hydrated bentonite grout. The boreholes were then grouted between probes and to the surface with hydrated bentonite. Nylaflow® tubing (¼ inch) was connected from the vapor point to the surface. The end of the tubing was labeled with the vapor well number, probe depth, date and time of construction, and a three-way valve was installed to eliminate ambient air diffusion into the well (and to facilitate sample collection). A surface cover consisting of a 5" well box within an 8" concrete skirt was installed at each location to allow for future sampling events, if needed.

3.2.3.2 Soil Vapor Sample Collection

Prior to purging or sampling, a shut-in test was conducted to check for leaks in the above-ground sampling train. Following assembly of all above-ground valves, lines, and fittings, the assembly was evacuated to a minimum vacuum pressure of approximately 100 inches of water.

Following the shut-in test and prior to sample collection, each soil vapor probe was purged by removing three purge volumes from each sample point at a rate of 200 milliliters (mL)/minute or less. A single purge volume constitutes the internal volume of the tubing, the void space of the sand pack around the probe tip, and the void space of the dry bentonite in the annular space.

Soil vapor samples were collected into one-liter summa canisters following the removal of the appropriate purge volume. Soil vapor samples were collected at a sampling rate of 200 ml/minute or less. The samples were transported under chain-of-custody protocol to a California Certified Environmental Laboratory, Jones Environmental, Inc. for analysis of VOCs by EPA Method 8260B.

A leak test was conducted at each soil vapor well to determine whether leakage was present during sampling. Tracer compounds (n-pentane, n-hexane, n-heptane) were used at each soil vapor well for analysis by the laboratory. If the tracer compound was detected in the soil vapor sample at a concentration greater than 10 times the laboratory reporting limit, then the sample would be deemed void.

3.2.4 Equipment Decontamination

All soil sampling equipment was decontaminated with a three-bucket wash consisting of a non-phosphate cleaning solution, tap water, and a final rinse in distilled water.

3.2.5 Quality Assurance/Quality Control (QA/QC)

Three duplicate soil samples (SV7-5 DUP, SV7-10 DUP, and SV7-15 DUP), one trip blank (TB), and one equipment blank (EB) were collected for analysis. The duplicate soil samples, TB, and EB were analyzed for the same constituents as the primary sample (VOCs). Two duplicate soil vapor samples (SV7-5V REP and SV8-15V REP) were also collected and analyzed for VOCs.

3.2.6 Investigation Derived Waste (IDW)

IDW, including equipment decontamination water, soil cuttings, used personal protective equipment (PPE), and sampling supplies generated during this sampling event was contained (and appropriately labeled) in a single 55-gallon drum, which was temporarily stored on-site pending waste characterization. Subsequent laboratory analysis of the drummed material classified the IDW as non-hazardous waste. The drum was transported to a licensed waste disposal facility by a licensed waste hauler (Belshire Environmental Services, Inc.) for disposal on June 15, 2023. A copy of the waste manifest is presented in Appendix D.

4. INVESTIGATION RESULTS

4.1 Lithology

Soils encountered at the Site generally consisted of silty sands and clayey sands. No significant PID readings, staining, or odors were noted in any of the collected samples. Groundwater was not encountered at any sample location.

4.2 Laboratory Analytical Results

A tabulated summary of the VOCs detected in the soil matrix samples is presented on Table 1. A tabulated summary of the VOCs detected in the soil vapor samples is presented on Table 2. Laboratory analytical reports and chain-of-custody documentation are presented in Appendix C.

Laboratory results where analyte concentrations were not detected above the laboratory method detection limit (MDL) are identified as “ND” along with the corresponding MDL. Analytical concentrations detected above the MDL, but below the laboratory reporting limit (RL) are considered estimated values and are reported with a “J-flag” identifier (J).

The analytical results were compared to appropriate regulatory agency published screening levels developed for residential land use scenarios. These screening levels were developed as a general guideline to identify potentially impacted areas. Screening levels should not be considered de-facto cleanup levels.

Concentrations of VOCs in soil were compared to the EPA Region 9 Regional Screening Levels (RSLs) for residential land use (EPA, November 2022) and to the DTSC Human Health Risk Assessment (HHRA) Note Number 3, DTSC-modified Screening Levels (DTSC-SLs) for residential land use (DTSC, May 2022), where applicable.

Concentrations of VOCs in soil vapor were compared to the RSLs and DTSC-SLs for residential indoor air divided by a steady state attenuation factor of 0.03 for each analyte, as directed by the DTSC’s Draft Supplemental Guidance Screening and Evaluating Vapor Intrusion (DTSC, 2023).

4.2.1 VOCs in Soil

- 2-Butanone was detected above laboratory detection limits in three of the analyzed samples at concentrations ranging between 7.2J and 10J micrograms per kilogram (µg/kg). These concentrations were all below the RSL for 2-Butanone of 27,000,000 µg/kg. A DTSC-SL has not been established for 2-Butanone.
- Acetone was detected in all soil samples at concentrations ranging between 11J and 83 µg/kg. These concentrations were all below the RSL for Acetone of 70,000,000 µg/kg. A DTSC-SL has not been established for Acetone. It should be noted that acetone is a common laboratory contaminant and is also a potential biproduct of reactions between organic material in soils with the sodium bisulfate contained in Method 5035 sampling kits.
- Benzene was detected in one sample (SV8-5) above laboratory method detection limits at a concentration of 0.25J µg/kg. This concentration is below the RSL (1,200 µg/kg) and DTSC-SL (330 µg/kg) for benzene.
- Tert-Butyl Alcohol (TBA) was detected above laboratory method detection limits in six of the collected soil samples at concentrations ranging between 5.6J and 14J µg/kg. These concentrations were all below the RSL for TBA of 1,400,000 µg/kg. A DTSC-SL has not been established for TBA.
- PCE was detected above laboratory method detection limits in 15 of the collected soil samples at concentrations ranging between 0.21J and 9.3 µg/kg. These concentrations are all below the RSL (24,000 µg/kg) and DTSC-SL (590 µg/kg) for PCE.

4.2.2 VOCs in Soil Vapor

Detected VOCs included: 1,2,4-trimethylbenzene (8J to 226 micrograms per cubic liter [µg/m^3]), 1,3,5-trimethylbenzene (9 to 96 µg/m^3), 4-isopropyltoluene (8 to 2,480 µg/m^3), benzene (5J to 25 µg/m^3), ethylbenzene (7J to 111 µg/m^3), freon 12 (16J to 17 µg/m^3), isopropyl benzene (27 µg/m^3), m,p,xylene

(14J to 461 µg/m^3), methylene chloride (12J µg/m^3), naphthalene (7J to 14J µg/m^3), n-butylbenzene (7J to 8J µg/m^3), n-propylbenzene (66 µg/m^3), o-xylene (7J to 103 µg/m^3), sec-butylbenzene (6J to 9J µg/m^3), styrene (8J µg/m^3), PCE (54 to 2,470 µg/m^3), toluene (10 to 290 µg/m3), and trichloroethene ([TCE; 31 to 98 µg/m^3).

VOCs detected at concentrations exceeding applicable health screening levels are summarized below. The locations of select VOCs in soil vapor at 5 and 15 feet bgs are presented on Figures 4 and 5, respectively.

- The seven detected concentrations of benzene (5J to 25 µg/m^3) exceeded the DTSC-SL (3.23 µg/m^3). Four of the seven detected concentrations of benzene exceeded the RSL of (12 µg/m^3).
- Three of the seven detected concentrations of ethylbenzene (38 to 111 µg/m^3) exceeded the RSL (37 µg/m^3). A DTSC-SL for ethylbenzene has not been established.
- All four detected concentrations of naphthalene (8J to 14J µg/m^3) exceeded the RSL (3 µg/m^3). A DTSC-SL for naphthalene has not been established.
- All 21 detected concentrations of PCE (54 to 2,470 µg/m^3) exceeded the DTSC-SL (15.33 µg/m^3). Twelve of the 21 detected concentrations of PCE (394 to 2,470 µg/m^3) exceeded the RSL (367 µg/m^3). Concentrations of PCE detected in soil vapor at 5 and 15 feet bgs are presented on Figures 6 and 7, respectively.
- Both detected concentrations of TCE (31 and 98 µg/m^3) exceeded the RSL (16 µg/m^3). One of the detected concentrations (98 µg/m^3) exceeded the DTSC-SL (67 µg/m^3).
- None of the other detected VOC concentrations exceeded their respective DTSC-SL or RSL.

4.2.3 QA/QC

- The samples were received by the laboratory in good condition, properly preserved, and on ice. Laboratory analysis was conducted within the applicable laboratory method holding times.
- No concentrations of VOCs were detected above laboratory method detection limits in the EB or TB samples.
- The concentrations of VOCs in the duplicate soil samples (SV7-5DUP, SV7-10DUP, and SV7-15DUP) were similar to concentrations of VOCs detected in the corresponding primary samples (SV7-5, SV7-10, and SV7-15).
- The concentrations of VOCs detected in the duplicate soil vapor samples (SV7-5V REP and SV8-15V REP) were similar to concentrations of VOCs detected in the corresponding primary samples (SV7-5V and SV8-15V).
- Concentrations of the leak detection compounds n-hexane (59 µg/m^3) and n-pentane (40 µg/m^3) were both detected below laboratory reporting limits (80 µg/m^3) in the soil vapor sample collected at SV4 at a depth of 5 feet bgs (SV4-5V). The concentrations of the leak check compounds were not reported above laboratory detection limits in any of the other collected soil vapor samples.

5. VAPOR INTRUSION RISK EVALUATION

NV5 engaged a board-certified toxicologist (Enviro-Tox) to conduct a Vapor Intrusion Risk Evaluation (VIRE) to assess whether the presence of VOCs detected in soil gas beneath the Site could pose a potential health risk or hazard to onsite receptors (students and faculty) at the Site.

5.1 VIRE Methodology

The VIRE (Appendix D) included a screening-level risk evaluation utilizing standard equations and methods developed by the USEPA and the California Environmental Protection Agency for similar exposure conditions. A discussion of the methodologies employed during the evaluation and a detailed summary of the findings are presented in the VIRE. Calculations and assumptions are also presented on Tables 1 through 8 within the VIRE.

This VIRE has incorporated conservative (health-protective) assumptions in evaluating potential exposures, so that potential health impacts from chemical exposures could be evaluated and not underestimated. For the purpose of this risk evaluation and in accordance with DTSC's Preliminary Endangerment Assessment (PEA) Guidance Manual (2015), the potential risks are calculated based on a hypothetical residential land-use scenario, regardless of the current and future use and zoning for the site.

Additionally, a default attenuation factor (AF) is used to estimate concentrations of VOCs in indoor air by multiplying the AF by known soil vapor concentrations. For the purposes of the VIRE, exposure scenarios were assessed based on maximum detected VOC concentrations at the 5-foot depth and the 15-foot depth. In accordance with DTSC (2011) guidance, the default AF for future residential sites (0.001) was used in this VIRE along with the detected subsurface concentrations. The default AF of 0.001 was used to evaluate volatilization and vapor intrusion for all sampling depths evaluated in this VIRE. The DTSC default AF reflects reasonably protective assumptions for conditions in California for the contamination of indoor air due to vapor intrusion (DTSC, 2011). However, DTSC (2023) also recommends that risk assessments evaluate vapor intrusion using the United States Environmental Protection Agency (USEPA) default AF of 0.03 (USEPA, 2015).

5.2 Health Hazard Evaluation

Health hazards to potential receptors are estimated using conservative exposure durations, maximum detected soil vapor concentrations, and chemical specific toxicological data. For the purposes of calculating exposure criteria to be used in risk assessments, adverse health effects are classified into two broad categories: carcinogens and non-carcinogens. A hazardous quotient (HQ) is calculated to evaluate non-carcinogenetic health hazards and an incremental probability of an individual to develop cancer over a lifetime as a result of exposure to a potential carcinogen is used to evaluate carcinogenic risks, as presented below.

5.2.1 Non-Carcinogenic Health Hazard Evaluation

According to the USEPA, a HQ of less than 1.0 indicates no significant concern for potential chronic adverse health effects from chemical exposures.

The HQs estimated in the VIRE for the hypothetical residential receptors at Site are:

- 2 when using an AF of 0.03 and maximum detected concentrations at 5 feet bgs (VIRE Table 9).

- 0.7 when using an AF of 0.001 and maximum detected concentrations at a depth of 5 feet bgs (VIRE Table 10).
- 3 when using an AF of 0.03 and maximum detected concentrations at a depth of 15 feet bgs (VIRE Table 11).
- 0.1 when using an AF of 0.001 and maximum detected concentrations at a depth of 15 feet bgs (VIRE Table 12).

Only the HQs estimated using an AF of 0.03 exceed the benchmark value of 1.0. The "risk driver" for the exceedance was PCE (VIRE Tables 9 and 11).

5.2.2 Carcinogenic Health Hazard Evaluation

Cancer risks were estimated as the incremental probability of an individual developing cancer over a lifetime as a result of exposure to a potential carcinogen (i.e., incremental or excess individual lifetime cancer risk; USEPA, 1989). The acceptable target cancer risk level identified by the DTSC is 1 in 1 million (1.0E-06). However, the USEPA has established acceptable incremental cancer risk levels to be within the risk range of 1 in 10,000 (1.0E-04) and 1.0E-06; risks greater than 1.0E-04 are generally considered unacceptable. The California Environmental Protection Agency (Cal-EPA) has defined a risk of 1 in 100,000 (1.0E-05) as the “no significant level” for carcinogens under California’s Safe Water and Toxic Enforcement Act (Proposition 65). Further, most California air districts use the 1.0E-05 risk level as the notification trigger level under California’s AB2588 Toxic Hot Spots Program.

The cancer risks estimated in the VIRE for hypothetical residential receptors at the Site are:

- 1E-04 when using an AF of 0.03 and maximum detected concentrations at a depth of 5 feet bgs (VIRE Table 13).
- 4E-06 when using an AF of 0.001 and maximum detected concentrations at a depth of 5 feet bgs (VIRE Table 14).
- 2E-04 when using an AF of 0.03 and maximum detected concentrations at a depth of 15 feet bgs (VIRE Table 15).

  6E-06 when using an AF of 0.001 and maximum detected concentrations at a depth of 15 feet bgs (VIRE Table 16).

All estimated cancer risks exceed the acceptable cancer risk point of departure of 1E-06. The "risk drivers" for VOCs detected at a depth of 5 feet and using an AF of 0.03 were benzene, ethylbenzene, naphthalene and PCE (Table 13); PCE was the only "risk driver" when using an AF of 0.001 (Tables 14 and 16). The "risk drivers" identified in soil gas sampled at a depth of 15 feet bgs and using an AF of 0.03 were naphthalene, PCE and TCE (Table 15); no additional “risk drivers” were identified when using an AF of 0.001.

It should be noted that the intent of this type of screening level assessment is to provide a health-protective estimates of potential risk. Per the methodology prescribed by the State of California and Federal regulatory agencies, risk probabilities are calculated using several standardized conservative exposure parameters such as:

- An occupant exposure time of 24 hours per day for 350-days per year with a duration of 20 years for an adult and 6 years for a child.

- Continued exposure to the maximum detected concentrations of all VOCs, regardless of location on the Site and without allowing for natural degradation, for the entire exposure duration.
- An attenuation rate developed by the USEPA for residential sites where the source of the contamination is located directly under the affected building, as opposed to an off-site source.

Further details regarding the use of these conservative parameters are presented on Page 6 of the attached VIRE. As stated in the VIRE, "Because exposure point concentrations were derived from fate and transport modeling, conservative assumptions and methodology were necessarily employed to eliminate the possibility of underestimating risks. This practice, although commonly used in the risk assessment process to eliminate the possibility of underestimating risk, necessarily introduces a significant level of conservatism in the conclusions derived from the assessment."

To assess actual exposure risk to occupants of existing structures, an indoor air quality evaluation is required. This type of assessment includes the collection of indoor air samples which provides a more accurate data set for the purposes of assessing risk. With the approval of the SMMUSD, NV5 is currently conducting an indoor air quality evaluation and collected air samples throughout the interior of existing structures at the McKinley Elementary School campus on July 13, 2023. The results of this sampling program will be published under separate cover upon completion of analysis.

5.3 VIRE Findings

According to the results of the VIRE, the cancer risks and HQs estimated using an AF of 0.03 exceed the values considered acceptable by the DTSC. Based on the results of this VIRE, the following recommendations were made by the toxicologist.

- Future buildings should be protected by adequate vapor intrusion mitigation systems such as a vapor barrier and subsurface depressurization systems.
- Proposed classrooms should be designed so that sufficient ventilation is provided to reduce indoor air accumulation of VOCs. Standard ventilation requirements for commercial units established by the California Occupational Safety and Health Administration (Cal-OSHA) should be sufficient to mitigate vapors down to acceptable levels.

6. CONCLUSIONS AND RECOMMENDATIONS

This investigation was conducted for the purpose of further assessing VOC impacted soil vapor at the Site and to assess if the identified VOC impacted soil vapor represented a health risk to future occupants of a proposed structure at the Site. The following are NV5's conclusions for this investigation based on the reported laboratory results and the VIRE findings.

- Soils at the Site consist primarily of silty sands and clayey sands to the maximum explored depth of 15 feet bgs. Groundwater was not encountered during this assessment.
- Low concentrations of several VOCs (2-Butanone, acetone, benzene, TBA, and PCE) were detected in soil samples collected and analyzed during this assessment. However, all detected concentrations of VOCs in soil were well below established health screening levels.
- Concentrations of multiple VOCs were detected in soil vapor samples collected throughout the Site. However, only concentrations of benzene, ethylbenzene, naphthalene, and PCE at 5 feet bgs and PCE, TCE, and naphthalene at 15 feet bgs exceeded applicable health screening levels.

- The results of the VIRE indicated that the calculated non-carcinogenic and carcinogenic risks associated with potential subsurface vapor intrusion exceeded acceptable regulatory limits. Design and installation of a vapor intrusion mitigation system (VIMS) along with adequate ventilation is recommended for future structures at the Site.
- The results of the laboratory analysis of the soil and soil vapor samples collected during this assessment do not indicate evidence of an on-site release of VOCs. Concentrations of VOCs in soil vapor, specifically PCE, tend to generally decrease from east to west across the Site and appear to originate from an off-site unknown source. No evidence of the past use of chlorinated solvents (PCE and TCE) or petroleum hydrocarbons (benzene, ethylbenzene, and naphthalene) at the school was identified during the previous Phase I ESA (NV5, 2022). The Phase I did identify the presence of nearby off-site dry cleaning and automotive repair businesses along Santa Monica Boulevard.
- The results of this and prior assessments should be communicated to the local environmental regulatory agencies, the Santa Monica Fire Department and the DTSC, in order to initiate an off-site investigation to determine the source of the VOC impacts.
- As the off-site source and extent of the impacted soil vapor is unknown, a preliminary indoor air quality evaluation was conducted on the existing occupied structures at the campus by NV5 on July 13, 2023. The evaluation included the collection and analysis of both outdoor (ambient) and indoor air samples to evaluate the indoor air quality at the campus for evidence of VOC impacts due to potential subsurface vapor intrusion. The results of the air sampling will be evaluated by a toxicologist or risk assessor to determine if mitigation measures are necessary and presented in a separate report upon completion of the assessment. Note that continued periodic indoor air quality monitoring should be performed until the extent of VOC impacted soil vapor beneath the Site has been defined and subsequently remediated to acceptable levels.
- Furthermore, additional assessment of the entire McKinley campus should be completed to determine the magnitude and extent of VOC impacts. Additional assessment should include a combination of additional indoor air, soil, soil vapor, and groundwater samples. NV5 is currently preparing a workplan for this future assessment.

7. WARRANTY

7.1 Warranty

NV5 warrants that the findings and conclusions reported herein were conducted in general accordance with standard industry practices. The conclusions presented in the report are based solely on the services described herein and not on scientific tasks or procedures beyond the scope of agreed upon services.

The soil vapor investigation report has been developed to provide the client with information regarding apparent indications of recognized environmental conditions relating to the Site. It is necessarily limited to the conditions observed and to the information available at the time of the work. The assessment and conclusions presented herein were based upon the subjective evaluation of limited data. They may not represent all conditions at the subject site as they reflect the information gathered from specific locations. NV5 warrants that the findings and conclusions contained herein have been promulgated in accordance

with generally accepted environmental investigation methodology and only for the site described in this report. The findings set forth in this report are strictly limited to the date of the evaluation.

The scope of the soil vapor investigation was developed specifically to meet the client's stated objectives and the data that was developed may not be suitable for use to satisfy other objectives. Any limitations on the data to meet the client's stated objectives are described in the report.

Due to the limited nature of the work, there is a possibility that there may exist conditions which could not be identified within the scope of the assessment, or which were not apparent at the time of report preparation. It is also possible that the testing methods employed at the time of the report may later be superseded by other methods. The description, type, and composition of what are commonly referred to as "hazardous materials or conditions" can also change over time. NV5 does not accept responsibility for changes in the state of the art, nor for changes in the scope of various lists of hazardous materials or conditions. NV5 believes that the findings and conclusions provided in this report are reasonable. However, no other warranties are implied or expressed.

Analytical results contained in this report are limited to the corresponding sampling location, depth, sampled material, selected range of analyses and laboratory reporting limits. Additional chemical constituents not searched for during the current study may be present in soil, soil gas and/or groundwater at the site.

The location and concentration of contaminants can vary over time due to seasonal water table fluctuations, past disposal practices, the passage of time and other factors.

7.2 Use by Third Parties

This report was prepared pursuant to the contract NV5 has with the Santa Monica-Malibu Unified School District. That contractual relationship included an exchange of information about the subject site that was unique and between NV5 and its client and serves as the basis upon which this report was prepared. Because of the importance of the communication between NV5 and its client, reliance, or any use of this report by anyone other than the Santa Monica-Malibu Unified School District, for whom it was prepared, is prohibited and therefore not foreseeable to NV5.

Reliance on or use by any such third party without explicit authorization in the report does not make said third party a third-party beneficiary to NV5's contract with the Santa Monica-Malibu Unified School District. Any such unauthorized reliance on or use of this report, including any of its information or conclusions, will be at the third party's risk. For the same reasons, no warranties, or representations, expressed or implied in this report, are made to any such third party.

8. REFERENCES

8.1 References

Phase I Environmental Site Assessment Report – McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. Prepared by NV5. April 19, 2022.

Environmental Site Investigation Report – McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. Prepared by NV5. April 27, 2023.

Department of Toxic Substance Control Human and Ecological Risk Office - Human Health Risk Assessment Note Number 3, DTSC-modified Screening Levels. Revised May 2022.

Department of Toxic Substances Control and California State Water Resources Control Board - Supplemental Guidance: Screening and Evaluating Vapor Intrusion – Final Draft. February 2023.

United States Environmental Protection Agency Region IX Regional Screening Level (RSLs) Summary Table. November 2022.

United States Environmental Protection Agency - Risk Assessment Guidance for Superfund: Volume I - Human Health Evaluation Manual (Part A). Office of Emergency and Remedial Response. Washington, D.C. 1989

United States Environmental Protection Agency - OSWER Technical Guidance for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air. June. 2015

TABLES

TABLE 1
Soil Sample Laboratory Analysis Summary
McKinley Elementary School
2401 Santa Monica Boulevard, Santa Monica, California

Sample ID	Sample Depth Feet BGS	Sample Date	VOCs by EPA Method 8260				
			2-Butanone	Acetone	Benzene	Tert-Butyl Alcohol	Tetrachloroethylene
		RSL (µg/Kg):	**27,000,000**	**70,000,000**	**1,200**	**1,400,000**	**24,000**
		DTSC-SL (µg/Kg):	**NL**	**NL**	**330**	**NL**	**590**
SV4-5	5	6/3/2023	ND (<3.7)	**30**	ND (<0.21)	**7.8J**	ND (<0.18)
SV4-10	10	6/3/2023	ND (<4.1)	**17J**	ND (<0.23)	**14J**	ND (<0.91)
SV4-15	15	6/3/2023	ND (<4.6)	**34**	ND (<0.26)	ND (<7.1)	**0.30J**
SV5-5	5	6/3/2023	ND (<3.6)	**23**	ND (<0.20)	ND (<5.5)	ND (<0.18)
SV5-10	10	6/3/2023	ND (<4.3)	**30**	ND (<0.25)	**8.3J**	ND (<0.21)
SV5-15	15	6/3/2023	ND (<4.3)	**39**	ND (<0.25)	ND (<6.7)	**0.77J**
SV6-5	5	6/3/2023	**10J**	**80**	ND (<0.29)	ND (<7.9)	ND (<0.25)
SV6-10	10	6/3/2023	ND (<5.0)	**48**	ND (<0.28)	ND (<7.7)	ND (<0.25)
SV6-15	15	6/3/2023	ND (<5.5)	**51**	ND (<0.31)	ND (<8.5)	**1.0J**
SV7-5	5	6/3/2023	ND (<3.4)	**37**	ND (<0.20)	ND (<5.3)	ND (<0.17)
SV7-5DUP	5	6/3/2023	ND (<3.0)	**31**	ND (<0.17)	**5.6J**	ND (<0.15)
SV7-10	10	6/3/2023	ND (<4.0)	**11J**	ND (<0.23)	ND (<6.1)	**1.2**
SV7-10DUP	10	6/3/2023	ND (<4.0)	**33**	ND (<0.23)	ND (<6.2)	**0.74J**
SV7-15	15	6/3/2023	ND (<6.0)	**26**	ND (<0.34)	ND (<9.2)	**4.1**
SV7-15DUP	15	6/3/2023	ND (<6.1)	**50**	ND (<0.34)	ND (<9.5)	**4.6**
SV8-5	5	6/3/2023	**7.5J**	**69**	**0.25J**	ND (<6.3)	**0.29J**
SV8-10	10	6/3/2023	ND (<3.3)	**19**	ND (<0.19)	ND (<5.1)	**1.2**
SV8-15	15	6/3/2023	ND (<6.1)	**48**	ND (<0.35)	ND (<9.5)	**9.3**
SV9-5	5	6/3/2023	ND (<4.0)	**21**	ND (<0.23)	ND (<6.1)	ND (<0.20)
SV9-10	10	6/3/2023	ND (<4.3)	**34**	ND (<0.25)	ND (<6.7)	ND (<0.21)
SV9-15	15	6/3/2023	ND (<5.1)	**45**	ND (<0.29)	ND (<7.9)	**0.64J**
SV10-5	5	6/3/2023	ND (<3.9)	**38**	ND (<0.22)	ND (<6.0)	ND (<0.19)
SV10-10	10	6/3/2023	ND (<3.3)	**22**	ND (<0.19)	**6.1J**	ND (<0.16)
SV10-15	15	6/3/2023	ND (<6.3)	**25J**	ND (<0.36)	ND (<9.7)	**0.45J**
SV11-5	5	6/3/2023	ND (<4.4)	**46**	ND (<0.25)	ND (<6.7)	ND (<0.22)
SV11-10	10	6/3/2023	ND (<5.3)	**43**	ND (<0.30)	ND (<8.3)	ND (<0.26)
SV11-15	15	6/3/2023	ND (<3.0)	**24**	ND (<0.17)	ND (<4.6)	**0.21J**
SV12-5	5	6/3/2023	**7.2J**	**83**	ND (<0.24)	ND (6.6)	ND (<0.21)
SV12-10	10	6/3/2023	ND (<3.2)	**28**	ND (<0.18)	**9.4J**	ND (<0.16)
SV12-15	15	6/3/2023	ND (<3.2)	**20**	ND (0.18)	ND (<5.0)	ND (<0.16)
SV13-5	5	6/3/2023	ND (<3.4)	**33**	ND (<0.20)	ND (<5.3)	ND (<0.17)
SV13-10	10	6/3/2023	ND (<4.1)	**54**	ND (<0.23)	ND (<6.4)	**0.31J**
SV13-15	15	6/3/2023	ND (<5.6)	**17J**	ND (<0.32)	ND (<8.7)	**1.7**

NOTES:

µg/kg = micrograms per kilogram

NL = Not Listed

J = Indicates estimated concentration was reported at a value between the laboratory reporting limit (RL) and Method Detection Limit (MDL)

ND (<MDL) = Indicates constituent was reported at a value that is less than the listed MDL

RSL = USEPA Region IX Regional Screening Level for Soil - Residential Land Use, updated November 2022

DTSC-SL: DTSC Hero Note 3 Screening Levels for Soil - Residential Land Use, updated May 2022

DUP = Duplicate sample

BGS = Below Ground Surface

Table 2
Soil Vapor Sample Laboratory Analysis Summary
McKinley Elementary School
2401 Santa Monica Boulevard, Santa Monica, CA 90404

Sample ID	Sample Depth (Feet Below Ground Surface)	Sample Date	VOCS EPA Method 8260																	
			1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Isopropyltoluene	Benzene	Ethylbenzene	Freon 12	Isopropyl benzene	m,p-Xylene	Methylene Chloride	Naphthalene	n-Butylbenzene	n-Propylbenzene	o-Xylene	sec-Butylbenzene	Styrene	Tetrachloroethene	Toluene	Trichloroethene
	RSLs (µg/m3)		2,100	2,100	NE	12	37	3,333	14,000	3,333	3,333	3	NE	33,333	3,333	NE	33,333	367	173,333	16
	DTSC-SLs (µg/m3)		NE	NE	NE	3.23	NE	NE	NE	NE	33.33	NE	7,000	NE	NE	14,000	31,333	15.33	10,333	67*
SV4-5V	5	6/10/2023	226	96	232	25	111	ND (<12)	27	461	ND (<8)	ND (<5)	ND (<4)	66	103	ND (<4)	ND (<6)	489	290	ND (<8)
SV4-15V	15	6/10/2023	ND (<6)	ND (<6)	ND (<5)	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	701	ND (<5)	ND (<8)
SV5-5V	5	6/10/2023	24	22	397	13	38	16J	ND (<7)	78	ND (<8)	8J	ND (<4)	ND (<5)	38	9J	ND (<6)	84	102	ND (<8)
SV5-15V	15	6/10/2023	ND (<6)	ND (<6)	ND (<5)	ND (<3)	7J	16	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	7J	ND (<4)	ND (<6)	291	ND (<5)	ND (<8)
SV6-5V	5	6/10/2023	12	10	231	ND (<3)	16	16	ND (<7)	32	ND (<8)	ND (<5)	8J	ND (<5)	16	7J	ND (<6)	167	24	ND (<8)
SV6-15V	15	6/10/2023	ND (<6)	ND (<6)	ND (<5)	ND (<3)	7J	ND (<21)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	7J	ND (<4)	ND (<6)	394	ND (<5)	ND (<8)
SV7-5V	5	6/10/2023	12	9	63	ND (<3)	12	16	ND (<7)	24	ND (<8)	ND (<5)	ND (<4)	ND (<5)	12	6J	ND (<6)	1,100	13	ND (<8)
SV7-5V REP	5	6/10/2023	12	10	69	ND (<3)	13	17	ND (<7)	26	ND (<8)	ND (<5)	ND (<4)	ND (<5)	13	7J	ND (<6)	1,530	15	ND (<8)
SV7-15V	15	6/10/2023	ND (<6)	ND (<6)	8	ND (<3)	7J	17	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	7J	ND (<4)	ND (<6)	2,360	ND (<5)	ND (<8)
SV8-5V	5	6/10/2023	ND (<6)	ND (<6)	2,480	13	9	ND (<12)	ND (<7)	35	ND (<8)	ND (<5)	ND (<4)	ND (<5)	10	ND (<4)	8J	467	261	ND (<8)
SV8-15V	15	6/10/2023	ND (<6)	ND (<6)	29	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	2,470	ND (<5)	ND (<8)
SV8-15V REP	15	6/11/2023	ND (<6)	ND (<6)	17	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	2,180	ND (<5)	ND (<8)
SV9-5V	5	6/10/2023	ND (<6)	ND (<6)	239	5J	14	17	ND (<7)	30	ND (<8)	ND (<5)	ND (<4)	ND (<5)	14	7J	ND (<6)	55	66	ND (<8)
SV9-15V	15	6/10/2023	8J	ND (<6)	21	ND (<3)	8J	16J	ND (<7)	14J	ND (<8)	7J	7J	ND (<5)	8J	7J	ND (<6)	254	24	ND (<8)
SV10-5V	5	6/10/2023	ND (<6)	ND (<6)	395	5J	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	68	198	ND (<8)
SV10-15V	15	6/10/2023	ND (<6)	ND (<6)	88	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	646	16	ND (<8)
SV11-5V	5	6/10/2023	ND (<6)	ND (<6)	366	6J	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	54	231	ND (<8)
SV11-15V	15	6/10/2023	ND (<6)	ND (<6)	ND (<5)	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	14J	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	926	11	31
SV12-5V	5	6/10/2023	ND (<6)	ND (<6)	15	ND (<3)	ND (<6)	ND (<12)	ND (<7)	16J	12J	14J	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	ND (<8)	93	ND (<8)
SV12-15V	15	6/10/2023	ND (<6)	ND (<6)	29	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	82	14	98
SV13-5V	5	6/10/2023	15	ND (<6)	301	14	49	ND (<12)	ND (<7)	201	ND (<8)	ND (<5)	ND (<4)	ND (<5)	69	ND (<4)	ND (<6)	222	153	ND (<8)
SV13-15V	15	6/10/2023	ND (<6)	ND (<6)	ND (<5)	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	2,600	10	ND (<8)

NOTES:

µg/m^3 = micrograms per cubic meter

RSL = Regional Screening Level - Residential Land Use, Environmental Protection Agency (Pacific Southwest, Region 9), updated May 2022 divided by attenuation factor of 0.3

DTSC-SLs = Department of Toxic Substance Control Modified Screening Levels - Residential Land Use, revised May 2022, divided by attenuation factor of 0.3

* - Indoor Air Screening Level of 2µg/m^3 for TCE used per DTSC Hero Note 5: *Health-based Indoor Air Screening Criteria for Trichloroethylene (TCE),* divided by attenuation factor of 0.3

NE = No Screening Level Established

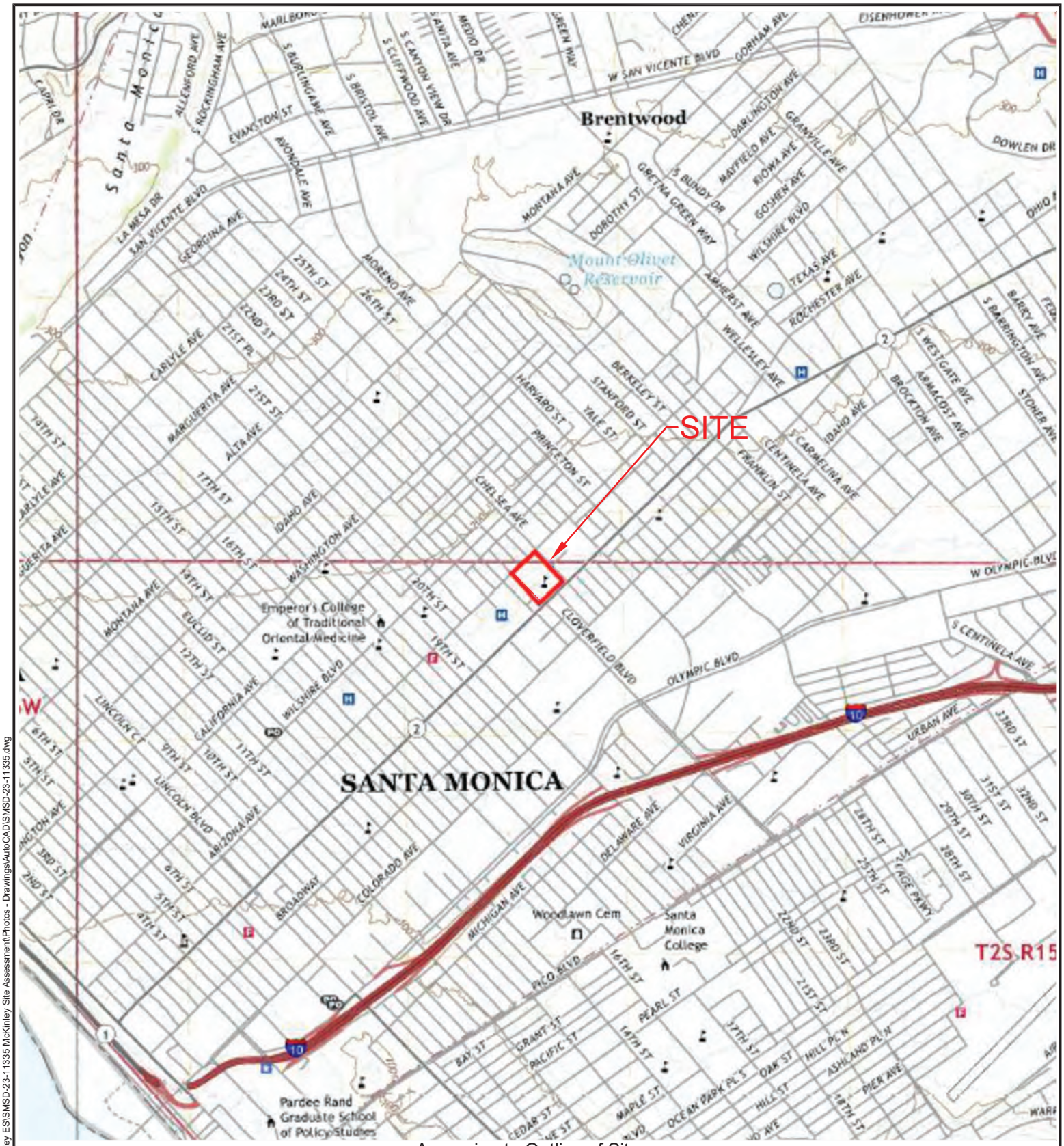
Concentrations highlited in yellow exceeded residential land use screening levels

ND (<MDL) = Not detected at or above the listed laboratory method detection limit (MDL)

REP = Replicate Sample

J = Concentration is below laboratory reporting limit (RL) but above MDL

FIGURES



Approximate Outline of Site

FIGURE 1: Site Location Map

CLIENT: Santa Monica-Malibu Unified School District	SITE LOCATION: 2401 Santa Monica Boulevard Santa Monica, California 90404
PROJECT #: SMSD-23-11532	

NV5 ALTA ENVIRONMENTAL 3777 Long Beach Blvd., Annex Bldg. Long Beach, CA 90807 (562) 495-5777 www.altaenviron.com	DRAWN: ED	APPROVED: EF	NORTH
	SCALE: None	DATE: 7/10/2023	

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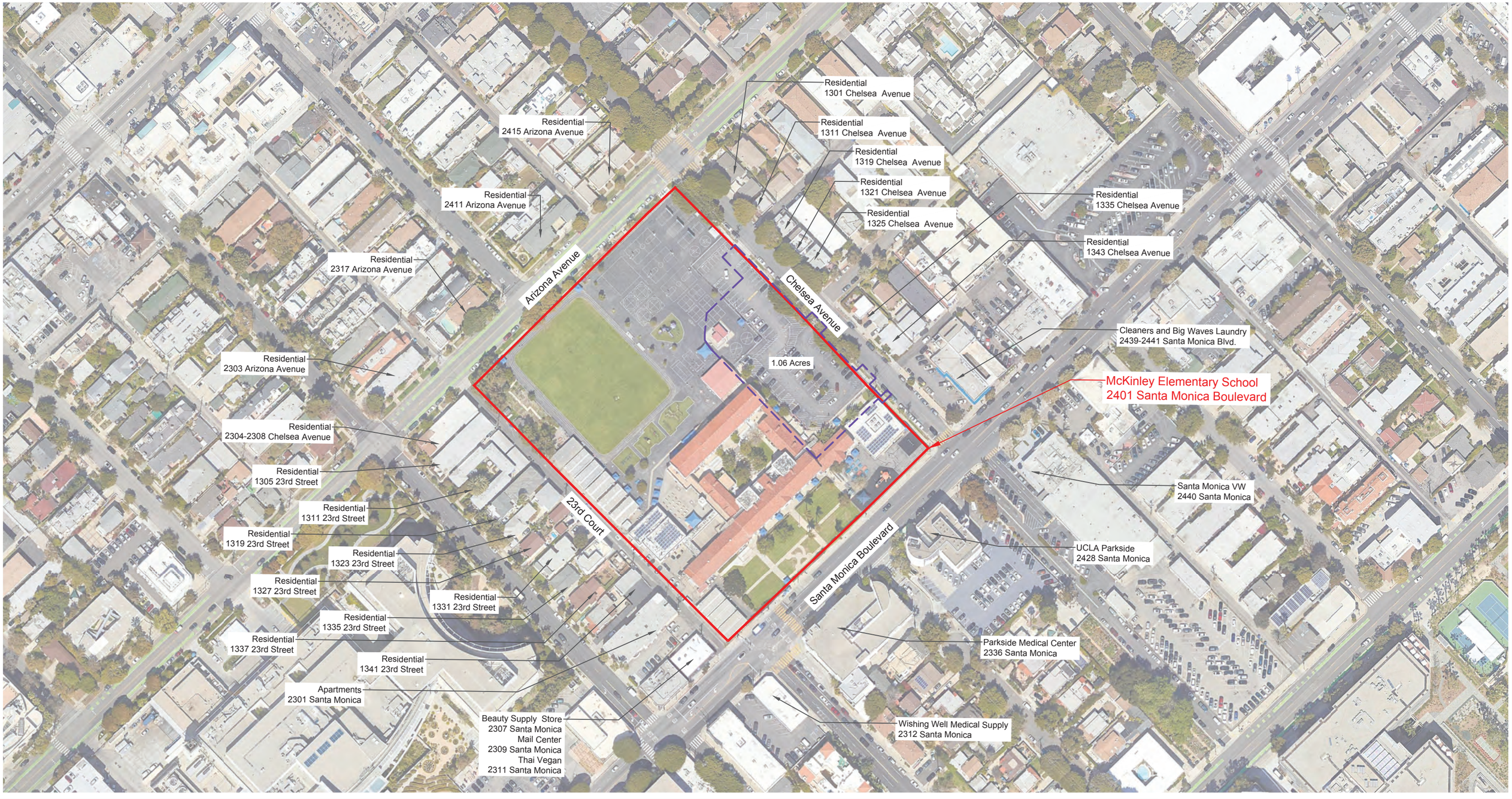

LEGEND:

Approximate Site Boundary

Approximate Extents of Earthwork

APPX. SCALE:
1" = 150'
0 1" 150'

NORTH

FIGURE 2: Site Vicinity Map

CLIENT: Santa Monica Malibu Unified School District	DRAWN: AHL	APPROVED: EF
	SCALE: NTS	DATE: JULY 2023
SITE LOCATION: McKinley Elementary School 2401 Santa Monica Boulevard Santa Monica, California 90404	NV5 ALTA ENVIRONMENTAL	
PROJECT #: SMSD-23-11532	3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	

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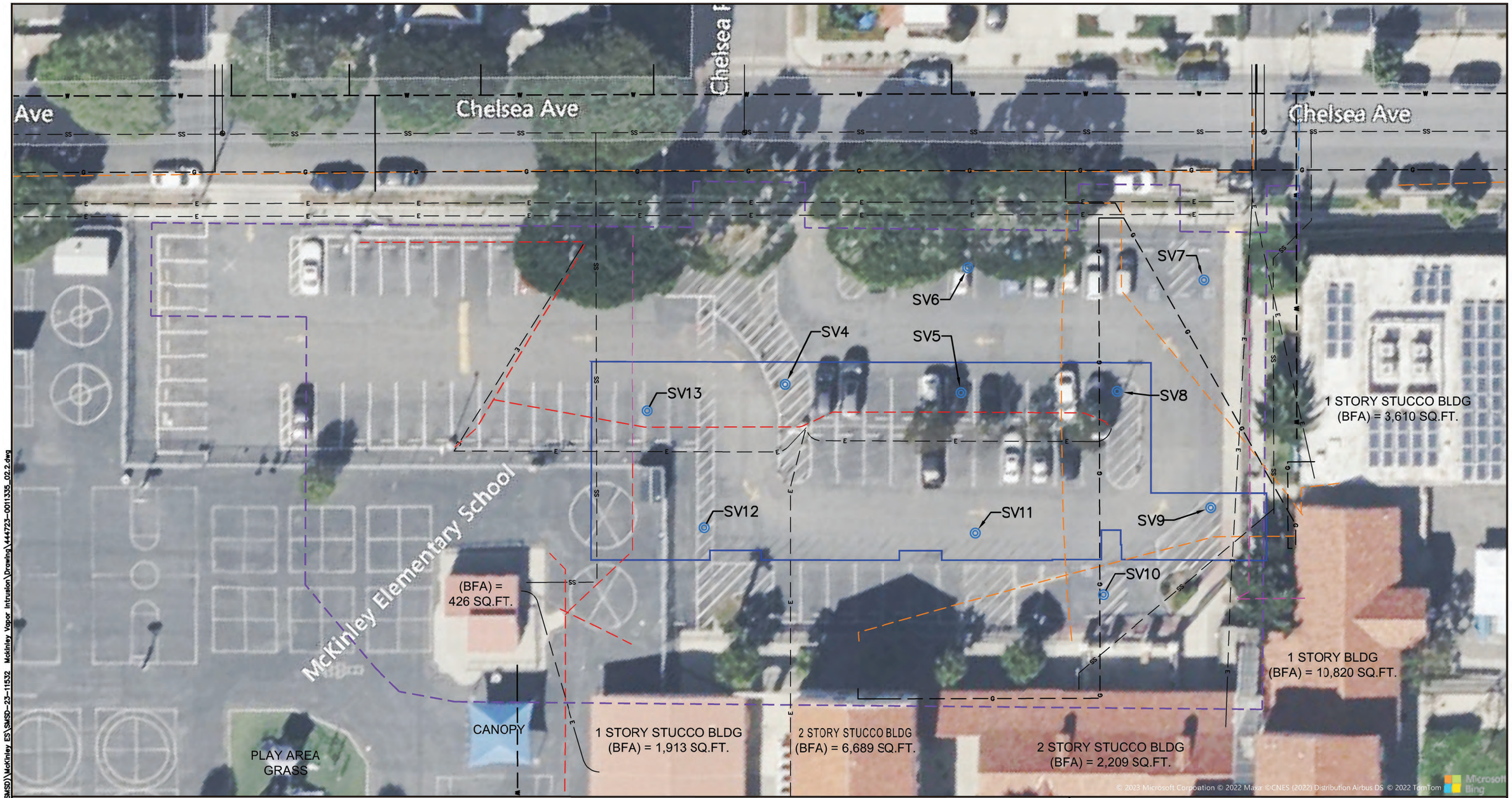

LEGEND:

- Approximate New Structure Outline
- Approximate Exterts of Earthwork
- Approximate Soil Vapor Probe Locations
- Electrical Line Paintmark
- Unknown Utility Line Paintmark
- Water Line Paintmark
- Gas Line Paintmark
- Electric Line
- Sanitary Sewer
- Gas Line
- Water Line

APPX. SCALE: 1" = 30' (0 – 30' – 1")

NORTH

FIGURE 3: Sample Locations

CLIENT: Santa Monica Malibu Unified School District	DRAWN: PD	APPROVED: EF
	SCALE: 1" = 30'	DATE: JULY 2023
SITE LOCATION: McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California 90404	NV5 ALTA ENVIRONMENTAL, 3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807, P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	
PROJECT #: SMSD-23-11532		

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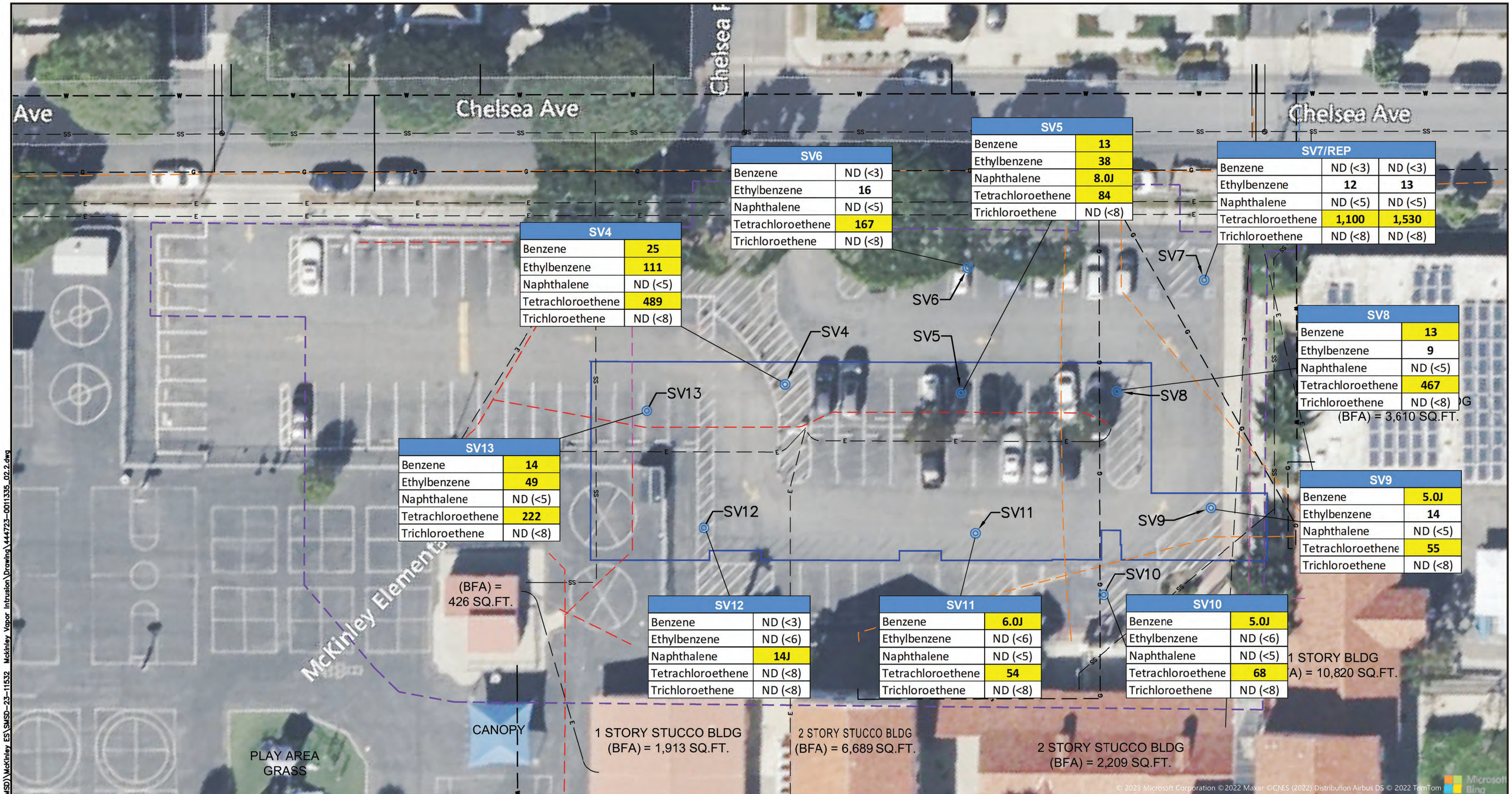

SV4	
Benzene	25
Ethylbenzene	111
Naphthalene	ND (<5)
Tetrachloroethene	489
Trichloroethene	ND (<8)

SV5	
Benzene	13
Ethylbenzene	38
Naphthalene	8.0J
Tetrachloroethene	84
Trichloroethene	ND (<8)

SV6	
Benzene	ND (<3)
Ethylbenzene	16
Naphthalene	ND (<5)
Tetrachloroethene	167
Trichloroethene	ND (<8)

SV7/REP		
Benzene	ND (<3)	ND (<3)
Ethylbenzene	12	13
Naphthalene	ND (<5)	ND (<5)
Tetrachloroethene	1,100	1,530
Trichloroethene	ND (<8)	ND (<8)

SV8	
Benzene	13
Ethylbenzene	9
Naphthalene	ND (<5)
Tetrachloroethene	467
Trichloroethene	ND (<8)

SV9	
Benzene	5.0J
Ethylbenzene	14
Naphthalene	ND (<5)
Tetrachloroethene	55
Trichloroethene	ND (<8)

SV10	
Benzene	5.0J
Ethylbenzene	ND (<6)
Naphthalene	ND (<5)
Tetrachloroethene	68
Trichloroethene	ND (<8)

SV11	
Benzene	6.0J
Ethylbenzene	ND (<6)
Naphthalene	ND (<5)
Tetrachloroethene	54
Trichloroethene	ND (<8)

SV12	
Benzene	ND (<3)
Ethylbenzene	ND (<6)
Naphthalene	14J
Tetrachloroethene	ND (<8)
Trichloroethene	ND (<8)

SV13	
Benzene	14
Ethylbenzene	49
Naphthalene	ND (<5)
Tetrachloroethene	222
Trichloroethene	ND (<8)

LEGEND:

- Approximate New Structure Outline
- Approximate Extents of Earthwork
- Approximate Soil Vapor Probe Locations
- 1,530 — VOC concentration above screening level
- 16 — VOC concentration
- ND (<3) — VOC concentration Not Detected
- Electrical Line Paintmark
- Unknown Utility Line Paintmark
- Water Line Paintmark
- Gas Line Paintmark
- Electric Line
- Sanitary Sewer
- Gas Line
- Water Line

NOTE:

1. Concentrations are reported in micrograms per cubic meter (µg/m3)

APPX. SCALE: 1" = 30' (0 – 30' – 1")

NORTH

FIGURE 4: Select VOC Concentrations in Soil Vapor at 5ft bgs

CLIENT: Santa Monica Malibu Unified School District

DRAWN: RB | APPROVED: EF | SCALE: 1" = 30' | DATE: JULY 2023

SITE LOCATION:
McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, California 90404

PROJECT #: SMSD-23-11532

NV5 ALTA ENVIRONMENTAL
3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807
P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com

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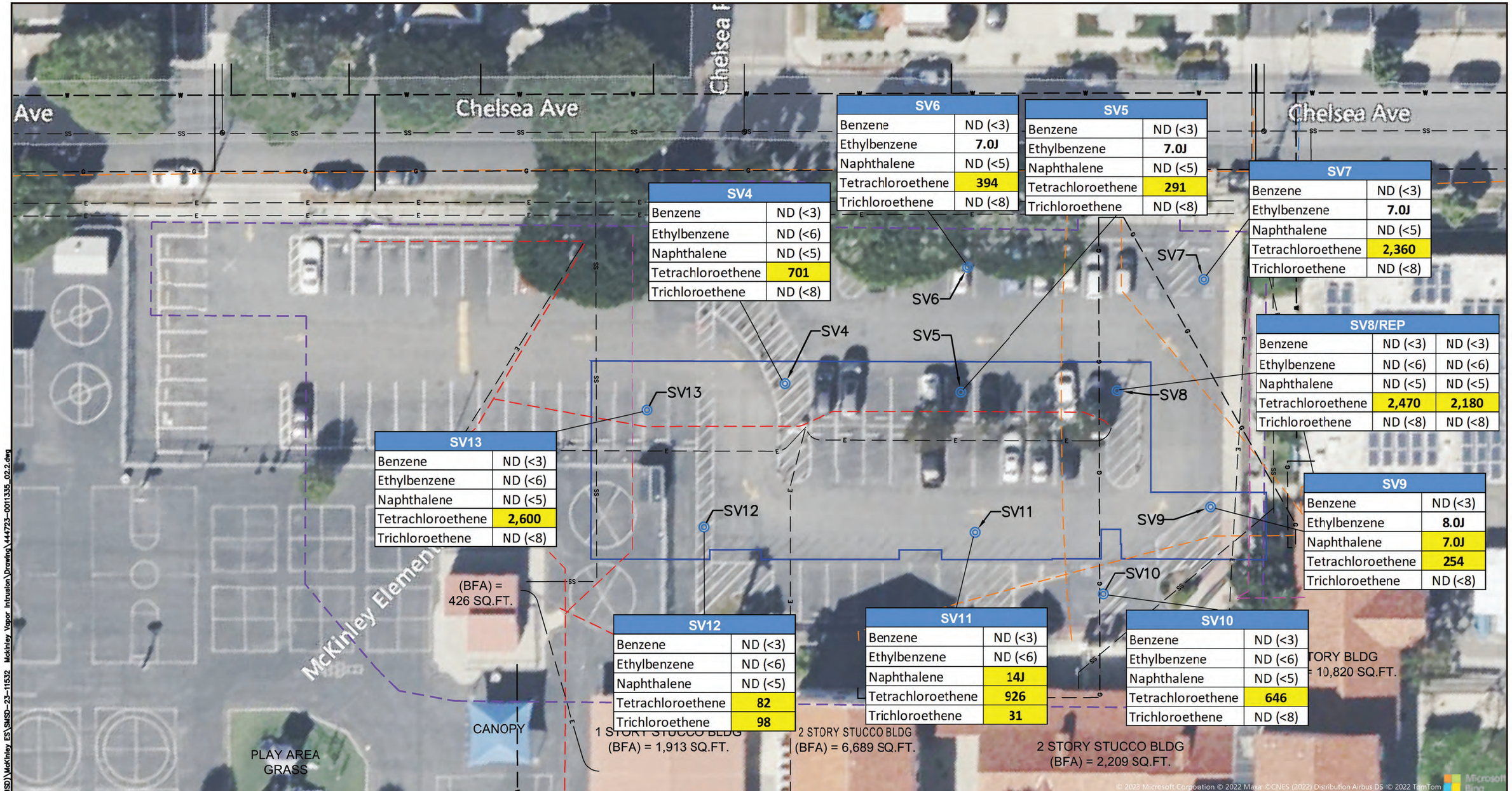

LEGEND:

- Approximate New Structure Outline
- Approximate Exterts of Earthwork
- Approximate Soil Vapor Probe Locations
- 1,530 VOC concentration above screening level
- 16 VOC concentration
- ND (<3) VOC concentration Not Detected
- Electrical Line Paintmark
- Unknown Utility Line Paintmark
- Water Line Paintmark
- Gas Line Paintmark
- Electric Line
- Sanitary Sewer
- Gas Line
- Water Line

NOTE:

1. Concentrations are reported in micrograms per cubic meter (µg/m3)

APPX. SCALE: 1" = 30' (0 – 30', 1")

NORTH

FIGURE 5: Select VOC Concentrations in Soil Vapor at 15ft bgs

CLIENT: Santa Monica Malibu Unified School District

DRAWN: RB | APPROVED: EF

SCALE: 1" = 30' | DATE: JUNE 2023

SITE LOCATION:
McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, California 90404

PROJECT #: SMSD-23-11532

NV5 ALTA ENVIRONMENTAL
3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807
P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com

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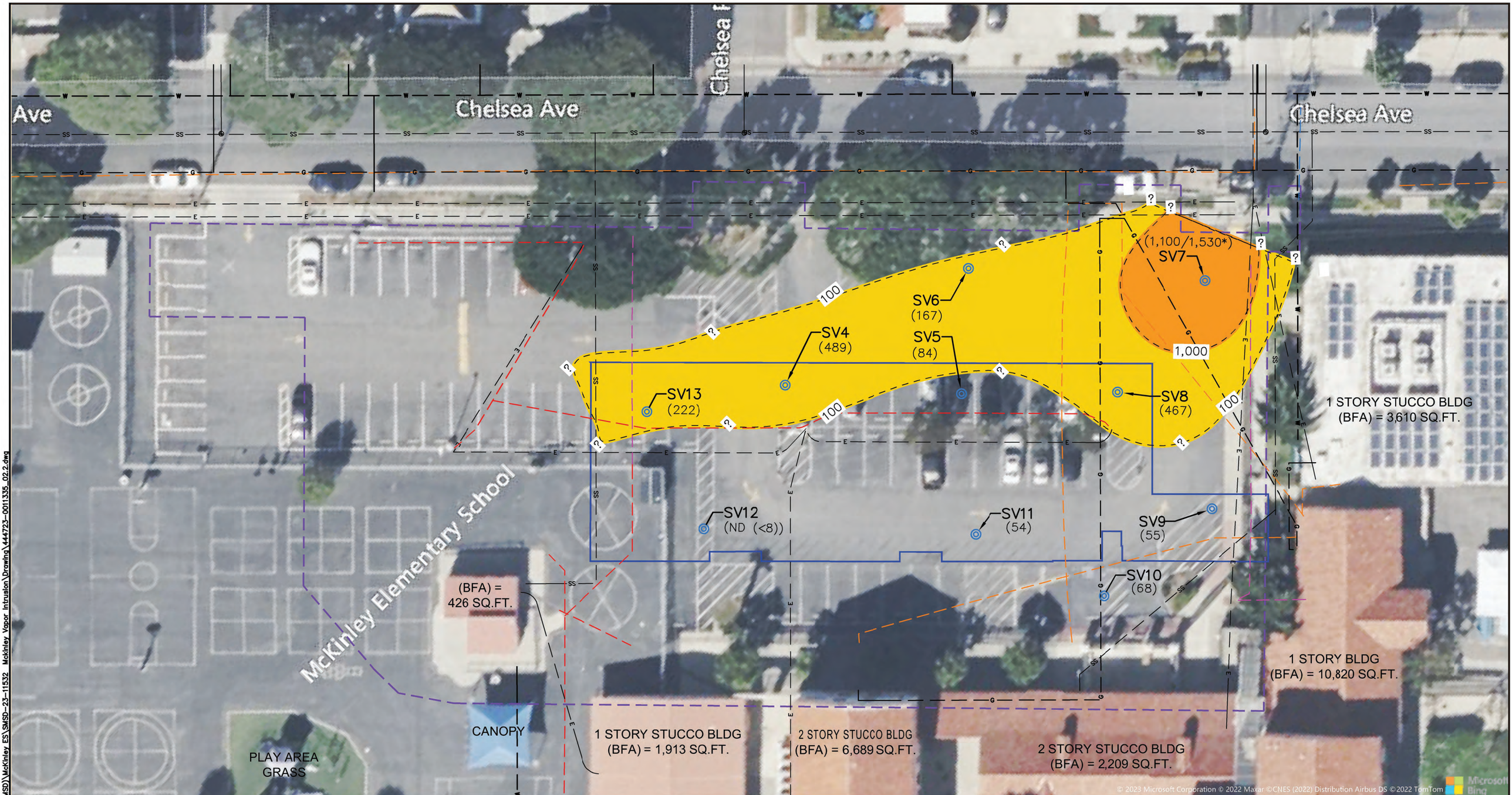

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LEGEND:

- Approximate New Structure Outline
- Approximate Extents of Earthwork
- Approximate Soil Vapor Probe Locations
- PCE Contour lines
- Electrical Line Paintmark
- Unknown Utility Line Paintmark
- Water Line Paintmark
- Gas Line Paintmark
- Electric Line
- Sanitary Sewer
- Gas Line
- Water Line

NOTE:

1. Concentrations are reported in micrograms per cubic meter (µg/m3)

KEY:

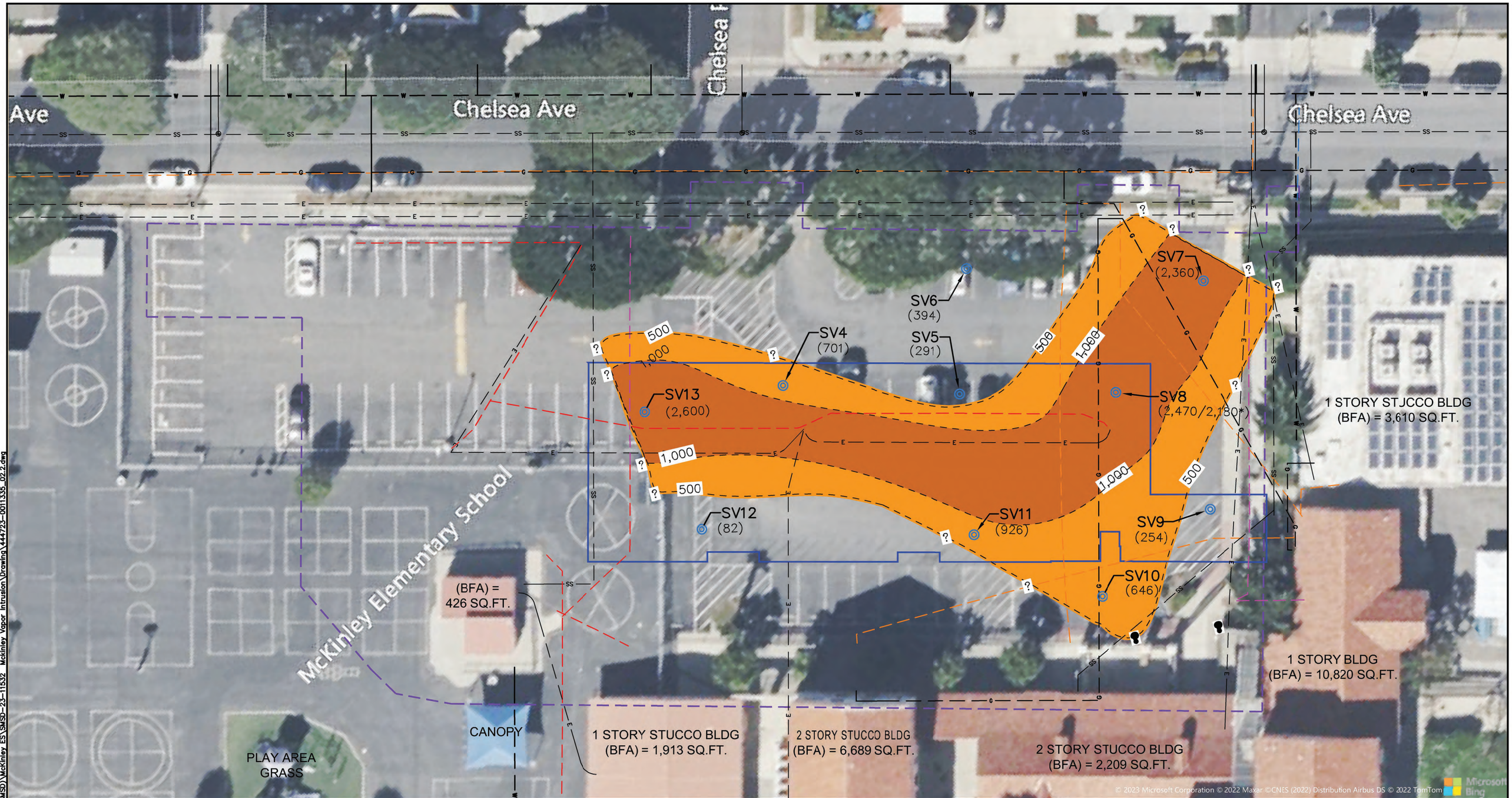
- PCE Concentration: 100 to 1,000 µg/m3
- PCE Concentration: > 1,000 µg/m3

APPX. SCALE: 1" = 30' (0 – 30', 1")

NORTH

FIGURE 6: PCE in Soil Vapor at 5ft bgs

CLIENT: Santa Monica Malibu Unified School District	DRAWN: RB	APPROVED: EF
	SCALE: 1" = 30'	DATE: JULY 2023
SITE LOCATION: McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California 90404	NV5 ALTA ENVIRONMENTAL	
PROJECT #: SMSD-23-11532	3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	



LEGEND:

- Approximate New Structure Outline
- Approximate Extents of Earthwork
- Approximate Soil Vapor Probe Locations
- PCE Contour lines
- Electrical Line Paintmark
- Unknown Utility Line Paintmark
- Water Line Paintmark
- Gas Line Paintmark
- Electric Line
- Sanitary Sewer
- Gas Line
- Water Line

NOTE:

1. Concentrations are reported in micrograms per cubic meter (µg/m3)

KEY:

- PCE Concentration: 500 to 1,000 µg/m3
- PCE Concentration: > 1,000 µg/m3

APPX. SCALE:
1" = 30'
0 — 1" — 30'

NORTH

FIGURE 7: PCE in Soil Vapor at 15ft bgs

CLIENT: Santa Monica Malibu Unified School District	DRAWN: RB	APPROVED: EF
	SCALE: 1" = 30'	DATE: JULY 2023
SITE LOCATION: McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California 90404	NV5 ALTA ENVIRONMENTAL	
PROJECT #: SMSD-23-11532	3777 Long Beach Blvd Annex Bldg. Long Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	

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APPENDIX A

Soil Sampling Logs

SOIL BORING LOG

BORING/PIT NO: SV4
SHEET 1 OF 1

DATE: 06/03/23	PROJECT NAME: McKinley Elementary School	PROJECT NO: SMSD-23-11532

DEPTH	SAMPLE NO.	SAMPLE TIME	DESCRIPTION	FID ☐ PID ■ (PPM)	USCS	REMARKS
0			Asphalt - Four inches thick			
5	SV4-5	8:18 AM	Medium brown, Silty Sand, semi-moist, no odor, no staining	0.0	SM	Vapor probe installed
10	SV4-10	8:21 AM	Medium brown, Silty Sand, semi-moist, no odor, no staining	0.0	SM	
15	SV4-15	8:24 AM	Grey brown, Sand with gravel, semi-moist, no odor, no staining	0.0	SW	Vapor probe installed
			Groundwater Not Encountered			

PREPARED BY: Eric Fraske

SOIL BORING LOG

BORING/PIT NO: SV5
SHEET 1 OF 1

DATE: 06/03/23	PROJECT NAME: McKinley Elementary School	PROJECT NO: SMSD-23-11532

DEPTH	SAMPLE NO.	SAMPLE TIME	DESCRIPTION	FID ☐ PID ■ (PPM)	USCS	REMARKS
0			Asphalt - Three inches thick			
5	SV5-5	8:49 AM	Medium brown, Silty Sand, semi-moist, no odor, no staining	0.0	SM	Vapor probe installed
10	SV5-10	8:53 AM	Medium brown, Silty Sand, semi-moist, no odor, no staining	0.0	SM	
15	SV5-15	8:57 AM	Grey brown, Sand with gravel, semi-moist, no odor, no staining	0.0	SW	Vapor probe installed
			Groundwater Not Encountered			

PREPARED BY: Eric Fraske

SOIL BORING LOG

BORING/PIT NO: SV6
SHEET 1 OF 1

DATE: 06/03/23	PROJECT NAME: McKinley Elementary School	PROJECT NO: SMSD-23-11532

DEPTH	SAMPLE NO.	SAMPLE TIME	DESCRIPTION	FID ☐ PID ■ (PPM)	USCS	REMARKS
0			Asphalt - Three inches thick Base Material - Seven inches thick			
5	SV6-5	9:25 AM	Medium brown, Silty Sand, semi-moist, no odor, no staining	0.0	SM	Vapor probe installed
10	SV6-10	9:30 AM	Medium brown, Silty Sand, semi-moist, no odor, no staining	0.0	SM	
15	SV6-15	9:37 AM	Grey brown, Sand with gravel, semi-moist, no odor, no staining	0.0	SW	Vapor probe installed
			Groundwater Not Encountered			

PREPARED BY: Eric Fraske

SOIL BORING LOG

BORING/PIT NO: SV7
SHEET 1 OF 1

DATE: 06/03/23	PROJECT NAME: McKinley Elementary School	PROJECT NO: SMSD-23-11532

DEPTH	SAMPLE NO.	SAMPLE TIME	DESCRIPTION	FID □ PID ■ (PPM)	USCS	REMARKS
0			Asphalt - Three inches thick Base Material - Seven inches thick			
5	SV7-5	10:02 AM	Medium brown, Sandy Clay, semi-moist, no odor, no staining	0.0	CL	Vapor probe installed
10	SV7-10	10:10 AM	Medium brown, Sandy Clay, semi-moist, no odor, no staining	0.0	CL	
15	SV7-15	10:12 AM	Grey brown, Sand with gravel, semi-moist, no odor, no staining	0.0	SW	Vapor probe installed
			Groundwater Not Encountered			

PREPARED BY: Eric Fraske

SOIL BORING LOG

BORING/PIT NO: SV8
SHEET 1 OF 1

DATE: 06/03/23	PROJECT NAME: McKinley Elementary School	PROJECT NO: SMSD-23-11532

DEPTH	SAMPLE NO.	SAMPLE TIME	DESCRIPTION	FID ☐ PID ■ (PPM)	USCS	REMARKS
0			Asphalt - Six inches thick			
5	SV8-5	10:40 AM	Medium brown, Sandy Clay, semi-moist, no odor, no staining	0.0	CL	Vapor probe installed
10	SV8-10	10:45 AM	Medium brown, Sandy Clay, semi-moist, no odor, no staining	0.0	CL	
15	SV8-15	10:49 AM	Grey brown, Sand with gravel, semi-moist, no odor, no staining	0.0	SW	Vapor probe installed
			Groundwater Not Encountered			

PREPARED BY: Eric Fraske

SOIL BORING LOG

BORING/PIT NO: SV9
SHEET 1 OF 1

DATE: 06/03/23	PROJECT NAME: McKinley Elementary School	PROJECT NO: SMSD-23-11532

DEPTH	SAMPLE NO.	SAMPLE TIME	DESCRIPTION	FID ☐ PID ■ (PPM)	USCS	REMARKS
0			Asphalt - Four inches thick			
5	SV9-5	11:18 AM	Medium brown, Sandy Clay, semi-moist, no odor, no staining	0.0	CL	Vapor probe installed
10	SV9-10	11:22 AM	Medium brown, Sandy Clay, semi-moist, no odor, no staining	0.0	CL	
15	SV9-15	11:29 AM	Grey brown, Sand with gravel, semi-moist, no odor, no staining	0.0	SW	Vapor probe installed
			Groundwater Not Encountered			

PREPARED BY: Eric Fraske

SOIL BORING LOG

BORING/PIT NO: SV10
SHEET 1 OF 1

DATE: 06/03/23	PROJECT NAME: McKinley Elementary School	PROJECT NO: SMSD-23-11532

DEPTH	SAMPLE NO.	SAMPLE TIME	DESCRIPTION	FID ☐ PID ■ (PPM)	USCS	REMARKS
0			Asphalt - Four inches thick			
5	SV10-5	12:28 PM	Medium brown, Sandy Clay, semi-moist, no odor, no staining	0.0	CL	Vapor probe installed
10	SV10-10	12:33 PM	Medium brown, Clayey Sand, semi-moist no odor, no staining	0.0	SC	
15	SV10-15	12:36 PM	Grey brown, Sand with gravel, semi-moist, no odor, no staining	0.0	SW	Vapor probe installed
			Groundwater Not Encountered			

PREPARED BY: Eric Fraske

SOIL BORING LOG

BORING/PIT NO: SV11
SHEET 1 OF 1

DATE: 06/03/23	PROJECT NAME: McKinley Elementary School	PROJECT NO: SMSD-23-11532

DEPTH	SAMPLE NO.	SAMPLE TIME	DESCRIPTION	FID ☐ PID ■ (PPM)	USCS	REMARKS
0			Asphalt - Four inches thick			
5	SV11-5	1:03 PM	Medium brown, Silty Sand, semi-moist no odor, no staining	0.0	SM	Vapor probe installed
10	SV11-10	1:05 PM	Medium brown, Silty Sand, semi-moist no odor, no staining	0.0	SM	
15	SV11-15	1:09 PM	Medium brown, Silty Sand, semi-moist no odor, no staining	0.0	SM	Vapor probe installed
			Groundwater Not Encountered			

PREPARED BY: Eric Fraske

SOIL BORING LOG

BORING/PIT NO: SV12
SHEET 1 OF 1

DATE: 06/03/23	PROJECT NAME: McKinley Elementary School	PROJECT NO: SMSD-23-11532

DEPTH	SAMPLE NO.	SAMPLE TIME	DESCRIPTION	FID □ PID ■ (PPM)	USCS	REMARKS
0			Asphalt - Four inches thick			
5	SV12-5	1:40 PM	Medium brown, Sandy Clay, semi-moist, no odor, no staining	0.0	CL	Vapor probe installed
10	SV12-10	1:45 PM	Medium brown, Sandy Clay, semi-moist, no odor, no staining	0.0	CL	
15	SV12-15	1:49 PM	Medium brown, Silty Sand, semi-moist, no odor, no staining	0.0	SM	Vapor probe installed
			Groundwater Not Encountered			

PREPARED BY: Eric Fraske

SOIL BORING LOG

BORING/PIT NO: SV13
SHEET 1 OF 1

DATE: 06/03/23	PROJECT NAME: McKinley Elementary School	PROJECT NO: SMSD-23-11532

DEPTH	SAMPLE NO.	SAMPLE TIME	DESCRIPTION	FID ☐ PID ■ (PPM)	USCS	REMARKS
0			Asphalt - Three inches thick			
5	SV13-5	2:17 PM	Medium brown, Sility Sand, semi-moist no odor, no staining	0.0	SM	Vapor probe installed
10	SV13-10	2:19 PM	Medium brown, Sility Sand, semi-moist no odor, no staining	0.0	SM	
15	SV13-15	2:24 PM	Greyish brown, Sand with Gravel, semi-moist no odor, no staining	0.0	SM	Vapor probe installed
			Groundwater Not Encountered			

PREPARED BY: Eric Fraske

APPENDIX B

Laboratory Analytical Results

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Eric Fraske
NV5, Inc
3777 Long Beach Blvd,
Long Beach, California 90807

Generated 6/16/2023 10:52:17 AM

JOB DESCRIPTION

McKinley Elementary School

JOB NUMBER

570-140498-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

my EOL

Eurofins Calscience

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization

Vik Patel

Generated
6/16/2023 10:52:17 AM

Authorized for release by
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(714)895-5494

Table of Contents

Cover Page 1
Table of Contents 3
Definitions/Glossary 4
Case Narrative 5
Detection Summary 6
Client Sample Results 10
Surrogate Summary 69
QC Sample Results 71
QC Association Summary 92
Lab Chronicle 94
Certification Summary 101
Method Summary 102
Sample Summary 103
Chain of Custody 104
Receipt Checklists 108

Definitions/Glossary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-140498-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-140498-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-140498-1

Comments
No additional comments.

Receipt
The samples were received on 6/5/2023 12:09 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.8º C and 2.9º C.

GC/MS VOA
Method 8260B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-334622. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

Method 8260B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-334743. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

Method 8260B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 570-334614. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

Method 8260B: The matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 570-335308 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-140498-1

Client Sample ID: EB — Lab Sample ID: 570-140498-1

No Detections.

Client Sample ID: TB — Lab Sample ID: 570-140498-2

No Detections.

Client Sample ID: SV4-5 — Lab Sample ID: 570-140498-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	30		16	8.0	ug/Kg	1		8260B/5035	Total/NA
tert-Butyl alcohol (TBA)	7.8	J	16	5.7	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV4-10 — Lab Sample ID: 570-140498-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	17	J	18	9.0	ug/Kg	1		8260B/5035	Total/NA
tert-Butyl alcohol (TBA)	14	J	18	6.4	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV4-15 — Lab Sample ID: 570-140498-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	34		20	10	ug/Kg	1		8260B/5035	Total/NA
Tetrachloroethene	0.30	J	1.0	0.23	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV5-5 — Lab Sample ID: 570-140498-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	23		16	7.8	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV5-10 — Lab Sample ID: 570-140498-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	30		19	9.4	ug/Kg	1		8260B/5035	Total/NA
tert-Butyl alcohol (TBA)	8.3	J	19	6.7	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV5-15 — Lab Sample ID: 570-140498-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	39		19	9.4	ug/Kg	1		8260B/5035	Total/NA
Tetrachloroethene	0.77	J	0.95	0.21	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV6-5 — Lab Sample ID: 570-140498-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone	10	J	22	5.1	ug/Kg	1		8260B/5035	Total/NA
Acetone	80		22	11	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV6-10 — Lab Sample ID: 570-140498-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	48		22	11	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV6-15 — Lab Sample ID: 570-140498-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	51		24	12	ug/Kg	1		8260B/5035	Total/NA
Tetrachloroethene	1.0	J	1.2	0.27	ug/Kg	1		8260B/5035	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-140498-1

Client Sample ID: SV7-5 — Lab Sample ID: 570-140498-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	37		15	7.5	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV7-5 DUP — Lab Sample ID: 570-140498-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	31		13	6.6	ug/Kg	1		8260B/5035	Total/NA
tert-Butyl alcohol (TBA)	5.6	J	13	4.7	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV7-10 — Lab Sample ID: 570-140498-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	11	J	18	8.6	ug/Kg	1		8260B/5035	Total/NA
Tetrachloroethene	1.2		0.88	0.20	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV7-10 DUP — Lab Sample ID: 570-140498-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	33		18	8.7	ug/Kg	1		8260B/5035	Total/NA
Tetrachloroethene	0.74	J	0.88	0.20	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV7-15 — Lab Sample ID: 570-140498-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	26		26	13	ug/Kg	1		8260B/5035	Total/NA
Tetrachloroethene	4.1		1.3	0.30	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV7-15 DUP — Lab Sample ID: 570-140498-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	50		27	13	ug/Kg	1		8260B/5035	Total/NA
Tetrachloroethene	4.6		1.4	0.30	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV8-5 — Lab Sample ID: 570-140498-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone	7.5	J	18	4.1	ug/Kg	1		8260B/5035	Total/NA
Acetone	69		18	8.9	ug/Kg	1		8260B/5035	Total/NA
Benzene	0.25	J	0.91	0.23	ug/Kg	1		8260B/5035	Total/NA
Tetrachloroethene	0.29	J	0.91	0.20	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV8-10 — Lab Sample ID: 570-140498-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	19		15	7.1	ug/Kg	1		8260B/5035	Total/NA
Tetrachloroethene	1.2		0.73	0.16	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV8-15 — Lab Sample ID: 570-140498-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	48		27	13	ug/Kg	1		8260B/5035	Total/NA
Tetrachloroethene	9.3		1.4	0.30	ug/Kg	1		8260B/5035	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-140498-1

Client Sample ID: SV9-5 — Lab Sample ID: 570-140498-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	21		18	8.6	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV9-10 — Lab Sample ID: 570-140498-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	34		19	9.5	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV9-15 — Lab Sample ID: 570-140498-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	45		23	11	ug/Kg	1		8260B/5035	Total/NA
Tetrachloroethene	0.64	J	1.1	0.25	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV10-5 — Lab Sample ID: 570-140498-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	38		17	8.4	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV10-10 — Lab Sample ID: 570-140498-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	22		15	7.2	ug/Kg	1		8260B/5035	Total/NA
tert-Butyl alcohol (TBA)	6.1	J	15	5.1	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV10-15 — Lab Sample ID: 570-140498-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	25	J	28	14	ug/Kg	1		8260B/5035	Total/NA
Tetrachloroethene	0.45	J	1.4	0.31	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV11-5 — Lab Sample ID: 570-140498-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	46		19	9.5	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV11-10 — Lab Sample ID: 570-140498-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	43		24	12	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV11-15 — Lab Sample ID: 570-140498-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	24		13	6.5	ug/Kg	1		8260B/5035	Total/NA
Tetrachloroethene	0.21	J	0.66	0.15	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV12-5 — Lab Sample ID: 570-140498-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone	7.2	J	19	4.2	ug/Kg	1		8260B/5035	Total/NA
Acetone	83		19	9.2	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV12-10 — Lab Sample ID: 570-140498-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	28		14	7.0	ug/Kg	1		8260B/5035	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-140498-1

Client Sample ID: SV12-10 (Continued) — Lab Sample ID: 570-140498-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
tert-Butyl alcohol (TBA)	9.4	J	14	5.0	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV12-15 — Lab Sample ID: 570-140498-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	20		14	7.0	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV13-5 — Lab Sample ID: 570-140498-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	33		15	7.5	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV13-10 — Lab Sample ID: 570-140498-34

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	54		18	8.9	ug/Kg	1		8260B/5035	Total/NA
Tetrachloroethene	0.31	J	0.91	0.20	ug/Kg	1		8260B/5035	Total/NA

Client Sample ID: SV13-15 — Lab Sample ID: 570-140498-35

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	17	J	25	12	ug/Kg	1		8260B/5035	Total/NA
Tetrachloroethene	1.7		1.2	0.28	ug/Kg	1		8260B/5035	Total/NA

This Detection Summary does not include radiochemical test results.

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS)

Client Sample ID: SV4-5
Date Collected: 06/03/23 08:18
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.81	0.24	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
1,1,1-Trichloroethane	ND		0.81	0.19	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
1,1,2,2-Tetrachloroethane	ND		1.6	0.44	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		8.1	0.37	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
1,1,2-Trichloroethane	ND		0.81	0.38	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
1,1-Dichloroethane	ND		0.81	0.23	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
1,1-Dichloroethene	ND		0.81	0.21	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
1,1-Dichloropropene	ND		1.6	0.31	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
1,2,3-Trichlorobenzene	ND		1.6	0.30	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
1,2,3-Trichloropropane	ND		1.6	0.34	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
1,2,4-Trichlorobenzene	ND		1.6	0.33	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
1,2,4-Trimethylbenzene	ND		1.6	0.49	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
1,2-Dibromo-3-Chloropropane	ND		8.1	2.7	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
1,2-Dibromoethane	ND		0.81	0.17	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
1,2-Dichlorobenzene	ND		0.81	0.20	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
1,2-Dichloroethane	ND		0.81	0.22	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
1,2-Dichloropropane	ND		0.81	0.22	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
1,3,5-Trimethylbenzene	ND		1.6	0.22	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
1,3-Dichlorobenzene	ND		0.81	0.20	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
1,3-Dichloropropane	ND		0.81	0.24	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
1,4-Dichlorobenzene	ND		0.81	0.25	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
2,2-Dichloropropane	ND		4.0	0.22	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
2-Butanone	ND		16	3.7	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
2-Chlorotoluene	ND		0.81	0.20	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
2-Hexanone	ND		16	2.5	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
4-Chlorotoluene	ND		0.81	0.20	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
4-Methyl-2-pentanone	ND		16	2.4	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Acetone	**30**		16	8.0	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Benzene	ND		0.81	0.21	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Bromobenzene	ND		0.81	0.17	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Bromochloromethane	ND		1.6	0.36	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Bromodichloromethane	ND		0.81	0.26	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Bromoform	ND		4.0	1.1	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Bromomethane	ND		16	5.3	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
cis-1,2-Dichloroethene	ND		0.81	0.27	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
cis-1,3-Dichloropropene	ND		0.81	0.28	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Carbon disulfide	ND		8.1	0.32	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Carbon tetrachloride	ND		0.81	0.24	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Chlorobenzene	ND		0.81	0.22	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Chloroethane	ND		1.6	0.60	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Chloroform	ND		0.81	0.48	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Chloromethane	ND		16	1.2	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Dibromochloromethane	ND		1.6	0.22	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Dibromomethane	ND		0.81	0.25	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Dichlorodifluoromethane	ND		1.6	0.37	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Di-isopropyl ether (DIPE)	ND		0.81	0.40	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Ethanol	ND		200	75	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Ethylbenzene	ND		0.81	0.17	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Ethyl-t-butyl ether (ETBE)	ND		0.81	0.19	ug/Kg		06/05/23 16:14	06/06/23 00:06	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV4-5
Date Collected: 06/03/23 08:18
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-3
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		0.81	0.22	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Methylene Chloride	ND		8.1	2.5	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Methyl-t-Butyl Ether (MTBE)	ND		1.6	0.15	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Naphthalene	ND		8.1	3.2	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
n-Butylbenzene	ND		0.81	0.17	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
N-Propylbenzene	ND		1.6	0.21	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
o-Xylene	ND		0.81	0.21	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
m,p-Xylene	ND		1.6	0.38	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
p-Isopropyltoluene	ND		0.81	0.23	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
sec-Butylbenzene	ND		0.81	0.22	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Styrene	ND		0.81	0.26	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
trans-1,2-Dichloroethene	ND		0.81	0.24	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
trans-1,3-Dichloropropene	ND		1.6	0.23	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Tert-amyl-methyl ether (TAME)	ND		0.81	0.16	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
tert-Butyl alcohol (TBA)	**7.8**	**J**	16	5.7	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
tert-Butylbenzene	ND		0.81	0.21	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Tetrachloroethene	ND		0.81	0.18	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Toluene	ND		0.81	0.22	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Trichloroethene	ND		1.6	0.31	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Trichlorofluoromethane	ND		8.1	0.22	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Vinyl acetate	ND		8.1	3.2	ug/Kg		06/05/23 16:14	06/06/23 00:06	1
Vinyl chloride	ND		0.81	0.31	ug/Kg		06/05/23 16:14	06/06/23 00:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*122*		*32 - 179*	*06/05/23 16:14*	*06/06/23 00:06*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*	*06/05/23 16:14*	*06/06/23 00:06*	*1*
Dibromofluoromethane (Surr)	*105*		*58 - 147*	*06/05/23 16:14*	*06/06/23 00:06*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*	*06/05/23 16:14*	*06/06/23 00:06*	*1*

Client Sample ID: SV4-10
Date Collected: 06/03/23 08:21
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-4
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.91	0.27	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
1,1,1-Trichloroethane	ND		0.91	0.21	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
1,1,2,2-Tetrachloroethane	ND		1.8	0.50	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		9.1	0.42	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
1,1,2-Trichloroethane	ND		0.91	0.42	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
1,1-Dichloroethane	ND		0.91	0.26	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
1,1-Dichloroethene	ND		0.91	0.24	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
1,1-Dichloropropene	ND		1.8	0.35	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
1,2,3-Trichlorobenzene	ND		1.8	0.34	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
1,2,3-Trichloropropane	ND		1.8	0.38	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
1,2,4-Trichlorobenzene	ND		1.8	0.37	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
1,2,4-Trimethylbenzene	ND		1.8	0.55	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
1,2-Dibromo-3-Chloropropane	ND		9.1	3.0	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
1,2-Dibromoethane	ND		0.91	0.19	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
1,2-Dichlorobenzene	ND		0.91	0.23	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
1,2-Dichloroethane	ND		0.91	0.25	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
1,2-Dichloropropane	ND		0.91	0.25	ug/Kg		06/05/23 16:14	06/06/23 00:27	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV4-10
Date Collected: 06/03/23 08:21
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-4
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		1.8	0.24	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
1,3-Dichlorobenzene	ND		0.91	0.23	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
1,3-Dichloropropane	ND		0.91	0.27	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
1,4-Dichlorobenzene	ND		0.91	0.28	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
2,2-Dichloropropane	ND		4.6	0.25	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
2-Butanone	ND		18	4.1	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
2-Chlorotoluene	ND		0.91	0.23	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
2-Hexanone	ND		18	2.8	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
4-Chlorotoluene	ND		0.91	0.22	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
4-Methyl-2-pentanone	ND		18	2.7	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Acetone	**17**	**J**	18	9.0	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Benzene	ND		0.91	0.23	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Bromobenzene	ND		0.91	0.19	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Bromochloromethane	ND		1.8	0.41	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Bromodichloromethane	ND		0.91	0.30	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Bromoform	ND		4.6	1.2	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Bromomethane	ND		18	6.0	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
cis-1,2-Dichloroethene	ND		0.91	0.31	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
cis-1,3-Dichloropropene	ND		0.91	0.32	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Carbon disulfide	ND		9.1	0.36	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Carbon tetrachloride	ND		0.91	0.27	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Chlorobenzene	ND		0.91	0.24	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Chloroethane	ND		1.8	0.68	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Chloroform	ND		0.91	0.54	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Chloromethane	ND		18	1.4	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Dibromochloromethane	ND		1.8	0.25	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Dibromomethane	ND		0.91	0.28	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Dichlorodifluoromethane	ND		1.8	0.41	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Di-isopropyl ether (DIPE)	ND		0.91	0.46	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Ethanol	ND		230	84	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Ethylbenzene	ND		0.91	0.19	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Ethyl-t-butyl ether (ETBE)	ND		0.91	0.22	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Isopropylbenzene	ND		0.91	0.25	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Methylene Chloride	ND		9.1	2.8	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Methyl-t-Butyl Ether (MTBE)	ND		1.8	0.17	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Naphthalene	ND		9.1	3.6	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
n-Butylbenzene	ND		0.91	0.19	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
N-Propylbenzene	ND		1.8	0.24	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
o-Xylene	ND		0.91	0.23	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
m,p-Xylene	ND		1.8	0.43	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
p-Isopropyltoluene	ND		0.91	0.26	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
sec-Butylbenzene	ND		0.91	0.25	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Styrene	ND		0.91	0.29	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
trans-1,2-Dichloroethene	ND		0.91	0.27	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
trans-1,3-Dichloropropene	ND		1.8	0.25	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Tert-amyl-methyl ether (TAME)	ND		0.91	0.18	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
tert-Butyl alcohol (TBA)	**14**	**J**	18	6.4	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
tert-Butylbenzene	ND		0.91	0.23	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Tetrachloroethene	ND		0.91	0.20	ug/Kg		06/05/23 16:14	06/06/23 00:27	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV4-10
Date Collected: 06/03/23 08:21
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-4
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		0.91	0.25	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Trichloroethene	ND		1.8	0.35	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Trichlorofluoromethane	ND		9.1	0.25	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Vinyl acetate	ND		9.1	3.6	ug/Kg		06/05/23 16:14	06/06/23 00:27	1
Vinyl chloride	ND		0.91	0.35	ug/Kg		06/05/23 16:14	06/06/23 00:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*122*		*32 - 179*	*06/05/23 16:14*	*06/06/23 00:27*	*1*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*	*06/05/23 16:14*	*06/06/23 00:27*	*1*
Dibromofluoromethane (Surr)	*104*		*58 - 147*	*06/05/23 16:14*	*06/06/23 00:27*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*	*06/05/23 16:14*	*06/06/23 00:27*	*1*

Client Sample ID: SV4-15
Date Collected: 06/03/23 08:24
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-5
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.30	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
1,1,1-Trichloroethane	ND		1.0	0.24	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
1,1,2,2-Tetrachloroethane	ND		2.0	0.55	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10	0.47	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
1,1,2-Trichloroethane	ND		1.0	0.47	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
1,1-Dichloroethane	ND		1.0	0.29	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
1,1-Dichloroethene	ND		1.0	0.27	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
1,1-Dichloropropene	ND		2.0	0.39	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
1,2,3-Trichlorobenzene	ND		2.0	0.38	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
1,2,3-Trichloropropane	ND		2.0	0.43	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
1,2,4-Trichlorobenzene	ND		2.0	0.42	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
1,2,4-Trimethylbenzene	ND		2.0	0.61	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
1,2-Dibromo-3-Chloropropane	ND		10	3.4	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
1,2-Dibromoethane	ND		1.0	0.21	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
1,2-Dichloroethane	ND		1.0	0.28	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
1,2-Dichloropropane	ND		1.0	0.28	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
1,3,5-Trimethylbenzene	ND		2.0	0.27	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
1,3-Dichlorobenzene	ND		1.0	0.26	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
1,3-Dichloropropane	ND		1.0	0.30	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
1,4-Dichlorobenzene	ND		1.0	0.31	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
2,2-Dichloropropane	ND		5.1	0.28	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
2-Butanone	ND		20	4.6	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
2-Chlorotoluene	ND		1.0	0.26	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
2-Hexanone	ND		20	3.1	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
4-Chlorotoluene	ND		1.0	0.25	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
4-Methyl-2-pentanone	ND		20	3.0	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Acetone	**34**		20	10	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Benzene	ND		1.0	0.26	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Bromobenzene	ND		1.0	0.21	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Bromochloromethane	ND		2.0	0.45	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Bromodichloromethane	ND		1.0	0.33	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Bromoform	ND		5.1	1.3	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Bromomethane	ND		20	6.7	ug/Kg		06/05/23 16:14	06/06/23 11:57	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV4-15
Date Collected: 06/03/23 08:24
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-5
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		1.0	0.34	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
cis-1,3-Dichloropropene	ND		1.0	0.35	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Carbon disulfide	ND		10	0.41	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Carbon tetrachloride	ND		1.0	0.30	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Chlorobenzene	ND		1.0	0.27	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Chloroethane	ND		2.0	0.76	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Chloroform	ND		1.0	0.60	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Chloromethane	ND		20	1.6	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Dibromochloromethane	ND		2.0	0.28	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Dibromomethane	ND		1.0	0.31	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Dichlorodifluoromethane	ND		2.0	0.46	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Di-isopropyl ether (DIPE)	ND		1.0	0.51	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Ethanol	ND		250	94	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Ethylbenzene	ND		1.0	0.21	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Ethyl-t-butyl ether (ETBE)	ND		1.0	0.24	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Isopropylbenzene	ND		1.0	0.28	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Methylene Chloride	ND		10	3.2	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Methyl-t-Butyl Ether (MTBE)	ND		2.0	0.19	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Naphthalene	ND		10	4.0	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
n-Butylbenzene	ND		1.0	0.21	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
N-Propylbenzene	ND		2.0	0.26	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
o-Xylene	ND		1.0	0.26	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
m,p-Xylene	ND		2.0	0.48	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
p-Isopropyltoluene	ND		1.0	0.29	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
sec-Butylbenzene	ND		1.0	0.28	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Styrene	ND		1.0	0.32	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
trans-1,2-Dichloroethene	ND		1.0	0.31	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
trans-1,3-Dichloropropene	ND		2.0	0.28	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Tert-amyl-methyl ether (TAME)	ND		1.0	0.20	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
tert-Butyl alcohol (TBA)	ND		20	7.1	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
tert-Butylbenzene	ND		1.0	0.26	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Tetrachloroethene	**0.30**	**J**	1.0	0.23	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Toluene	ND		1.0	0.27	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Trichloroethene	ND		2.0	0.39	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Trichlorofluoromethane	ND		10	0.28	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Vinyl acetate	ND		10	4.0	ug/Kg		06/05/23 16:14	06/06/23 11:57	1
Vinyl chloride	ND		1.0	0.39	ug/Kg		06/05/23 16:14	06/06/23 11:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*121*		*32 - 179*	*06/05/23 16:14*	*06/06/23 11:57*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*	*06/05/23 16:14*	*06/06/23 11:57*	*1*
Dibromofluoromethane (Surr)	*106*		*58 - 147*	*06/05/23 16:14*	*06/06/23 11:57*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*	*06/05/23 16:14*	*06/06/23 11:57*	*1*

Client Sample ID: SV5-5
Date Collected: 06/03/23 08:49
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-6
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.79	0.23	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
1,1,1-Trichloroethane	ND		0.79	0.19	ug/Kg		06/05/23 16:14	06/06/23 01:09	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV5-5
Date Collected: 06/03/23 08:49
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-6
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		1.6	0.43	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		7.9	0.37	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
1,1,2-Trichloroethane	ND		0.79	0.37	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
1,1-Dichloroethane	ND		0.79	0.22	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
1,1-Dichloroethene	ND		0.79	0.21	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
1,1-Dichloropropene	ND		1.6	0.31	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
1,2,3-Trichlorobenzene	ND		1.6	0.30	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
1,2,3-Trichloropropane	ND		1.6	0.33	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
1,2,4-Trichlorobenzene	ND		1.6	0.33	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
1,2,4-Trimethylbenzene	ND		1.6	0.48	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
1,2-Dibromo-3-Chloropropane	ND		7.9	2.6	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
1,2-Dibromoethane	ND		0.79	0.16	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
1,2-Dichlorobenzene	ND		0.79	0.20	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
1,2-Dichloroethane	ND		0.79	0.22	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
1,2-Dichloropropane	ND		0.79	0.22	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
1,3,5-Trimethylbenzene	ND		1.6	0.21	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
1,3-Dichlorobenzene	ND		0.79	0.20	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
1,3-Dichloropropane	ND		0.79	0.23	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
1,4-Dichlorobenzene	ND		0.79	0.24	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
2,2-Dichloropropane	ND		4.0	0.22	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
2-Butanone	ND		16	3.6	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
2-Chlorotoluene	ND		0.79	0.20	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
2-Hexanone	ND		16	2.4	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
4-Chlorotoluene	ND		0.79	0.19	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
4-Methyl-2-pentanone	ND		16	2.3	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Acetone	**23**		16	7.8	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Benzene	ND		0.79	0.20	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Bromobenzene	ND		0.79	0.17	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Bromochloromethane	ND		1.6	0.35	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Bromodichloromethane	ND		0.79	0.26	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Bromoform	ND		4.0	1.0	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Bromomethane	ND		16	5.2	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
cis-1,2-Dichloroethene	ND		0.79	0.27	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
cis-1,3-Dichloropropene	ND		0.79	0.28	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Carbon disulfide	ND		7.9	0.32	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Carbon tetrachloride	ND		0.79	0.24	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Chlorobenzene	ND		0.79	0.21	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Chloroethane	ND		1.6	0.59	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Chloroform	ND		0.79	0.47	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Chloromethane	ND		16	1.2	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Dibromochloromethane	ND		1.6	0.22	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Dibromomethane	ND		0.79	0.24	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Dichlorodifluoromethane	ND		1.6	0.36	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Di-isopropyl ether (DIPE)	ND		0.79	0.40	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Ethanol	ND		200	73	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Ethylbenzene	ND		0.79	0.16	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Ethyl-t-butyl ether (ETBE)	ND		0.79	0.19	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Isopropylbenzene	ND		0.79	0.22	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Methylene Chloride	ND		7.9	2.5	ug/Kg		06/05/23 16:14	06/06/23 01:09	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV5-5
Date Collected: 06/03/23 08:49
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-6
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl-t-Butyl Ether (MTBE)	ND		1.6	0.15	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Naphthalene	ND		7.9	3.1	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
n-Butylbenzene	ND		0.79	0.17	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
N-Propylbenzene	ND		1.6	0.21	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
o-Xylene	ND		0.79	0.20	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
m,p-Xylene	ND		1.6	0.38	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
p-Isopropyltoluene	ND		0.79	0.22	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
sec-Butylbenzene	ND		0.79	0.22	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Styrene	ND		0.79	0.25	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
trans-1,2-Dichloroethene	ND		0.79	0.24	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
trans-1,3-Dichloropropene	ND		1.6	0.22	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Tert-amyl-methyl ether (TAME)	ND		0.79	0.15	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
tert-Butyl alcohol (TBA)	ND		16	5.5	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
tert-Butylbenzene	ND		0.79	0.20	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Tetrachloroethene	ND		0.79	0.18	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Toluene	ND		0.79	0.21	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Trichloroethene	ND		1.6	0.31	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Trichlorofluoromethane	ND		7.9	0.22	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Vinyl acetate	ND		7.9	3.1	ug/Kg		06/05/23 16:14	06/06/23 01:09	1
Vinyl chloride	ND		0.79	0.30	ug/Kg		06/05/23 16:14	06/06/23 01:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*119*		*32 - 179*	*06/05/23 16:14*	*06/06/23 01:09*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*	*06/05/23 16:14*	*06/06/23 01:09*	*1*
Dibromofluoromethane (Surr)	*102*		*58 - 147*	*06/05/23 16:14*	*06/06/23 01:09*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*	*06/05/23 16:14*	*06/06/23 01:09*	*1*

Client Sample ID: SV5-10
Date Collected: 06/03/23 08:53
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-7
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.96	0.28	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
1,1,1-Trichloroethane	ND		0.96	0.22	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
1,1,2,2-Tetrachloroethane	ND		1.9	0.52	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		9.6	0.44	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
1,1,2-Trichloroethane	ND		0.96	0.44	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
1,1-Dichloroethane	ND		0.96	0.27	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
1,1-Dichloroethene	ND		0.96	0.25	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
1,1-Dichloropropene	ND		1.9	0.37	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
1,2,3-Trichlorobenzene	ND		1.9	0.36	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
1,2,3-Trichloropropane	ND		1.9	0.40	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
1,2,4-Trichlorobenzene	ND		1.9	0.39	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
1,2,4-Trimethylbenzene	ND		1.9	0.57	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
1,2-Dibromo-3-Chloropropane	ND		9.6	3.2	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
1,2-Dibromoethane	ND		0.96	0.20	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
1,2-Dichlorobenzene	ND		0.96	0.24	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
1,2-Dichloroethane	ND		0.96	0.26	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
1,2-Dichloropropane	ND		0.96	0.26	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
1,3,5-Trimethylbenzene	ND		1.9	0.26	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
1,3-Dichlorobenzene	ND		0.96	0.24	ug/Kg		06/05/23 16:14	06/06/23 01:30	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV5-10
Date Collected: 06/03/23 08:53
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-7
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichloropropane	ND		0.96	0.28	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
1,4-Dichlorobenzene	ND		0.96	0.29	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
2,2-Dichloropropane	ND		4.8	0.26	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
2-Butanone	ND		19	4.3	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
2-Chlorotoluene	ND		0.96	0.24	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
2-Hexanone	ND		19	2.9	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
4-Chlorotoluene	ND		0.96	0.23	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
4-Methyl-2-pentanone	ND		19	2.8	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Acetone	**30**		19	9.4	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Benzene	ND		0.96	0.25	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Bromobenzene	ND		0.96	0.20	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Bromochloromethane	ND		1.9	0.43	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Bromodichloromethane	ND		0.96	0.31	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Bromoform	ND		4.8	1.3	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Bromomethane	ND		19	6.3	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
cis-1,2-Dichloroethene	ND		0.96	0.32	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
cis-1,3-Dichloropropene	ND		0.96	0.33	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Carbon disulfide	ND		9.6	0.38	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Carbon tetrachloride	ND		0.96	0.29	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Chlorobenzene	ND		0.96	0.26	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Chloroethane	ND		1.9	0.71	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Chloroform	ND		0.96	0.56	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Chloromethane	ND		19	1.5	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Dibromochloromethane	ND		1.9	0.26	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Dibromomethane	ND		0.96	0.29	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Dichlorodifluoromethane	ND		1.9	0.43	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Di-isopropyl ether (DIPE)	ND		0.96	0.48	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Ethanol	ND		240	88	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Ethylbenzene	ND		0.96	0.20	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Ethyl-t-butyl ether (ETBE)	ND		0.96	0.23	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Isopropylbenzene	ND		0.96	0.26	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Methylene Chloride	ND		9.6	3.0	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Methyl-t-Butyl Ether (MTBE)	ND		1.9	0.18	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Naphthalene	ND		9.6	3.8	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
n-Butylbenzene	ND		0.96	0.20	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
N-Propylbenzene	ND		1.9	0.25	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
o-Xylene	ND		0.96	0.24	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
m,p-Xylene	ND		1.9	0.45	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
p-Isopropyltoluene	ND		0.96	0.27	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
sec-Butylbenzene	ND		0.96	0.26	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Styrene	ND		0.96	0.30	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
trans-1,2-Dichloroethene	ND		0.96	0.29	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
trans-1,3-Dichloropropene	ND		1.9	0.27	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Tert-amyl-methyl ether (TAME)	ND		0.96	0.19	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
tert-Butyl alcohol (TBA)	**8.3**	**J**	19	6.7	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
tert-Butylbenzene	ND		0.96	0.24	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Tetrachloroethene	ND		0.96	0.21	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Toluene	ND		0.96	0.26	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Trichloroethene	ND		1.9	0.37	ug/Kg		06/05/23 16:14	06/06/23 01:30	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV5-10
Date Collected: 06/03/23 08:53
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-7
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		9.6	0.26	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Vinyl acetate	ND		9.6	3.7	ug/Kg		06/05/23 16:14	06/06/23 01:30	1
Vinyl chloride	ND		0.96	0.36	ug/Kg		06/05/23 16:14	06/06/23 01:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*118*		*32 - 179*	*06/05/23 16:14*	*06/06/23 01:30*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*	*06/05/23 16:14*	*06/06/23 01:30*	*1*
Dibromofluoromethane (Surr)	*106*		*58 - 147*	*06/05/23 16:14*	*06/06/23 01:30*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*	*06/05/23 16:14*	*06/06/23 01:30*	*1*

Client Sample ID: SV5-15
Date Collected: 06/03/23 08:57
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-8
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.95	0.28	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
1,1,1-Trichloroethane	ND		0.95	0.22	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
1,1,2,2-Tetrachloroethane	ND		1.9	0.52	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		9.5	0.44	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
1,1,2-Trichloroethane	ND		0.95	0.44	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
1,1-Dichloroethane	ND		0.95	0.27	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
1,1-Dichloroethene	ND		0.95	0.25	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
1,1-Dichloropropene	ND		1.9	0.37	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
1,2,3-Trichlorobenzene	ND		1.9	0.36	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
1,2,3-Trichloropropane	ND		1.9	0.40	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
1,2,4-Trichlorobenzene	ND		1.9	0.39	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
1,2,4-Trimethylbenzene	ND		1.9	0.57	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
1,2-Dibromo-3-Chloropropane	ND		9.5	3.2	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
1,2-Dibromoethane	ND		0.95	0.20	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
1,2-Dichlorobenzene	ND		0.95	0.24	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
1,2-Dichloroethane	ND		0.95	0.26	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
1,2-Dichloropropane	ND		0.95	0.26	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
1,3,5-Trimethylbenzene	ND		1.9	0.25	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
1,3-Dichlorobenzene	ND		0.95	0.24	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
1,3-Dichloropropane	ND		0.95	0.28	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
1,4-Dichlorobenzene	ND		0.95	0.29	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
2,2-Dichloropropane	ND		4.8	0.26	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
2-Butanone	ND		19	4.3	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
2-Chlorotoluene	ND		0.95	0.24	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
2-Hexanone	ND		19	2.9	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
4-Chlorotoluene	ND		0.95	0.23	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
4-Methyl-2-pentanone	ND		19	2.8	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Acetone	**39**		19	9.4	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Benzene	ND		0.95	0.25	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Bromobenzene	ND		0.95	0.20	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Bromochloromethane	ND		1.9	0.42	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Bromodichloromethane	ND		0.95	0.31	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Bromoform	ND		4.8	1.3	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Bromomethane	ND		19	6.3	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
cis-1,2-Dichloroethene	ND		0.95	0.32	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
cis-1,3-Dichloropropene	ND		0.95	0.33	ug/Kg		06/05/23 16:14	06/06/23 01:51	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV5-15
Date Collected: 06/03/23 08:57
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-8
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		9.5	0.38	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Carbon tetrachloride	ND		0.95	0.29	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Chlorobenzene	ND		0.95	0.26	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Chloroethane	ND		1.9	0.71	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Chloroform	ND		0.95	0.56	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Chloromethane	ND		19	1.5	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Dibromochloromethane	ND		1.9	0.26	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Dibromomethane	ND		0.95	0.29	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Dichlorodifluoromethane	ND		1.9	0.43	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Di-isopropyl ether (DIPE)	ND		0.95	0.48	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Ethanol	ND		240	88	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Ethylbenzene	ND		0.95	0.20	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Ethyl-t-butyl ether (ETBE)	ND		0.95	0.23	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Isopropylbenzene	ND		0.95	0.26	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Methylene Chloride	ND		9.5	3.0	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Methyl-t-Butyl Ether (MTBE)	ND		1.9	0.18	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Naphthalene	ND		9.5	3.7	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
n-Butylbenzene	ND		0.95	0.20	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
N-Propylbenzene	ND		1.9	0.25	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
o-Xylene	ND		0.95	0.24	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
m,p-Xylene	ND		1.9	0.45	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
p-Isopropyltoluene	ND		0.95	0.27	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
sec-Butylbenzene	ND		0.95	0.26	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Styrene	ND		0.95	0.30	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
trans-1,2-Dichloroethene	ND		0.95	0.29	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
trans-1,3-Dichloropropene	ND		1.9	0.27	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Tert-amyl-methyl ether (TAME)	ND		0.95	0.19	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
tert-Butyl alcohol (TBA)	ND		19	6.7	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
tert-Butylbenzene	ND		0.95	0.24	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Tetrachloroethene	**0.77**	**J**	0.95	0.21	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Toluene	ND		0.95	0.26	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Trichloroethene	ND		1.9	0.37	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Trichlorofluoromethane	ND		9.5	0.26	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Vinyl acetate	ND		9.5	3.7	ug/Kg		06/05/23 16:14	06/06/23 01:51	1
Vinyl chloride	ND		0.95	0.36	ug/Kg		06/05/23 16:14	06/06/23 01:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*119*		*32 - 179*	*06/05/23 16:14*	*06/06/23 01:51*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*	*06/05/23 16:14*	*06/06/23 01:51*	*1*
Dibromofluoromethane (Surr)	*107*		*58 - 147*	*06/05/23 16:14*	*06/06/23 01:51*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*	*06/05/23 16:14*	*06/06/23 01:51*	*1*

Client Sample ID: SV6-5
Date Collected: 06/03/23 09:25
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-9
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.1	0.33	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
1,1,1-Trichloroethane	ND		1.1	0.26	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
1,1,2,2-Tetrachloroethane	ND		2.2	0.61	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		11	0.52	ug/Kg		06/05/23 16:14	06/06/23 02:12	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV6-5
Date Collected: 06/03/23 09:25
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-9
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND		1.1	0.52	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
1,1-Dichloroethane	ND		1.1	0.31	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
1,1-Dichloroethene	ND		1.1	0.30	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
1,1-Dichloropropene	ND		2.2	0.44	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
1,2,3-Trichlorobenzene	ND		2.2	0.42	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
1,2,3-Trichloropropane	ND		2.2	0.47	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
1,2,4-Trichlorobenzene	ND		2.2	0.46	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
1,2,4-Trimethylbenzene	ND		2.2	0.67	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
1,2-Dibromo-3-Chloropropane	ND		11	3.7	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
1,2-Dibromoethane	ND		1.1	0.23	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
1,2-Dichlorobenzene	ND		1.1	0.28	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
1,2-Dichloroethane	ND		1.1	0.31	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
1,2-Dichloropropane	ND		1.1	0.31	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
1,3,5-Trimethylbenzene	ND		2.2	0.30	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
1,3-Dichlorobenzene	ND		1.1	0.28	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
1,3-Dichloropropane	ND		1.1	0.33	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
1,4-Dichlorobenzene	ND		1.1	0.34	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
2,2-Dichloropropane	ND		5.6	0.31	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
2-Butanone	**10**	**J**	22	5.1	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
2-Chlorotoluene	ND		1.1	0.28	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
2-Hexanone	ND		22	3.5	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
4-Chlorotoluene	ND		1.1	0.27	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
4-Methyl-2-pentanone	ND		22	3.3	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Acetone	**80**		22	11	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Benzene	ND		1.1	0.29	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Bromobenzene	ND		1.1	0.23	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Bromochloromethane	ND		2.2	0.50	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Bromodichloromethane	ND		1.1	0.37	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Bromoform	ND		5.6	1.5	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Bromomethane	ND		22	7.4	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
cis-1,2-Dichloroethene	ND		1.1	0.38	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
cis-1,3-Dichloropropene	ND		1.1	0.39	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Carbon disulfide	ND		11	0.45	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Carbon tetrachloride	ND		1.1	0.34	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Chlorobenzene	ND		1.1	0.30	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Chloroethane	ND		2.2	0.84	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Chloroform	ND		1.1	0.66	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Chloromethane	ND		22	1.7	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Dibromochloromethane	ND		2.2	0.31	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Dibromomethane	ND		1.1	0.34	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Dichlorodifluoromethane	ND		2.2	0.51	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Di-isopropyl ether (DIPE)	ND		1.1	0.56	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Ethanol	ND		280	100	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Ethylbenzene	ND		1.1	0.23	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Ethyl-t-butyl ether (ETBE)	ND		1.1	0.27	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Isopropylbenzene	ND		1.1	0.31	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Methylene Chloride	ND		11	3.5	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Methyl-t-Butyl Ether (MTBE)	ND		2.2	0.21	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Naphthalene	ND		11	4.4	ug/Kg		06/05/23 16:14	06/06/23 02:12	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV6-5
Date Collected: 06/03/23 09:25
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-9
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND		1.1	0.24	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
N-Propylbenzene	ND		2.2	0.29	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
o-Xylene	ND		1.1	0.29	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
m,p-Xylene	ND		2.2	0.53	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
p-Isopropyltoluene	ND		1.1	0.32	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
sec-Butylbenzene	ND		1.1	0.31	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Styrene	ND		1.1	0.36	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
trans-1,2-Dichloroethene	ND		1.1	0.34	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
trans-1,3-Dichloropropene	ND		2.2	0.31	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Tert-amyl-methyl ether (TAME)	ND		1.1	0.22	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
tert-Butyl alcohol (TBA)	ND		22	7.9	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
tert-Butylbenzene	ND		1.1	0.29	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Tetrachloroethene	ND		1.1	0.25	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Toluene	ND		1.1	0.30	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Trichloroethene	ND		2.2	0.43	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Trichlorofluoromethane	ND		11	0.31	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Vinyl acetate	ND		11	4.4	ug/Kg		06/05/23 16:14	06/06/23 02:12	1
Vinyl chloride	ND		1.1	0.43	ug/Kg		06/05/23 16:14	06/06/23 02:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*117*		*32 - 179*	*06/05/23 16:14*	*06/06/23 02:12*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*	*06/05/23 16:14*	*06/06/23 02:12*	*1*
Dibromofluoromethane (Surr)	*101*		*58 - 147*	*06/05/23 16:14*	*06/06/23 02:12*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*	*06/05/23 16:14*	*06/06/23 02:12*	*1*

Client Sample ID: SV6-10
Date Collected: 06/03/23 09:30
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-10
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.1	0.32	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
1,1,1-Trichloroethane	ND		1.1	0.26	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
1,1,2,2-Tetrachloroethane	ND		2.2	0.60	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		11	0.51	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
1,1,2-Trichloroethane	ND		1.1	0.51	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
1,1-Dichloroethane	ND		1.1	0.31	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
1,1-Dichloroethene	ND		1.1	0.29	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
1,1-Dichloropropene	ND		2.2	0.43	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
1,2,3-Trichlorobenzene	ND		2.2	0.42	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
1,2,3-Trichloropropane	ND		2.2	0.46	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
1,2,4-Trichlorobenzene	ND		2.2	0.45	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
1,2,4-Trimethylbenzene	ND		2.2	0.66	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
1,2-Dibromo-3-Chloropropane	ND		11	3.7	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
1,2-Dibromoethane	ND		1.1	0.23	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
1,2-Dichlorobenzene	ND		1.1	0.28	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
1,2-Dichloroethane	ND		1.1	0.30	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
1,2-Dichloropropane	ND		1.1	0.30	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
1,3,5-Trimethylbenzene	ND		2.2	0.30	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
1,3-Dichlorobenzene	ND		1.1	0.28	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
1,3-Dichloropropane	ND		1.1	0.33	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
1,4-Dichlorobenzene	ND		1.1	0.34	ug/Kg		06/05/23 16:14	06/06/23 02:33	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV6-10
Date Collected: 06/03/23 09:30
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-10
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,2-Dichloropropane	ND		5.5	0.30	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
2-Butanone	ND		22	5.0	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
2-Chlorotoluene	ND		1.1	0.28	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
2-Hexanone	ND		22	3.4	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
4-Chlorotoluene	ND		1.1	0.27	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
4-Methyl-2-pentanone	ND		22	3.2	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Acetone	**48**		22	11	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Benzene	ND		1.1	0.28	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Bromobenzene	ND		1.1	0.23	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Bromochloromethane	ND		2.2	0.49	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Bromodichloromethane	ND		1.1	0.36	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Bromoform	ND		5.5	1.5	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Bromomethane	ND		22	7.3	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
cis-1,2-Dichloroethene	ND		1.1	0.37	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
cis-1,3-Dichloropropene	ND		1.1	0.39	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Carbon disulfide	ND		11	0.44	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Carbon tetrachloride	ND		1.1	0.33	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Chlorobenzene	ND		1.1	0.30	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Chloroethane	ND		2.2	0.82	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Chloroform	ND		1.1	0.65	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Chloromethane	ND		22	1.7	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Dibromochloromethane	ND		2.2	0.30	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Dibromomethane	ND		1.1	0.34	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Dichlorodifluoromethane	ND		2.2	0.50	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Di-isopropyl ether (DIPE)	ND		1.1	0.55	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Ethanol	ND		280	100	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Ethylbenzene	ND		1.1	0.23	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Ethyl-t-butyl ether (ETBE)	ND		1.1	0.26	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Isopropylbenzene	ND		1.1	0.30	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Methylene Chloride	ND		11	3.5	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Methyl-t-Butyl Ether (MTBE)	ND		2.2	0.21	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Naphthalene	ND		11	4.3	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
n-Butylbenzene	ND		1.1	0.23	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
N-Propylbenzene	ND		2.2	0.29	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
o-Xylene	ND		1.1	0.28	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
m,p-Xylene	ND		2.2	0.52	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
p-Isopropyltoluene	ND		1.1	0.31	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
sec-Butylbenzene	ND		1.1	0.30	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Styrene	ND		1.1	0.35	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
trans-1,2-Dichloroethene	ND		1.1	0.33	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
trans-1,3-Dichloropropene	ND		2.2	0.31	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Tert-amyl-methyl ether (TAME)	ND		1.1	0.21	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
tert-Butyl alcohol (TBA)	ND		22	7.7	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
tert-Butylbenzene	ND		1.1	0.28	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Tetrachloroethene	ND		1.1	0.25	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Toluene	ND		1.1	0.30	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Trichloroethene	ND		2.2	0.43	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Trichlorofluoromethane	ND		11	0.30	ug/Kg		06/05/23 16:14	06/06/23 02:33	1
Vinyl acetate	ND		11	4.3	ug/Kg		06/05/23 16:14	06/06/23 02:33	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV6-10
Date Collected: 06/03/23 09:30
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-10
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		1.1	0.42	ug/Kg		06/05/23 16:14	06/06/23 02:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*117*		*32 - 179*	*06/05/23 16:14*	*06/06/23 02:33*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*	*06/05/23 16:14*	*06/06/23 02:33*	*1*
Dibromofluoromethane (Surr)	*103*		*58 - 147*	*06/05/23 16:14*	*06/06/23 02:33*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*	*06/05/23 16:14*	*06/06/23 02:33*	*1*

Client Sample ID: SV6-15
Date Collected: 06/03/23 09:37
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-11
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.2	0.35	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
1,1,1-Trichloroethane	ND		1.2	0.28	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
1,1,2,2-Tetrachloroethane	ND		2.4	0.66	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		12	0.56	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
1,1,2-Trichloroethane	ND		1.2	0.57	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
1,1-Dichloroethane	ND		1.2	0.34	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
1,1-Dichloroethene	ND		1.2	0.32	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
1,1-Dichloropropene	ND		2.4	0.47	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
1,2,3-Trichlorobenzene	ND		2.4	0.46	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
1,2,3-Trichloropropane	ND		2.4	0.51	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
1,2,4-Trichlorobenzene	ND		2.4	0.50	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
1,2,4-Trimethylbenzene	ND		2.4	0.73	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
1,2-Dibromo-3-Chloropropane	ND		12	4.1	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
1,2-Dibromoethane	ND		1.2	0.25	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
1,2-Dichlorobenzene	ND		1.2	0.31	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
1,2-Dichloroethane	ND		1.2	0.34	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
1,2-Dichloropropane	ND		1.2	0.34	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
1,3,5-Trimethylbenzene	ND		2.4	0.33	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
1,3-Dichlorobenzene	ND		1.2	0.31	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
1,3-Dichloropropane	ND		1.2	0.36	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
1,4-Dichlorobenzene	ND		1.2	0.37	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
2,2-Dichloropropane	ND		6.1	0.33	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
2-Butanone	ND		24	5.5	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
2-Chlorotoluene	ND		1.2	0.31	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
2-Hexanone	ND		24	3.7	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
4-Chlorotoluene	ND		1.2	0.29	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
4-Methyl-2-pentanone	ND		24	3.5	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Acetone	**51**		24	12	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Benzene	ND		1.2	0.31	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Bromobenzene	ND		1.2	0.25	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Bromochloromethane	ND		2.4	0.54	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Bromodichloromethane	ND		1.2	0.40	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Bromoform	ND		6.1	1.6	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Bromomethane	ND		24	8.0	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
cis-1,2-Dichloroethene	ND		1.2	0.41	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
cis-1,3-Dichloropropene	ND		1.2	0.42	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Carbon disulfide	ND		12	0.49	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Carbon tetrachloride	ND		1.2	0.36	ug/Kg		06/05/23 16:14	06/06/23 02:54	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV6-15
Date Collected: 06/03/23 09:37
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-11
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		1.2	0.33	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Chloroethane	ND		2.4	0.90	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Chloroform	ND		1.2	0.72	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Chloromethane	ND		24	1.9	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Dibromochloromethane	ND		2.4	0.33	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Dibromomethane	ND		1.2	0.37	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Dichlorodifluoromethane	ND		2.4	0.55	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Di-isopropyl ether (DIPE)	ND		1.2	0.61	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Ethanol	ND		300	110	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Ethylbenzene	ND		1.2	0.25	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Ethyl-t-butyl ether (ETBE)	ND		1.2	0.29	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Isopropylbenzene	ND		1.2	0.34	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Methylene Chloride	ND		12	3.8	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Methyl-t-Butyl Ether (MTBE)	ND		2.4	0.23	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Naphthalene	ND		12	4.8	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
n-Butylbenzene	ND		1.2	0.26	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
N-Propylbenzene	ND		2.4	0.32	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
o-Xylene	ND		1.2	0.31	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
m,p-Xylene	ND		2.4	0.58	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
p-Isopropyltoluene	ND		1.2	0.34	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
sec-Butylbenzene	ND		1.2	0.33	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Styrene	ND		1.2	0.39	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
trans-1,2-Dichloroethene	ND		1.2	0.37	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
trans-1,3-Dichloropropene	ND		2.4	0.34	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Tert-amyl-methyl ether (TAME)	ND		1.2	0.24	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
tert-Butyl alcohol (TBA)	ND		24	8.5	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
tert-Butylbenzene	ND		1.2	0.31	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Tetrachloroethene	**1.0**	**J**	1.2	0.27	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Toluene	ND		1.2	0.33	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Trichloroethene	ND		2.4	0.47	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Trichlorofluoromethane	ND		12	0.33	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Vinyl acetate	ND		12	4.8	ug/Kg		06/05/23 16:14	06/06/23 02:54	1
Vinyl chloride	ND		1.2	0.46	ug/Kg		06/05/23 16:14	06/06/23 02:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*120*		*32 - 179*	*06/05/23 16:14*	*06/06/23 02:54*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*	*06/05/23 16:14*	*06/06/23 02:54*	*1*
Dibromofluoromethane (Surr)	*109*		*58 - 147*	*06/05/23 16:14*	*06/06/23 02:54*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*	*06/05/23 16:14*	*06/06/23 02:54*	*1*

Client Sample ID: SV7-5
Date Collected: 06/03/23 10:02
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-12
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.76	0.22	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
1,1,1-Trichloroethane	ND		0.76	0.18	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
1,1,2,2-Tetrachloroethane	ND		1.5	0.41	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		7.6	0.35	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
1,1,2-Trichloroethane	ND		0.76	0.35	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
1,1-Dichloroethane	ND		0.76	0.21	ug/Kg		06/05/23 16:14	06/06/23 03:15	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV7-5
Date Collected: 06/03/23 10:02
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-12
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.76	0.20	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
1,1-Dichloropropene	ND		1.5	0.30	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
1,2,3-Trichlorobenzene	ND		1.5	0.29	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
1,2,3-Trichloropropane	ND		1.5	0.32	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
1,2,4-Trichlorobenzene	ND		1.5	0.31	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
1,2,4-Trimethylbenzene	ND		1.5	0.46	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
1,2-Dibromo-3-Chloropropane	ND		7.6	2.5	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
1,2-Dibromoethane	ND		0.76	0.16	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
1,2-Dichlorobenzene	ND		0.76	0.19	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
1,2-Dichloroethane	ND		0.76	0.21	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
1,2-Dichloropropane	ND		0.76	0.21	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
1,3,5-Trimethylbenzene	ND		1.5	0.20	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
1,3-Dichlorobenzene	ND		0.76	0.19	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
1,3-Dichloropropane	ND		0.76	0.22	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
1,4-Dichlorobenzene	ND		0.76	0.23	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
2,2-Dichloropropane	ND		3.8	0.21	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
2-Butanone	ND		15	3.4	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
2-Chlorotoluene	ND		0.76	0.19	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
2-Hexanone	ND		15	2.3	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
4-Chlorotoluene	ND		0.76	0.18	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
4-Methyl-2-pentanone	ND		15	2.2	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Acetone	**37**		15	7.5	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Benzene	ND		0.76	0.20	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Bromobenzene	ND		0.76	0.16	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Bromochloromethane	ND		1.5	0.34	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Bromodichloromethane	ND		0.76	0.25	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Bromoform	ND		3.8	1.0	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Bromomethane	ND		15	5.0	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
cis-1,2-Dichloroethene	ND		0.76	0.26	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
cis-1,3-Dichloropropene	ND		0.76	0.27	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Carbon disulfide	ND		7.6	0.30	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Carbon tetrachloride	ND		0.76	0.23	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Chlorobenzene	ND		0.76	0.20	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Chloroethane	ND		1.5	0.57	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Chloroform	ND		0.76	0.45	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Chloromethane	ND		15	1.2	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Dibromochloromethane	ND		1.5	0.21	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Dibromomethane	ND		0.76	0.23	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Dichlorodifluoromethane	ND		1.5	0.35	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Di-isopropyl ether (DIPE)	ND		0.76	0.38	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Ethanol	ND		190	70	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Ethylbenzene	ND		0.76	0.16	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Ethyl-t-butyl ether (ETBE)	ND		0.76	0.18	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Isopropylbenzene	ND		0.76	0.21	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Methylene Chloride	ND		7.6	2.4	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Methyl-t-Butyl Ether (MTBE)	ND		1.5	0.14	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Naphthalene	ND		7.6	3.0	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
n-Butylbenzene	ND		0.76	0.16	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
N-Propylbenzene	ND		1.5	0.20	ug/Kg		06/05/23 16:14	06/06/23 03:15	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV7-5
Date Collected: 06/03/23 10:02
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-12
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		0.76	0.19	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
m,p-Xylene	ND		1.5	0.36	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
p-Isopropyltoluene	ND		0.76	0.21	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
sec-Butylbenzene	ND		0.76	0.21	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Styrene	ND		0.76	0.24	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
trans-1,2-Dichloroethene	ND		0.76	0.23	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
trans-1,3-Dichloropropene	ND		1.5	0.21	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Tert-amyl-methyl ether (TAME)	ND		0.76	0.15	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
tert-Butyl alcohol (TBA)	ND		15	5.3	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
tert-Butylbenzene	ND		0.76	0.19	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Tetrachloroethene	ND		0.76	0.17	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Toluene	ND		0.76	0.20	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Trichloroethene	ND		1.5	0.29	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Trichlorofluoromethane	ND		7.6	0.21	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Vinyl acetate	ND		7.6	3.0	ug/Kg		06/05/23 16:14	06/06/23 03:15	1
Vinyl chloride	ND		0.76	0.29	ug/Kg		06/05/23 16:14	06/06/23 03:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*122*		*32 - 179*	*06/05/23 16:14*	*06/06/23 03:15*	*1*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*	*06/05/23 16:14*	*06/06/23 03:15*	*1*
Dibromofluoromethane (Surr)	*107*		*58 - 147*	*06/05/23 16:14*	*06/06/23 03:15*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*	*06/05/23 16:14*	*06/06/23 03:15*	*1*

Client Sample ID: SV7-5 DUP
Date Collected: 06/03/23 10:02
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-13
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.67	0.19	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
1,1,1-Trichloroethane	ND		0.67	0.16	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
1,1,2,2-Tetrachloroethane	ND		1.3	0.36	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		6.7	0.31	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
1,1,2-Trichloroethane	ND		0.67	0.31	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
1,1-Dichloroethane	ND		0.67	0.19	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
1,1-Dichloroethene	ND		0.67	0.18	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
1,1-Dichloropropene	ND		1.3	0.26	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
1,2,3-Trichlorobenzene	ND		1.3	0.25	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
1,2,3-Trichloropropane	ND		1.3	0.28	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
1,2,4-Trichlorobenzene	ND		1.3	0.27	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
1,2,4-Trimethylbenzene	ND		1.3	0.40	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
1,2-Dibromo-3-Chloropropane	ND		6.7	2.2	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
1,2-Dibromoethane	ND		0.67	0.14	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
1,2-Dichlorobenzene	ND		0.67	0.17	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
1,2-Dichloroethane	ND		0.67	0.18	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
1,2-Dichloropropane	ND		0.67	0.18	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
1,3,5-Trimethylbenzene	ND		1.3	0.18	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
1,3-Dichlorobenzene	ND		0.67	0.17	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
1,3-Dichloropropane	ND		0.67	0.20	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
1,4-Dichlorobenzene	ND		0.67	0.20	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
2,2-Dichloropropane	ND		3.3	0.18	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
2-Butanone	ND		13	3.0	ug/Kg		06/05/23 16:14	06/06/23 03:36	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV7-5 DUP
Date Collected: 06/03/23 10:02
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-13
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		0.67	0.17	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
2-Hexanone	ND		13	2.1	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
4-Chlorotoluene	ND		0.67	0.16	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
4-Methyl-2-pentanone	ND		13	1.9	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Acetone	**31**		13	6.6	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Benzene	ND		0.67	0.17	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Bromobenzene	ND		0.67	0.14	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Bromochloromethane	ND		1.3	0.30	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Bromodichloromethane	ND		0.67	0.22	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Bromoform	ND		3.3	0.88	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Bromomethane	ND		13	4.4	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
cis-1,2-Dichloroethene	ND		0.67	0.23	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
cis-1,3-Dichloropropene	ND		0.67	0.23	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Carbon disulfide	ND		6.7	0.27	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Carbon tetrachloride	ND		0.67	0.20	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Chlorobenzene	ND		0.67	0.18	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Chloroethane	ND		1.3	0.50	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Chloroform	ND		0.67	0.39	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Chloromethane	ND		13	1.0	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Dibromochloromethane	ND		1.3	0.18	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Dibromomethane	ND		0.67	0.20	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Dichlorodifluoromethane	ND		1.3	0.30	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Di-isopropyl ether (DIPE)	ND		0.67	0.33	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Ethanol	ND		170	61	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Ethylbenzene	ND		0.67	0.14	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Ethyl-t-butyl ether (ETBE)	ND		0.67	0.16	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Isopropylbenzene	ND		0.67	0.18	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Methylene Chloride	ND		6.7	2.1	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Methyl-t-Butyl Ether (MTBE)	ND		1.3	0.13	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Naphthalene	ND		6.7	2.6	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
n-Butylbenzene	ND		0.67	0.14	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
N-Propylbenzene	ND		1.3	0.17	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
o-Xylene	ND		0.67	0.17	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
m,p-Xylene	ND		1.3	0.32	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
p-Isopropyltoluene	ND		0.67	0.19	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
sec-Butylbenzene	ND		0.67	0.18	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Styrene	ND		0.67	0.21	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
trans-1,2-Dichloroethene	ND		0.67	0.20	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
trans-1,3-Dichloropropene	ND		1.3	0.19	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Tert-amyl-methyl ether (TAME)	ND		0.67	0.13	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
tert-Butyl alcohol (TBA)	**5.6**	**J**	13	4.7	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
tert-Butylbenzene	ND		0.67	0.17	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Tetrachloroethene	ND		0.67	0.15	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Toluene	ND		0.67	0.18	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Trichloroethene	ND		1.3	0.26	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Trichlorofluoromethane	ND		6.7	0.18	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Vinyl acetate	ND		6.7	2.6	ug/Kg		06/05/23 16:14	06/06/23 03:36	1
Vinyl chloride	ND		0.67	0.25	ug/Kg		06/05/23 16:14	06/06/23 03:36	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	121		32 - 179	06/05/23 16:14	06/06/23 03:36	1
4-Bromofluorobenzene (Surr)	103		80 - 120	06/05/23 16:14	06/06/23 03:36	1
Dibromofluoromethane (Surr)	106		58 - 147	06/05/23 16:14	06/06/23 03:36	1
Toluene-d8 (Surr)	99		80 - 120	06/05/23 16:14	06/06/23 03:36	1

Client Sample ID: SV7-10
Date Collected: 06/03/23 10:10
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-14
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.88	0.25	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
1,1,1-Trichloroethane	ND		0.88	0.20	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
1,1,2,2-Tetrachloroethane	ND		1.8	0.48	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		8.8	0.41	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
1,1,2-Trichloroethane	ND		0.88	0.41	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
1,1-Dichloroethane	ND		0.88	0.25	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
1,1-Dichloroethene	ND		0.88	0.23	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
1,1-Dichloropropene	ND		1.8	0.34	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
1,2,3-Trichlorobenzene	ND		1.8	0.33	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
1,2,3-Trichloropropane	ND		1.8	0.37	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
1,2,4-Trichlorobenzene	ND		1.8	0.36	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
1,2,4-Trimethylbenzene	ND		1.8	0.53	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
1,2-Dibromo-3-Chloropropane	ND		8.8	2.9	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
1,2-Dibromoethane	ND		0.88	0.18	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
1,2-Dichlorobenzene	ND		0.88	0.22	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
1,2-Dichloroethane	ND		0.88	0.24	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
1,2-Dichloropropane	ND		0.88	0.24	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
1,3,5-Trimethylbenzene	ND		1.8	0.23	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
1,3-Dichlorobenzene	ND		0.88	0.22	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
1,3-Dichloropropane	ND		0.88	0.26	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
1,4-Dichlorobenzene	ND		0.88	0.27	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
2,2-Dichloropropane	ND		4.4	0.24	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
2-Butanone	ND		18	4.0	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
2-Chlorotoluene	ND		0.88	0.22	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
2-Hexanone	ND		18	2.7	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
4-Chlorotoluene	ND		0.88	0.21	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
4-Methyl-2-pentanone	ND		18	2.5	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Acetone	**11**	**J**	18	8.6	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Benzene	ND		0.88	0.23	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Bromobenzene	ND		0.88	0.18	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Bromochloromethane	ND		1.8	0.39	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Bromodichloromethane	ND		0.88	0.28	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Bromoform	ND		4.4	1.2	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Bromomethane	ND		18	5.8	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
cis-1,2-Dichloroethene	ND		0.88	0.30	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
cis-1,3-Dichloropropene	ND		0.88	0.31	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Carbon disulfide	ND		8.8	0.35	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Carbon tetrachloride	ND		0.88	0.26	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Chlorobenzene	ND		0.88	0.23	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Chloroethane	ND		1.8	0.65	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Chloroform	ND		0.88	0.52	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Chloromethane	ND		18	1.3	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Dibromochloromethane	ND		1.8	0.24	ug/Kg		06/05/23 16:14	06/06/23 03:58	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV7-10
Date Collected: 06/03/23 10:10
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-14
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	ND		0.88	0.27	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Dichlorodifluoromethane	ND		1.8	0.40	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Di-isopropyl ether (DIPE)	ND		0.88	0.44	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Ethanol	ND		220	81	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Ethylbenzene	ND		0.88	0.18	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Ethyl-t-butyl ether (ETBE)	ND		0.88	0.21	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Isopropylbenzene	ND		0.88	0.24	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Methylene Chloride	ND		8.8	2.7	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Methyl-t-Butyl Ether (MTBE)	ND		1.8	0.16	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Naphthalene	ND		8.8	3.4	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
n-Butylbenzene	ND		0.88	0.18	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
N-Propylbenzene	ND		1.8	0.23	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
o-Xylene	ND		0.88	0.22	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
m,p-Xylene	ND		1.8	0.41	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
p-Isopropyltoluene	ND		0.88	0.25	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
sec-Butylbenzene	ND		0.88	0.24	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Styrene	ND		0.88	0.28	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
trans-1,2-Dichloroethene	ND		0.88	0.26	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
trans-1,3-Dichloropropene	ND		1.8	0.24	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Tert-amyl-methyl ether (TAME)	ND		0.88	0.17	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
tert-Butyl alcohol (TBA)	ND		18	6.1	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
tert-Butylbenzene	ND		0.88	0.22	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Tetrachloroethene	**1.2**		0.88	0.20	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Toluene	ND		0.88	0.24	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Trichloroethene	ND		1.8	0.34	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Trichlorofluoromethane	ND		8.8	0.24	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Vinyl acetate	ND		8.8	3.4	ug/Kg		06/05/23 16:14	06/06/23 03:58	1
Vinyl chloride	ND		0.88	0.33	ug/Kg		06/05/23 16:14	06/06/23 03:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*118*		*32 - 179*	*06/05/23 16:14*	*06/06/23 03:58*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*	*06/05/23 16:14*	*06/06/23 03:58*	*1*
Dibromofluoromethane (Surr)	*102*		*58 - 147*	*06/05/23 16:14*	*06/06/23 03:58*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*	*06/05/23 16:14*	*06/06/23 03:58*	*1*

Client Sample ID: SV7-10 DUP
Date Collected: 06/03/23 10:10
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-15
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.88	0.26	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
1,1,1-Trichloroethane	ND		0.88	0.21	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
1,1,2,2-Tetrachloroethane	ND		1.8	0.48	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		8.8	0.41	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
1,1,2-Trichloroethane	ND		0.88	0.41	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
1,1-Dichloroethane	ND		0.88	0.25	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
1,1-Dichloroethene	ND		0.88	0.23	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
1,1-Dichloropropene	ND		1.8	0.34	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
1,2,3-Trichlorobenzene	ND		1.8	0.33	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
1,2,3-Trichloropropane	ND		1.8	0.37	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
1,2,4-Trichlorobenzene	ND		1.8	0.36	ug/Kg		06/05/23 16:14	06/05/23 23:57	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV7-10 DUP
Date Collected: 06/03/23 10:10
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-15
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		1.8	0.53	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
1,2-Dibromo-3-Chloropropane	ND		8.8	2.9	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
1,2-Dibromoethane	ND		0.88	0.18	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
1,2-Dichlorobenzene	ND		0.88	0.22	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
1,2-Dichloroethane	ND		0.88	0.24	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
1,2-Dichloropropane	ND		0.88	0.24	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
1,3,5-Trimethylbenzene	ND		1.8	0.24	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
1,3-Dichlorobenzene	ND		0.88	0.22	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
1,3-Dichloropropane	ND		0.88	0.26	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
1,4-Dichlorobenzene	ND		0.88	0.27	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
2,2-Dichloropropane	ND		4.4	0.24	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
2-Butanone	ND		18	4.0	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
2-Chlorotoluene	ND		0.88	0.22	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
2-Hexanone	ND		18	2.7	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
4-Chlorotoluene	ND		0.88	0.21	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
4-Methyl-2-pentanone	ND		18	2.6	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Acetone	**33**		18	8.7	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Benzene	ND		0.88	0.23	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Bromobenzene	ND		0.88	0.18	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Bromochloromethane	ND		1.8	0.39	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Bromodichloromethane	ND		0.88	0.29	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Bromoform	ND		4.4	1.2	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Bromomethane	ND		18	5.8	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
cis-1,2-Dichloroethene	ND		0.88	0.30	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
cis-1,3-Dichloropropene	ND		0.88	0.31	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Carbon disulfide	ND		8.8	0.35	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Carbon tetrachloride	ND		0.88	0.26	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Chlorobenzene	ND		0.88	0.24	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Chloroethane	ND		1.8	0.65	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Chloroform	ND		0.88	0.52	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Chloromethane	ND		18	1.4	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Dibromochloromethane	ND		1.8	0.24	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Dibromomethane	ND		0.88	0.27	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Dichlorodifluoromethane	ND		1.8	0.40	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Di-isopropyl ether (DIPE)	ND		0.88	0.44	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Ethanol	ND		220	81	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Ethylbenzene	ND		0.88	0.18	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Ethyl-t-butyl ether (ETBE)	ND		0.88	0.21	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Isopropylbenzene	ND		0.88	0.24	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Methylene Chloride	ND		8.8	2.8	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Methyl-t-Butyl Ether (MTBE)	ND		1.8	0.17	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Naphthalene	ND		8.8	3.5	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
n-Butylbenzene	ND		0.88	0.19	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
N-Propylbenzene	ND		1.8	0.23	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
o-Xylene	ND		0.88	0.22	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
m,p-Xylene	ND		1.8	0.42	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
p-Isopropyltoluene	ND		0.88	0.25	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
sec-Butylbenzene	ND		0.88	0.24	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Styrene	ND		0.88	0.28	ug/Kg		06/05/23 16:14	06/05/23 23:57	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV7-10 DUP
Date Collected: 06/03/23 10:10
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-15
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		0.88	0.26	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
trans-1,3-Dichloropropene	ND		1.8	0.25	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Tert-amyl-methyl ether (TAME)	ND		0.88	0.17	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
tert-Butyl alcohol (TBA)	ND		18	6.2	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
tert-Butylbenzene	ND		0.88	0.22	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Tetrachloroethene	**0.74**	**J**	0.88	0.20	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Toluene	ND		0.88	0.24	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Trichloroethene	ND		1.8	0.34	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Trichlorofluoromethane	ND		8.8	0.24	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Vinyl acetate	ND		8.8	3.4	ug/Kg		06/05/23 16:14	06/05/23 23:57	1
Vinyl chloride	ND		0.88	0.33	ug/Kg		06/05/23 16:14	06/05/23 23:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*119*		*32 - 179*	*06/05/23 16:14*	*06/05/23 23:57*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*	*06/05/23 16:14*	*06/05/23 23:57*	*1*
Dibromofluoromethane (Surr)	*105*		*58 - 147*	*06/05/23 16:14*	*06/05/23 23:57*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*	*06/05/23 16:14*	*06/05/23 23:57*	*1*

Client Sample ID: SV7-15
Date Collected: 06/03/23 10:12
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-16
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.3	0.38	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
1,1,1-Trichloroethane	ND		1.3	0.31	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
1,1,2,2-Tetrachloroethane	ND		2.6	0.72	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		13	0.61	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
1,1,2-Trichloroethane	ND		1.3	0.61	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
1,1-Dichloroethane	ND		1.3	0.37	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
1,1-Dichloroethene	ND		1.3	0.35	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
1,1-Dichloropropene	ND		2.6	0.51	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
1,2,3-Trichlorobenzene	ND		2.6	0.50	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
1,2,3-Trichloropropane	ND		2.6	0.55	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
1,2,4-Trichlorobenzene	ND		2.6	0.54	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
1,2,4-Trimethylbenzene	ND		2.6	0.79	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
1,2-Dibromo-3-Chloropropane	ND		13	4.4	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
1,2-Dibromoethane	ND		1.3	0.27	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
1,2-Dichlorobenzene	ND		1.3	0.33	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
1,2-Dichloroethane	ND		1.3	0.36	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
1,2-Dichloropropane	ND		1.3	0.36	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
1,3,5-Trimethylbenzene	ND		2.6	0.35	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
1,3-Dichlorobenzene	ND		1.3	0.33	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
1,3-Dichloropropane	ND		1.3	0.39	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
1,4-Dichlorobenzene	ND		1.3	0.41	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
2,2-Dichloropropane	ND		6.6	0.36	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
2-Butanone	ND		26	6.0	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
2-Chlorotoluene	ND		1.3	0.33	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
2-Hexanone	ND		26	4.1	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
4-Chlorotoluene	ND		1.3	0.32	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
4-Methyl-2-pentanone	ND		26	3.8	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Acetone	**26**		26	13	ug/Kg		06/05/23 16:14	06/06/23 00:18	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV7-15
Date Collected: 06/03/23 10:12
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-16
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.3	0.34	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Bromobenzene	ND		1.3	0.28	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Bromochloromethane	ND		2.6	0.59	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Bromodichloromethane	ND		1.3	0.43	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Bromoform	ND		6.6	1.7	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Bromomethane	ND		26	8.7	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
cis-1,2-Dichloroethene	ND		1.3	0.45	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
cis-1,3-Dichloropropene	ND		1.3	0.46	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Carbon disulfide	ND		13	0.53	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Carbon tetrachloride	ND		1.3	0.40	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Chlorobenzene	ND		1.3	0.35	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Chloroethane	ND		2.6	0.98	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Chloroform	ND		1.3	0.78	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Chloromethane	ND		26	2.0	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Dibromochloromethane	ND		2.6	0.36	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Dibromomethane	ND		1.3	0.40	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Dichlorodifluoromethane	ND		2.6	0.60	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Di-isopropyl ether (DIPE)	ND		1.3	0.66	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Ethanol	ND		330	120	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Ethylbenzene	ND		1.3	0.27	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Ethyl-t-butyl ether (ETBE)	ND		1.3	0.31	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Isopropylbenzene	ND		1.3	0.36	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Methylene Chloride	ND		13	4.1	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Methyl-t-Butyl Ether (MTBE)	ND		2.6	0.25	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Naphthalene	ND		13	5.2	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
n-Butylbenzene	ND		1.3	0.28	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
N-Propylbenzene	ND		2.6	0.34	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
o-Xylene	ND		1.3	0.34	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
m,p-Xylene	ND		2.6	0.63	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
p-Isopropyltoluene	ND		1.3	0.37	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
sec-Butylbenzene	ND		1.3	0.36	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Styrene	ND		1.3	0.42	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
trans-1,2-Dichloroethene	ND		1.3	0.40	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
trans-1,3-Dichloropropene	ND		2.6	0.37	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Tert-amyl-methyl ether (TAME)	ND		1.3	0.26	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
tert-Butyl alcohol (TBA)	ND		26	9.2	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
tert-Butylbenzene	ND		1.3	0.34	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Tetrachloroethene	**4.1**		1.3	0.30	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Toluene	ND		1.3	0.36	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Trichloroethene	ND		2.6	0.51	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Trichlorofluoromethane	ND		13	0.36	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Vinyl acetate	ND		13	5.2	ug/Kg		06/05/23 16:14	06/06/23 00:18	1
Vinyl chloride	ND		1.3	0.50	ug/Kg		06/05/23 16:14	06/06/23 00:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*121*		*32 - 179*	*06/05/23 16:14*	*06/06/23 00:18*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*	*06/05/23 16:14*	*06/06/23 00:18*	*1*
Dibromofluoromethane (Surr)	*105*		*58 - 147*	*06/05/23 16:14*	*06/06/23 00:18*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*	*06/05/23 16:14*	*06/06/23 00:18*	*1*

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS)

Client Sample ID: SV7-15 DUP
Date Collected: 06/03/23 10:12
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-17
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.4	0.40	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
1,1,1-Trichloroethane	ND		1.4	0.32	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
1,1,2,2-Tetrachloroethane	ND		2.7	0.74	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		14	0.63	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
1,1,2-Trichloroethane	ND		1.4	0.63	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
1,1-Dichloroethane	ND		1.4	0.38	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
1,1-Dichloroethene	ND		1.4	0.36	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
1,1-Dichloropropene	ND		2.7	0.53	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
1,2,3-Trichlorobenzene	ND		2.7	0.51	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
1,2,3-Trichloropropane	ND		2.7	0.57	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
1,2,4-Trichlorobenzene	ND		2.7	0.56	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
1,2,4-Trimethylbenzene	ND		2.7	0.82	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
1,2-Dibromo-3-Chloropropane	ND		14	4.5	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
1,2-Dibromoethane	ND		1.4	0.28	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
1,2-Dichlorobenzene	ND		1.4	0.34	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
1,2-Dichloroethane	ND		1.4	0.38	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
1,2-Dichloropropane	ND		1.4	0.37	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
1,3,5-Trimethylbenzene	ND		2.7	0.36	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
1,3-Dichlorobenzene	ND		1.4	0.34	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
1,3-Dichloropropane	ND		1.4	0.40	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
1,4-Dichlorobenzene	ND		1.4	0.42	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
2,2-Dichloropropane	ND		6.8	0.37	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
2-Butanone	ND		27	6.1	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
2-Chlorotoluene	ND		1.4	0.34	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
2-Hexanone	ND		27	4.2	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
4-Chlorotoluene	ND		1.4	0.33	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
4-Methyl-2-pentanone	ND		27	4.0	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Acetone	**50**		27	13	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Benzene	ND		1.4	0.35	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Bromobenzene	ND		1.4	0.28	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Bromochloromethane	ND		2.7	0.61	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Bromodichloromethane	ND		1.4	0.44	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Bromoform	ND		6.8	1.8	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Bromomethane	ND		27	8.9	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
cis-1,2-Dichloroethene	ND		1.4	0.46	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
cis-1,3-Dichloropropene	ND		1.4	0.47	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Carbon disulfide	ND		14	0.54	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Carbon tetrachloride	ND		1.4	0.41	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Chlorobenzene	ND		1.4	0.36	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Chloroethane	ND		2.7	1.0	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Chloroform	ND		1.4	0.80	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Chloromethane	ND		27	2.1	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Dibromochloromethane	ND		2.7	0.37	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Dibromomethane	ND		1.4	0.42	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Dichlorodifluoromethane	ND		2.7	0.62	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Di-isopropyl ether (DIPE)	ND		1.4	0.68	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Ethanol	ND		340	130	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Ethylbenzene	ND		1.4	0.28	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Ethyl-t-butyl ether (ETBE)	ND		1.4	0.32	ug/Kg		06/05/23 16:14	06/06/23 00:40	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV7-15 DUP
Date Collected: 06/03/23 10:12
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-17
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		1.4	0.38	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Methylene Chloride	ND		14	4.3	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Methyl-t-Butyl Ether (MTBE)	ND		2.7	0.26	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Naphthalene	ND		14	5.3	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
n-Butylbenzene	ND		1.4	0.29	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
N-Propylbenzene	ND		2.7	0.35	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
o-Xylene	ND		1.4	0.35	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
m,p-Xylene	ND		2.7	0.64	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
p-Isopropyltoluene	ND		1.4	0.38	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
sec-Butylbenzene	ND		1.4	0.37	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Styrene	ND		1.4	0.43	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
trans-1,2-Dichloroethene	ND		1.4	0.41	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
trans-1,3-Dichloropropene	ND		2.7	0.38	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Tert-amyl-methyl ether (TAME)	ND		1.4	0.26	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
tert-Butyl alcohol (TBA)	ND		27	9.5	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
tert-Butylbenzene	ND		1.4	0.35	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Tetrachloroethene	**4.6**		1.4	0.30	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Toluene	ND		1.4	0.37	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Trichloroethene	ND		2.7	0.53	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Trichlorofluoromethane	ND		14	0.37	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Vinyl acetate	ND		14	5.3	ug/Kg		06/05/23 16:14	06/06/23 00:40	1
Vinyl chloride	ND		1.4	0.51	ug/Kg		06/05/23 16:14	06/06/23 00:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*123*		*32 - 179*	*06/05/23 16:14*	*06/06/23 00:40*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*	*06/05/23 16:14*	*06/06/23 00:40*	*1*
Dibromofluoromethane (Surr)	*106*		*58 - 147*	*06/05/23 16:14*	*06/06/23 00:40*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*	*06/05/23 16:14*	*06/06/23 00:40*	*1*

Client Sample ID: SV8-5
Date Collected: 06/03/23 10:40
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-18
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.91	0.26	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
1,1,1-Trichloroethane	ND		0.91	0.21	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
1,1,2,2-Tetrachloroethane	ND		1.8	0.49	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		9.1	0.42	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
1,1,2-Trichloroethane	ND		0.91	0.42	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
1,1-Dichloroethane	ND		0.91	0.25	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
1,1-Dichloroethene	ND		0.91	0.24	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
1,1-Dichloropropene	ND		1.8	0.35	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
1,2,3-Trichlorobenzene	ND		1.8	0.34	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
1,2,3-Trichloropropane	ND		1.8	0.38	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
1,2,4-Trichlorobenzene	ND		1.8	0.37	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
1,2,4-Trimethylbenzene	ND		1.8	0.54	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
1,2-Dibromo-3-Chloropropane	ND		9.1	3.0	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
1,2-Dibromoethane	ND		0.91	0.19	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
1,2-Dichlorobenzene	ND		0.91	0.23	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
1,2-Dichloroethane	ND		0.91	0.25	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
1,2-Dichloropropane	ND		0.91	0.25	ug/Kg		06/05/23 16:14	06/06/23 01:02	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV8-5
Date Collected: 06/03/23 10:40
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-18
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		1.8	0.24	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
1,3-Dichlorobenzene	ND		0.91	0.23	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
1,3-Dichloropropane	ND		0.91	0.27	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
1,4-Dichlorobenzene	ND		0.91	0.28	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
2,2-Dichloropropane	ND		4.5	0.25	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
2-Butanone	**7.5**	**J**	18	4.1	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
2-Chlorotoluene	ND		0.91	0.23	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
2-Hexanone	ND		18	2.8	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
4-Chlorotoluene	ND		0.91	0.22	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
4-Methyl-2-pentanone	ND		18	2.6	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Acetone	**69**		18	8.9	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Benzene	**0.25**	**J**	0.91	0.23	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Bromobenzene	ND		0.91	0.19	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Bromochloromethane	ND		1.8	0.40	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Bromodichloromethane	ND		0.91	0.29	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Bromoform	ND		4.5	1.2	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Bromomethane	ND		18	6.0	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
cis-1,2-Dichloroethene	ND		0.91	0.31	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
cis-1,3-Dichloropropene	ND		0.91	0.32	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Carbon disulfide	ND		9.1	0.36	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Carbon tetrachloride	ND		0.91	0.27	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Chlorobenzene	ND		0.91	0.24	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Chloroethane	ND		1.8	0.67	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Chloroform	ND		0.91	0.53	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Chloromethane	ND		18	1.4	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Dibromochloromethane	ND		1.8	0.25	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Dibromomethane	ND		0.91	0.28	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Dichlorodifluoromethane	ND		1.8	0.41	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Di-isopropyl ether (DIPE)	ND		0.91	0.45	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Ethanol	ND		230	84	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Ethylbenzene	ND		0.91	0.19	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Ethyl-t-butyl ether (ETBE)	ND		0.91	0.21	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Isopropylbenzene	ND		0.91	0.25	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Methylene Chloride	ND		9.1	2.8	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Methyl-t-Butyl Ether (MTBE)	ND		1.8	0.17	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Naphthalene	ND		9.1	3.6	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
n-Butylbenzene	ND		0.91	0.19	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
N-Propylbenzene	ND		1.8	0.24	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
o-Xylene	ND		0.91	0.23	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
m,p-Xylene	ND		1.8	0.43	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
p-Isopropyltoluene	ND		0.91	0.26	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
sec-Butylbenzene	ND		0.91	0.25	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Styrene	ND		0.91	0.29	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
trans-1,2-Dichloroethene	ND		0.91	0.27	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
trans-1,3-Dichloropropene	ND		1.8	0.25	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Tert-amyl-methyl ether (TAME)	ND		0.91	0.18	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
tert-Butyl alcohol (TBA)	ND		18	6.3	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
tert-Butylbenzene	ND		0.91	0.23	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Tetrachloroethene	**0.29**	**J**	0.91	0.20	ug/Kg		06/05/23 16:14	06/06/23 01:02	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV8-5
Date Collected: 06/03/23 10:40
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-18
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		0.91	0.24	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Trichloroethene	ND		1.8	0.35	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Trichlorofluoromethane	ND		9.1	0.25	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Vinyl acetate	ND		9.1	3.6	ug/Kg		06/05/23 16:14	06/06/23 01:02	1
Vinyl chloride	ND		0.91	0.34	ug/Kg		06/05/23 16:14	06/06/23 01:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*123*		*32 - 179*	*06/05/23 16:14*	*06/06/23 01:02*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*	*06/05/23 16:14*	*06/06/23 01:02*	*1*
Dibromofluoromethane (Surr)	*109*		*58 - 147*	*06/05/23 16:14*	*06/06/23 01:02*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*	*06/05/23 16:14*	*06/06/23 01:02*	*1*

Client Sample ID: SV8-10
Date Collected: 06/03/23 10:45
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-19
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.73	0.21	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
1,1,1-Trichloroethane	ND		0.73	0.17	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
1,1,2,2-Tetrachloroethane	ND		1.5	0.40	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		7.3	0.34	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
1,1,2-Trichloroethane	ND		0.73	0.34	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
1,1-Dichloroethane	ND		0.73	0.20	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
1,1-Dichloroethene	ND		0.73	0.19	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
1,1-Dichloropropene	ND		1.5	0.28	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
1,2,3-Trichlorobenzene	ND		1.5	0.27	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
1,2,3-Trichloropropane	ND		1.5	0.30	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
1,2,4-Trichlorobenzene	ND		1.5	0.30	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
1,2,4-Trimethylbenzene	ND		1.5	0.44	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
1,2-Dibromo-3-Chloropropane	ND		7.3	2.4	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
1,2-Dibromoethane	ND		0.73	0.15	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
1,2-Dichlorobenzene	ND		0.73	0.18	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
1,2-Dichloroethane	ND		0.73	0.20	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
1,2-Dichloropropane	ND		0.73	0.20	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
1,3,5-Trimethylbenzene	ND		1.5	0.19	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
1,3-Dichlorobenzene	ND		0.73	0.18	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
1,3-Dichloropropane	ND		0.73	0.21	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
1,4-Dichlorobenzene	ND		0.73	0.22	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
2,2-Dichloropropane	ND		3.6	0.20	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
2-Butanone	ND		15	3.3	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
2-Chlorotoluene	ND		0.73	0.18	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
2-Hexanone	ND		15	2.2	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
4-Chlorotoluene	ND		0.73	0.18	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
4-Methyl-2-pentanone	ND		15	2.1	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Acetone	**19**		15	7.1	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Benzene	ND		0.73	0.19	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Bromobenzene	ND		0.73	0.15	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Bromochloromethane	ND		1.5	0.32	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Bromodichloromethane	ND		0.73	0.24	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Bromoform	ND		3.6	0.96	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Bromomethane	ND		15	4.8	ug/Kg		06/05/23 16:14	06/06/23 01:24	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV8-10
Date Collected: 06/03/23 10:45
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-19
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		0.73	0.25	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
cis-1,3-Dichloropropene	ND		0.73	0.25	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Carbon disulfide	ND		7.3	0.29	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Carbon tetrachloride	ND		0.73	0.22	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Chlorobenzene	ND		0.73	0.19	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Chloroethane	ND		1.5	0.54	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Chloroform	ND		0.73	0.43	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Chloromethane	ND		15	1.1	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Dibromochloromethane	ND		1.5	0.20	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Dibromomethane	ND		0.73	0.22	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Dichlorodifluoromethane	ND		1.5	0.33	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Di-isopropyl ether (DIPE)	ND		0.73	0.36	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Ethanol	ND		180	67	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Ethylbenzene	ND		0.73	0.15	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Ethyl-t-butyl ether (ETBE)	ND		0.73	0.17	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Isopropylbenzene	ND		0.73	0.20	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Methylene Chloride	ND		7.3	2.3	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Methyl-t-Butyl Ether (MTBE)	ND		1.5	0.14	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Naphthalene	ND		7.3	2.9	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
n-Butylbenzene	ND		0.73	0.15	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
N-Propylbenzene	ND		1.5	0.19	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
o-Xylene	ND		0.73	0.19	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
m,p-Xylene	ND		1.5	0.34	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
p-Isopropyltoluene	ND		0.73	0.21	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
sec-Butylbenzene	ND		0.73	0.20	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Styrene	ND		0.73	0.23	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
trans-1,2-Dichloroethene	ND		0.73	0.22	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
trans-1,3-Dichloropropene	ND		1.5	0.20	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Tert-amyl-methyl ether (TAME)	ND		0.73	0.14	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
tert-Butyl alcohol (TBA)	ND		15	5.1	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
tert-Butylbenzene	ND		0.73	0.18	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Tetrachloroethene	**1.2**		0.73	0.16	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Toluene	ND		0.73	0.20	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Trichloroethene	ND		1.5	0.28	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Trichlorofluoromethane	ND		7.3	0.20	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Vinyl acetate	ND		7.3	2.8	ug/Kg		06/05/23 16:14	06/06/23 01:24	1
Vinyl chloride	ND		0.73	0.28	ug/Kg		06/05/23 16:14	06/06/23 01:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*130*		*32 - 179*	*06/05/23 16:14*	*06/06/23 01:24*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*	*06/05/23 16:14*	*06/06/23 01:24*	*1*
Dibromofluoromethane (Surr)	*110*		*58 - 147*	*06/05/23 16:14*	*06/06/23 01:24*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*	*06/05/23 16:14*	*06/06/23 01:24*	*1*

Client Sample ID: SV8-15
Date Collected: 06/03/23 10:49
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-20
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.4	0.39	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
1,1,1-Trichloroethane	ND		1.4	0.32	ug/Kg		06/05/23 16:14	06/06/23 01:46	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV8-15
Date Collected: 06/03/23 10:49
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-20
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		2.7	0.74	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		14	0.63	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
1,1,2-Trichloroethane	ND		1.4	0.63	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
1,1-Dichloroethane	ND		1.4	0.38	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
1,1-Dichloroethene	ND		1.4	0.36	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
1,1-Dichloropropene	ND		2.7	0.53	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
1,2,3-Trichlorobenzene	ND		2.7	0.51	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
1,2,3-Trichloropropane	ND		2.7	0.57	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
1,2,4-Trichlorobenzene	ND		2.7	0.56	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
1,2,4-Trimethylbenzene	ND		2.7	0.81	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
1,2-Dibromo-3-Chloropropane	ND		14	4.5	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
1,2-Dibromoethane	ND		1.4	0.28	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
1,2-Dichlorobenzene	ND		1.4	0.34	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
1,2-Dichloroethane	ND		1.4	0.37	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
1,2-Dichloropropane	ND		1.4	0.37	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
1,3,5-Trimethylbenzene	ND		2.7	0.36	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
1,3-Dichlorobenzene	ND		1.4	0.34	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
1,3-Dichloropropane	ND		1.4	0.40	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
1,4-Dichlorobenzene	ND		1.4	0.42	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
2,2-Dichloropropane	ND		6.8	0.37	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
2-Butanone	ND		27	6.1	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
2-Chlorotoluene	ND		1.4	0.34	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
2-Hexanone	ND		27	4.2	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
4-Chlorotoluene	ND		1.4	0.33	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
4-Methyl-2-pentanone	ND		27	3.9	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Acetone	**48**		27	13	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Benzene	ND		1.4	0.35	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Bromobenzene	ND		1.4	0.28	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Bromochloromethane	ND		2.7	0.60	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Bromodichloromethane	ND		1.4	0.44	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Bromoform	ND		6.8	1.8	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Bromomethane	ND		27	8.9	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
cis-1,2-Dichloroethene	ND		1.4	0.46	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
cis-1,3-Dichloropropene	ND		1.4	0.47	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Carbon disulfide	ND		14	0.54	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Carbon tetrachloride	ND		1.4	0.41	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Chlorobenzene	ND		1.4	0.36	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Chloroethane	ND		2.7	1.0	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Chloroform	ND		1.4	0.80	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Chloromethane	ND		27	2.1	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Dibromochloromethane	ND		2.7	0.37	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Dibromomethane	ND		1.4	0.41	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Dichlorodifluoromethane	ND		2.7	0.62	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Di-isopropyl ether (DIPE)	ND		1.4	0.68	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Ethanol	ND		340	120	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Ethylbenzene	ND		1.4	0.28	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Ethyl-t-butyl ether (ETBE)	ND		1.4	0.32	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Isopropylbenzene	ND		1.4	0.37	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Methylene Chloride	ND		14	4.2	ug/Kg		06/05/23 16:14	06/06/23 01:46	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV8-15
Date Collected: 06/03/23 10:49
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-20
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl-t-Butyl Ether (MTBE)	ND		2.7	0.25	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Naphthalene	ND		14	5.3	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
n-Butylbenzene	ND		1.4	0.29	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
N-Propylbenzene	ND		2.7	0.35	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
o-Xylene	ND		1.4	0.35	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
m,p-Xylene	ND		2.7	0.64	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
p-Isopropyltoluene	ND		1.4	0.38	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
sec-Butylbenzene	ND		1.4	0.37	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Styrene	ND		1.4	0.43	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
trans-1,2-Dichloroethene	ND		1.4	0.41	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
trans-1,3-Dichloropropene	ND		2.7	0.38	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Tert-amyl-methyl ether (TAME)	ND		1.4	0.26	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
tert-Butyl alcohol (TBA)	ND		27	9.5	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
tert-Butylbenzene	ND		1.4	0.35	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Tetrachloroethene	**9.3**		1.4	0.30	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Toluene	ND		1.4	0.36	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Trichloroethene	ND		2.7	0.52	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Trichlorofluoromethane	ND		14	0.37	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Vinyl acetate	ND		14	5.3	ug/Kg		06/05/23 16:14	06/06/23 01:46	1
Vinyl chloride	ND		1.4	0.51	ug/Kg		06/05/23 16:14	06/06/23 01:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*125*		*32 - 179*	*06/05/23 16:14*	*06/06/23 01:46*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*	*06/05/23 16:14*	*06/06/23 01:46*	*1*
Dibromofluoromethane (Surr)	*107*		*58 - 147*	*06/05/23 16:14*	*06/06/23 01:46*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*	*06/05/23 16:14*	*06/06/23 01:46*	*1*

Client Sample ID: SV9-5
Date Collected: 06/03/23 11:18
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-21
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.88	0.26	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
1,1,1-Trichloroethane	ND		0.88	0.20	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
1,1,2,2-Tetrachloroethane	ND		1.8	0.48	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		8.8	0.41	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
1,1,2-Trichloroethane	ND		0.88	0.41	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
1,1-Dichloroethane	ND		0.88	0.25	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
1,1-Dichloroethene	ND		0.88	0.23	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
1,1-Dichloropropene	ND		1.8	0.34	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
1,2,3-Trichlorobenzene	ND		1.8	0.33	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
1,2,3-Trichloropropane	ND		1.8	0.37	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
1,2,4-Trichlorobenzene	ND		1.8	0.36	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
1,2,4-Trimethylbenzene	ND		1.8	0.53	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
1,2-Dibromo-3-Chloropropane	ND		8.8	2.9	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
1,2-Dibromoethane	ND		0.88	0.18	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
1,2-Dichlorobenzene	ND		0.88	0.22	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
1,2-Dichloroethane	ND		0.88	0.24	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
1,2-Dichloropropane	ND		0.88	0.24	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
1,3,5-Trimethylbenzene	ND		1.8	0.23	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
1,3-Dichlorobenzene	ND		0.88	0.22	ug/Kg		06/05/23 16:14	06/06/23 02:07	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV9-5
Date Collected: 06/03/23 11:18
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-21
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichloropropane	ND		0.88	0.26	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
1,4-Dichlorobenzene	ND		0.88	0.27	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
2,2-Dichloropropane	ND		4.4	0.24	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
2-Butanone	ND		18	4.0	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
2-Chlorotoluene	ND		0.88	0.22	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
2-Hexanone	ND		18	2.7	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
4-Chlorotoluene	ND		0.88	0.21	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
4-Methyl-2-pentanone	ND		18	2.6	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Acetone	**21**		18	8.6	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Benzene	ND		0.88	0.23	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Bromobenzene	ND		0.88	0.18	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Bromochloromethane	ND		1.8	0.39	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Bromodichloromethane	ND		0.88	0.29	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Bromoform	ND		4.4	1.2	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Bromomethane	ND		18	5.8	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
cis-1,2-Dichloroethene	ND		0.88	0.30	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
cis-1,3-Dichloropropene	ND		0.88	0.31	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Carbon disulfide	ND		8.8	0.35	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Carbon tetrachloride	ND		0.88	0.26	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Chlorobenzene	ND		0.88	0.23	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Chloroethane	ND		1.8	0.65	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Chloroform	ND		0.88	0.52	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Chloromethane	ND		18	1.3	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Dibromochloromethane	ND		1.8	0.24	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Dibromomethane	ND		0.88	0.27	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Dichlorodifluoromethane	ND		1.8	0.40	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Di-isopropyl ether (DIPE)	ND		0.88	0.44	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Ethanol	ND		220	81	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Ethylbenzene	ND		0.88	0.18	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Ethyl-t-butyl ether (ETBE)	ND		0.88	0.21	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Isopropylbenzene	ND		0.88	0.24	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Methylene Chloride	ND		8.8	2.7	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Methyl-t-Butyl Ether (MTBE)	ND		1.8	0.16	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Naphthalene	ND		8.8	3.4	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
n-Butylbenzene	ND		0.88	0.18	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
N-Propylbenzene	ND		1.8	0.23	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
o-Xylene	ND		0.88	0.22	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
m,p-Xylene	ND		1.8	0.42	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
p-Isopropyltoluene	ND		0.88	0.25	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
sec-Butylbenzene	ND		0.88	0.24	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Styrene	ND		0.88	0.28	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
trans-1,2-Dichloroethene	ND		0.88	0.26	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
trans-1,3-Dichloropropene	ND		1.8	0.25	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Tert-amyl-methyl ether (TAME)	ND		0.88	0.17	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
tert-Butyl alcohol (TBA)	ND		18	6.1	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
tert-Butylbenzene	ND		0.88	0.22	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Tetrachloroethene	ND		0.88	0.20	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Toluene	ND		0.88	0.24	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Trichloroethene	ND		1.8	0.34	ug/Kg		06/05/23 16:14	06/06/23 02:07	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV9-5
Date Collected: 06/03/23 11:18
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-21
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		8.8	0.24	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Vinyl acetate	ND		8.8	3.4	ug/Kg		06/05/23 16:14	06/06/23 02:07	1
Vinyl chloride	ND		0.88	0.33	ug/Kg		06/05/23 16:14	06/06/23 02:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*125*		*32 - 179*	*06/05/23 16:14*	*06/06/23 02:07*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*	*06/05/23 16:14*	*06/06/23 02:07*	*1*
Dibromofluoromethane (Surr)	*108*		*58 - 147*	*06/05/23 16:14*	*06/06/23 02:07*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*	*06/05/23 16:14*	*06/06/23 02:07*	*1*

Client Sample ID: SV9-10
Date Collected: 06/03/23 11:22
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-22
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.96	0.28	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
1,1,1-Trichloroethane	ND		0.96	0.22	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
1,1,2,2-Tetrachloroethane	ND		1.9	0.52	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		9.6	0.44	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
1,1,2-Trichloroethane	ND		0.96	0.45	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
1,1-Dichloroethane	ND		0.96	0.27	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
1,1-Dichloroethene	ND		0.96	0.26	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
1,1-Dichloropropene	ND		1.9	0.37	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
1,2,3-Trichlorobenzene	ND		1.9	0.36	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
1,2,3-Trichloropropane	ND		1.9	0.40	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
1,2,4-Trichlorobenzene	ND		1.9	0.39	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
1,2,4-Trimethylbenzene	ND		1.9	0.58	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
1,2-Dibromo-3-Chloropropane	ND		9.6	3.2	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
1,2-Dibromoethane	ND		0.96	0.20	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
1,2-Dichlorobenzene	ND		0.96	0.24	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
1,2-Dichloroethane	ND		0.96	0.27	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
1,2-Dichloropropane	ND		0.96	0.27	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
1,3,5-Trimethylbenzene	ND		1.9	0.26	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
1,3-Dichlorobenzene	ND		0.96	0.24	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
1,3-Dichloropropane	ND		0.96	0.28	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
1,4-Dichlorobenzene	ND		0.96	0.30	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
2,2-Dichloropropane	ND		4.8	0.26	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
2-Butanone	ND		19	4.3	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
2-Chlorotoluene	ND		0.96	0.24	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
2-Hexanone	ND		19	3.0	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
4-Chlorotoluene	ND		0.96	0.23	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
4-Methyl-2-pentanone	ND		19	2.8	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Acetone	**34**		19	9.5	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Benzene	ND		0.96	0.25	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Bromobenzene	ND		0.96	0.20	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Bromochloromethane	ND		1.9	0.43	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Bromodichloromethane	ND		0.96	0.31	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Bromoform	ND		4.8	1.3	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Bromomethane	ND		19	6.3	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
cis-1,2-Dichloroethene	ND		0.96	0.32	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
cis-1,3-Dichloropropene	ND		0.96	0.34	ug/Kg		06/05/23 16:14	06/06/23 02:29	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV9-10
Date Collected: 06/03/23 11:22
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-22
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		9.6	0.38	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Carbon tetrachloride	ND		0.96	0.29	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Chlorobenzene	ND		0.96	0.26	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Chloroethane	ND		1.9	0.71	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Chloroform	ND		0.96	0.57	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Chloromethane	ND		19	1.5	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Dibromochloromethane	ND		1.9	0.26	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Dibromomethane	ND		0.96	0.29	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Dichlorodifluoromethane	ND		1.9	0.44	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Di-isopropyl ether (DIPE)	ND		0.96	0.48	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Ethanol	ND		240	89	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Ethylbenzene	ND		0.96	0.20	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Ethyl-t-butyl ether (ETBE)	ND		0.96	0.23	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Isopropylbenzene	ND		0.96	0.27	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Methylene Chloride	ND		9.6	3.0	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Methyl-t-Butyl Ether (MTBE)	ND		1.9	0.18	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Naphthalene	ND		9.6	3.8	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
n-Butylbenzene	ND		0.96	0.20	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
N-Propylbenzene	ND		1.9	0.25	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
o-Xylene	ND		0.96	0.25	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
m,p-Xylene	ND		1.9	0.46	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
p-Isopropyltoluene	ND		0.96	0.27	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
sec-Butylbenzene	ND		0.96	0.26	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Styrene	ND		0.96	0.30	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
trans-1,2-Dichloroethene	ND		0.96	0.29	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
trans-1,3-Dichloropropene	ND		1.9	0.27	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Tert-amyl-methyl ether (TAME)	ND		0.96	0.19	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
tert-Butyl alcohol (TBA)	ND		19	6.7	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
tert-Butylbenzene	ND		0.96	0.24	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Tetrachloroethene	ND		0.96	0.21	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Toluene	ND		0.96	0.26	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Trichloroethene	ND		1.9	0.37	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Trichlorofluoromethane	ND		9.6	0.26	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Vinyl acetate	ND		9.6	3.8	ug/Kg		06/05/23 16:14	06/06/23 02:29	1
Vinyl chloride	ND		0.96	0.36	ug/Kg		06/05/23 16:14	06/06/23 02:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*125*		*32 - 179*	*06/05/23 16:14*	*06/06/23 02:29*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*	*06/05/23 16:14*	*06/06/23 02:29*	*1*
Dibromofluoromethane (Surr)	*110*		*58 - 147*	*06/05/23 16:14*	*06/06/23 02:29*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*	*06/05/23 16:14*	*06/06/23 02:29*	*1*

Client Sample ID: SV9-15
Date Collected: 06/03/23 11:29
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-23
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.1	0.33	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
1,1,1-Trichloroethane	ND		1.1	0.26	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
1,1,2,2-Tetrachloroethane	ND		2.3	0.62	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		11	0.52	ug/Kg		06/05/23 16:14	06/06/23 02:51	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV9-15
Date Collected: 06/03/23 11:29
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-23
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND		1.1	0.53	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
1,1-Dichloroethane	ND		1.1	0.32	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
1,1-Dichloroethene	ND		1.1	0.30	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
1,1-Dichloropropene	ND		2.3	0.44	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
1,2,3-Trichlorobenzene	ND		2.3	0.43	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
1,2,3-Trichloropropane	ND		2.3	0.47	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
1,2,4-Trichlorobenzene	ND		2.3	0.46	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
1,2,4-Trimethylbenzene	ND		2.3	0.68	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
1,2-Dibromo-3-Chloropropane	ND		11	3.8	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
1,2-Dibromoethane	ND		1.1	0.23	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
1,2-Dichlorobenzene	ND		1.1	0.28	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
1,2-Dichloroethane	ND		1.1	0.31	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
1,2-Dichloropropane	ND		1.1	0.31	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
1,3,5-Trimethylbenzene	ND		2.3	0.30	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
1,3-Dichlorobenzene	ND		1.1	0.29	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
1,3-Dichloropropane	ND		1.1	0.33	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
1,4-Dichlorobenzene	ND		1.1	0.35	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
2,2-Dichloropropane	ND		5.7	0.31	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
2-Butanone	ND		23	5.1	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
2-Chlorotoluene	ND		1.1	0.29	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
2-Hexanone	ND		23	3.5	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
4-Chlorotoluene	ND		1.1	0.27	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
4-Methyl-2-pentanone	ND		23	3.3	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Acetone	**45**		23	11	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Benzene	ND		1.1	0.29	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Bromobenzene	ND		1.1	0.24	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Bromochloromethane	ND		2.3	0.50	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Bromodichloromethane	ND		1.1	0.37	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Bromoform	ND		5.7	1.5	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Bromomethane	ND		23	7.4	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
cis-1,2-Dichloroethene	ND		1.1	0.38	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
cis-1,3-Dichloropropene	ND		1.1	0.39	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Carbon disulfide	ND		11	0.45	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Carbon tetrachloride	ND		1.1	0.34	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Chlorobenzene	ND		1.1	0.30	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Chloroethane	ND		2.3	0.84	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Chloroform	ND		1.1	0.67	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Chloromethane	ND		23	1.7	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Dibromochloromethane	ND		2.3	0.31	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Dibromomethane	ND		1.1	0.35	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Dichlorodifluoromethane	ND		2.3	0.51	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Di-isopropyl ether (DIPE)	ND		1.1	0.57	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Ethanol	ND		280	100	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Ethylbenzene	ND		1.1	0.23	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Ethyl-t-butyl ether (ETBE)	ND		1.1	0.27	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Isopropylbenzene	ND		1.1	0.31	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Methylene Chloride	ND		11	3.5	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Methyl-t-Butyl Ether (MTBE)	ND		2.3	0.21	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Naphthalene	ND		11	4.4	ug/Kg		06/05/23 16:14	06/06/23 02:51	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV9-15
Date Collected: 06/03/23 11:29
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-23
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND		1.1	0.24	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
N-Propylbenzene	ND		2.3	0.29	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
o-Xylene	ND		1.1	0.29	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
m,p-Xylene	ND		2.3	0.54	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
p-Isopropyltoluene	ND		1.1	0.32	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
sec-Butylbenzene	ND		1.1	0.31	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Styrene	ND		1.1	0.36	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
trans-1,2-Dichloroethene	ND		1.1	0.34	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
trans-1,3-Dichloropropene	ND		2.3	0.32	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Tert-amyl-methyl ether (TAME)	ND		1.1	0.22	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
tert-Butyl alcohol (TBA)	ND		23	7.9	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
tert-Butylbenzene	ND		1.1	0.29	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Tetrachloroethene	**0.64**	**J**	1.1	0.25	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Toluene	ND		1.1	0.30	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Trichloroethene	ND		2.3	0.44	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Trichlorofluoromethane	ND		11	0.31	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Vinyl acetate	ND		11	4.4	ug/Kg		06/05/23 16:14	06/06/23 02:51	1
Vinyl chloride	ND		1.1	0.43	ug/Kg		06/05/23 16:14	06/06/23 02:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*124*		*32 - 179*	*06/05/23 16:14*	*06/06/23 02:51*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*	*06/05/23 16:14*	*06/06/23 02:51*	*1*
Dibromofluoromethane (Surr)	*107*		*58 - 147*	*06/05/23 16:14*	*06/06/23 02:51*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*	*06/05/23 16:14*	*06/06/23 02:51*	*1*

Client Sample ID: SV10-5
Date Collected: 06/03/23 12:28
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-24
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.85	0.25	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
1,1,1-Trichloroethane	ND		0.85	0.20	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
1,1,2,2-Tetrachloroethane	ND		1.7	0.46	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		8.5	0.39	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
1,1,2-Trichloroethane	ND		0.85	0.40	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
1,1-Dichloroethane	ND		0.85	0.24	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
1,1-Dichloroethene	ND		0.85	0.23	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
1,1-Dichloropropene	ND		1.7	0.33	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
1,2,3-Trichlorobenzene	ND		1.7	0.32	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
1,2,3-Trichloropropane	ND		1.7	0.36	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
1,2,4-Trichlorobenzene	ND		1.7	0.35	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
1,2,4-Trimethylbenzene	ND		1.7	0.51	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
1,2-Dibromo-3-Chloropropane	ND		8.5	2.8	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
1,2-Dibromoethane	ND		0.85	0.18	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
1,2-Dichlorobenzene	ND		0.85	0.21	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
1,2-Dichloroethane	ND		0.85	0.24	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
1,2-Dichloropropane	ND		0.85	0.24	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
1,3,5-Trimethylbenzene	ND		1.7	0.23	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
1,3-Dichlorobenzene	ND		0.85	0.22	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
1,3-Dichloropropane	ND		0.85	0.25	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
1,4-Dichlorobenzene	ND		0.85	0.26	ug/Kg		06/05/23 16:14	06/06/23 03:13	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV10-5
Date Collected: 06/03/23 12:28
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-24
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,2-Dichloropropane	ND		4.3	0.23	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
2-Butanone	ND		17	3.9	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
2-Chlorotoluene	ND		0.85	0.22	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
2-Hexanone	ND		17	2.6	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
4-Chlorotoluene	ND		0.85	0.21	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
4-Methyl-2-pentanone	ND		17	2.5	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Acetone	**38**		17	8.4	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Benzene	ND		0.85	0.22	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Bromobenzene	ND		0.85	0.18	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Bromochloromethane	ND		1.7	0.38	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Bromodichloromethane	ND		0.85	0.28	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Bromoform	ND		4.3	1.1	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Bromomethane	ND		17	5.6	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
cis-1,2-Dichloroethene	ND		0.85	0.29	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
cis-1,3-Dichloropropene	ND		0.85	0.30	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Carbon disulfide	ND		8.5	0.34	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Carbon tetrachloride	ND		0.85	0.26	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Chlorobenzene	ND		0.85	0.23	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Chloroethane	ND		1.7	0.63	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Chloroform	ND		0.85	0.50	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Chloromethane	ND		17	1.3	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Dibromochloromethane	ND		1.7	0.23	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Dibromomethane	ND		0.85	0.26	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Dichlorodifluoromethane	ND		1.7	0.39	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Di-isopropyl ether (DIPE)	ND		0.85	0.43	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Ethanol	ND		210	79	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Ethylbenzene	ND		0.85	0.18	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Ethyl-t-butyl ether (ETBE)	ND		0.85	0.20	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Isopropylbenzene	ND		0.85	0.24	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Methylene Chloride	ND		8.5	2.7	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Methyl-t-Butyl Ether (MTBE)	ND		1.7	0.16	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Naphthalene	ND		8.5	3.3	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
n-Butylbenzene	ND		0.85	0.18	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
N-Propylbenzene	ND		1.7	0.22	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
o-Xylene	ND		0.85	0.22	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
m,p-Xylene	ND		1.7	0.40	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
p-Isopropyltoluene	ND		0.85	0.24	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
sec-Butylbenzene	ND		0.85	0.23	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Styrene	ND		0.85	0.27	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
trans-1,2-Dichloroethene	ND		0.85	0.26	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
trans-1,3-Dichloropropene	ND		1.7	0.24	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Tert-amyl-methyl ether (TAME)	ND		0.85	0.17	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
tert-Butyl alcohol (TBA)	ND		17	6.0	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
tert-Butylbenzene	ND		0.85	0.22	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Tetrachloroethene	ND		0.85	0.19	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Toluene	ND		0.85	0.23	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Trichloroethene	ND		1.7	0.33	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Trichlorofluoromethane	ND		8.5	0.23	ug/Kg		06/05/23 16:14	06/06/23 03:13	1
Vinyl acetate	ND		8.5	3.3	ug/Kg		06/05/23 16:14	06/06/23 03:13	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV10-5
Date Collected: 06/03/23 12:28
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-24
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.85	0.32	ug/Kg		06/05/23 16:14	06/06/23 03:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*132*		*32 - 179*	*06/05/23 16:14*	*06/06/23 03:13*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*	*06/05/23 16:14*	*06/06/23 03:13*	*1*
Dibromofluoromethane (Surr)	*110*		*58 - 147*	*06/05/23 16:14*	*06/06/23 03:13*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*	*06/05/23 16:14*	*06/06/23 03:13*	*1*

Client Sample ID: SV10-10
Date Collected: 06/03/23 12:33
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-25
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.73	0.21	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
1,1,1-Trichloroethane	ND		0.73	0.17	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
1,1,2,2-Tetrachloroethane	ND		1.5	0.40	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		7.3	0.34	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
1,1,2-Trichloroethane	ND		0.73	0.34	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
1,1-Dichloroethane	ND		0.73	0.21	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
1,1-Dichloroethene	ND		0.73	0.19	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
1,1-Dichloropropene	ND		1.5	0.28	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
1,2,3-Trichlorobenzene	ND		1.5	0.28	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
1,2,3-Trichloropropane	ND		1.5	0.31	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
1,2,4-Trichlorobenzene	ND		1.5	0.30	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
1,2,4-Trimethylbenzene	ND		1.5	0.44	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
1,2-Dibromo-3-Chloropropane	ND		7.3	2.4	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
1,2-Dibromoethane	ND		0.73	0.15	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
1,2-Dichlorobenzene	ND		0.73	0.18	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
1,2-Dichloroethane	ND		0.73	0.20	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
1,2-Dichloropropane	ND		0.73	0.20	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
1,3,5-Trimethylbenzene	ND		1.5	0.20	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
1,3-Dichlorobenzene	ND		0.73	0.18	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
1,3-Dichloropropane	ND		0.73	0.22	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
1,4-Dichlorobenzene	ND		0.73	0.22	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
2,2-Dichloropropane	ND		3.7	0.20	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
2-Butanone	ND		15	3.3	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
2-Chlorotoluene	ND		0.73	0.18	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
2-Hexanone	ND		15	2.3	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
4-Chlorotoluene	ND		0.73	0.18	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
4-Methyl-2-pentanone	ND		15	2.1	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Acetone	**22**		15	7.2	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Benzene	ND		0.73	0.19	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Bromobenzene	ND		0.73	0.15	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Bromochloromethane	ND		1.5	0.33	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Bromodichloromethane	ND		0.73	0.24	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Bromoform	ND		3.7	0.97	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Bromomethane	ND		15	4.8	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
cis-1,2-Dichloroethene	ND		0.73	0.25	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
cis-1,3-Dichloropropene	ND		0.73	0.26	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Carbon disulfide	ND		7.3	0.29	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Carbon tetrachloride	ND		0.73	0.22	ug/Kg		06/05/23 16:14	06/06/23 03:35	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV10-10
Date Collected: 06/03/23 12:33
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-25
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		0.73	0.20	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Chloroethane	ND		1.5	0.54	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Chloroform	ND		0.73	0.43	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Chloromethane	ND		15	1.1	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Dibromochloromethane	ND		1.5	0.20	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Dibromomethane	ND		0.73	0.22	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Dichlorodifluoromethane	ND		1.5	0.33	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Di-isopropyl ether (DIPE)	ND		0.73	0.37	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Ethanol	ND		180	67	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Ethylbenzene	ND		0.73	0.15	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Ethyl-t-butyl ether (ETBE)	ND		0.73	0.17	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Isopropylbenzene	ND		0.73	0.20	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Methylene Chloride	ND		7.3	2.3	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Methyl-t-Butyl Ether (MTBE)	ND		1.5	0.14	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Naphthalene	ND		7.3	2.9	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
n-Butylbenzene	ND		0.73	0.15	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
N-Propylbenzene	ND		1.5	0.19	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
o-Xylene	ND		0.73	0.19	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
m,p-Xylene	ND		1.5	0.35	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
p-Isopropyltoluene	ND		0.73	0.21	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
sec-Butylbenzene	ND		0.73	0.20	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Styrene	ND		0.73	0.23	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
trans-1,2-Dichloroethene	ND		0.73	0.22	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
trans-1,3-Dichloropropene	ND		1.5	0.20	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Tert-amyl-methyl ether (TAME)	ND		0.73	0.14	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
tert-Butyl alcohol (TBA)	**6.1**	**J**	15	5.1	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
tert-Butylbenzene	ND		0.73	0.19	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Tetrachloroethene	ND		0.73	0.16	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Toluene	ND		0.73	0.20	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Trichloroethene	ND		1.5	0.28	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Trichlorofluoromethane	ND		7.3	0.20	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Vinyl acetate	ND		7.3	2.9	ug/Kg		06/05/23 16:14	06/06/23 03:35	1
Vinyl chloride	ND		0.73	0.28	ug/Kg		06/05/23 16:14	06/06/23 03:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*125*		*32 - 179*	*06/05/23 16:14*	*06/06/23 03:35*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*	*06/05/23 16:14*	*06/06/23 03:35*	*1*
Dibromofluoromethane (Surr)	*109*		*58 - 147*	*06/05/23 16:14*	*06/06/23 03:35*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*	*06/05/23 16:14*	*06/06/23 03:35*	*1*

Client Sample ID: SV10-15
Date Collected: 06/03/23 12:36
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-26
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.4	0.40	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
1,1,1-Trichloroethane	ND		1.4	0.32	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
1,1,2,2-Tetrachloroethane	ND		2.8	0.76	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		14	0.64	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
1,1,2-Trichloroethane	ND		1.4	0.64	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
1,1-Dichloroethane	ND		1.4	0.39	ug/Kg		06/05/23 16:14	06/06/23 03:56	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV10-15
Date Collected: 06/03/23 12:36
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-26
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		1.4	0.37	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
1,1-Dichloropropene	ND		2.8	0.54	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
1,2,3-Trichlorobenzene	ND		2.8	0.52	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
1,2,3-Trichloropropane	ND		2.8	0.58	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
1,2,4-Trichlorobenzene	ND		2.8	0.57	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
1,2,4-Trimethylbenzene	ND		2.8	0.83	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
1,2-Dibromo-3-Chloropropane	ND		14	4.6	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
1,2-Dibromoethane	ND		1.4	0.29	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
1,2-Dichlorobenzene	ND		1.4	0.35	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
1,2-Dichloroethane	ND		1.4	0.38	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
1,2-Dichloropropane	ND		1.4	0.38	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
1,3,5-Trimethylbenzene	ND		2.8	0.37	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
1,3-Dichlorobenzene	ND		1.4	0.35	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
1,3-Dichloropropane	ND		1.4	0.41	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
1,4-Dichlorobenzene	ND		1.4	0.43	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
2,2-Dichloropropane	ND		6.9	0.38	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
2-Butanone	ND		28	6.3	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
2-Chlorotoluene	ND		1.4	0.35	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
2-Hexanone	ND		28	4.3	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
4-Chlorotoluene	ND		1.4	0.34	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
4-Methyl-2-pentanone	ND		28	4.0	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Acetone	**25**	**J**	28	14	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Benzene	ND		1.4	0.36	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Bromobenzene	ND		1.4	0.29	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Bromochloromethane	ND		2.8	0.62	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Bromodichloromethane	ND		1.4	0.45	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Bromoform	ND		6.9	1.8	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Bromomethane	ND		28	9.1	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
cis-1,2-Dichloroethene	ND		1.4	0.47	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
cis-1,3-Dichloropropene	ND		1.4	0.48	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Carbon disulfide	ND		14	0.56	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Carbon tetrachloride	ND		1.4	0.42	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Chlorobenzene	ND		1.4	0.37	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Chloroethane	ND		2.8	1.0	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Chloroform	ND		1.4	0.82	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Chloromethane	ND		28	2.1	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Dibromochloromethane	ND		2.8	0.38	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Dibromomethane	ND		1.4	0.42	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Dichlorodifluoromethane	ND		2.8	0.63	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Di-isopropyl ether (DIPE)	ND		1.4	0.69	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Ethanol	ND		350	130	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Ethylbenzene	ND		1.4	0.29	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Ethyl-t-butyl ether (ETBE)	ND		1.4	0.33	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Isopropylbenzene	ND		1.4	0.38	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Methylene Chloride	ND		14	4.3	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Methyl-t-Butyl Ether (MTBE)	ND		2.8	0.26	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Naphthalene	ND		14	5.4	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
n-Butylbenzene	ND		1.4	0.29	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
N-Propylbenzene	ND		2.8	0.36	ug/Kg		06/05/23 16:14	06/06/23 03:56	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV10-15
Date Collected: 06/03/23 12:36
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-26
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.4	0.35	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
m,p-Xylene	ND		2.8	0.66	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
p-Isopropyltoluene	ND		1.4	0.39	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
sec-Butylbenzene	ND		1.4	0.38	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Styrene	ND		1.4	0.44	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
trans-1,2-Dichloroethene	ND		1.4	0.42	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
trans-1,3-Dichloropropene	ND		2.8	0.39	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Tert-amyl-methyl ether (TAME)	ND		1.4	0.27	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
tert-Butyl alcohol (TBA)	ND		28	9.7	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
tert-Butylbenzene	ND		1.4	0.35	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Tetrachloroethene	**0.45**	**J**	1.4	0.31	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Toluene	ND		1.4	0.37	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Trichloroethene	ND		2.8	0.54	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Trichlorofluoromethane	ND		14	0.38	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Vinyl acetate	ND		14	5.4	ug/Kg		06/05/23 16:14	06/06/23 03:56	1
Vinyl chloride	ND		1.4	0.53	ug/Kg		06/05/23 16:14	06/06/23 03:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*124*		*32 - 179*	*06/05/23 16:14*	*06/06/23 03:56*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*	*06/05/23 16:14*	*06/06/23 03:56*	*1*
Dibromofluoromethane (Surr)	*106*		*58 - 147*	*06/05/23 16:14*	*06/06/23 03:56*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*	*06/05/23 16:14*	*06/06/23 03:56*	*1*

Client Sample ID: SV11-5
Date Collected: 06/03/23 13:03
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-27
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.96	0.28	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
1,1,1-Trichloroethane	ND		0.96	0.23	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
1,1,2,2-Tetrachloroethane	ND		1.9	0.52	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		9.6	0.45	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
1,1,2-Trichloroethane	ND		0.96	0.45	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
1,1-Dichloroethane	ND		0.96	0.27	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
1,1-Dichloroethene	ND		0.96	0.26	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
1,1-Dichloropropene	ND		1.9	0.37	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
1,2,3-Trichlorobenzene	ND		1.9	0.36	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
1,2,3-Trichloropropane	ND		1.9	0.40	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
1,2,4-Trichlorobenzene	ND		1.9	0.40	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
1,2,4-Trimethylbenzene	ND		1.9	0.58	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
1,2-Dibromo-3-Chloropropane	ND		9.6	3.2	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
1,2-Dibromoethane	ND		0.96	0.20	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
1,2-Dichlorobenzene	ND		0.96	0.24	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
1,2-Dichloroethane	ND		0.96	0.27	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
1,2-Dichloropropane	ND		0.96	0.27	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
1,3,5-Trimethylbenzene	ND		1.9	0.26	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
1,3-Dichlorobenzene	ND		0.96	0.24	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
1,3-Dichloropropane	ND		0.96	0.28	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
1,4-Dichlorobenzene	ND		0.96	0.30	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
2,2-Dichloropropane	ND		4.8	0.26	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
2-Butanone	ND		19	4.4	ug/Kg		06/05/23 16:14	06/06/23 04:18	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV11-5
Date Collected: 06/03/23 13:03
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-27
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		0.96	0.24	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
2-Hexanone	ND		19	3.0	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
4-Chlorotoluene	ND		0.96	0.23	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
4-Methyl-2-pentanone	ND		19	2.8	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Acetone	**46**		19	9.5	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Benzene	ND		0.96	0.25	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Bromobenzene	ND		0.96	0.20	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Bromochloromethane	ND		1.9	0.43	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Bromodichloromethane	ND		0.96	0.31	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Bromoform	ND		4.8	1.3	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Bromomethane	ND		19	6.3	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
cis-1,2-Dichloroethene	ND		0.96	0.33	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
cis-1,3-Dichloropropene	ND		0.96	0.34	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Carbon disulfide	ND		9.6	0.39	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Carbon tetrachloride	ND		0.96	0.29	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Chlorobenzene	ND		0.96	0.26	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Chloroethane	ND		1.9	0.72	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Chloroform	ND		0.96	0.57	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Chloromethane	ND		19	1.5	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Dibromochloromethane	ND		1.9	0.26	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Dibromomethane	ND		0.96	0.29	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Dichlorodifluoromethane	ND		1.9	0.44	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Di-isopropyl ether (DIPE)	ND		0.96	0.48	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Ethanol	ND		240	89	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Ethylbenzene	ND		0.96	0.20	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Ethyl-t-butyl ether (ETBE)	ND		0.96	0.23	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Isopropylbenzene	ND		0.96	0.27	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Methylene Chloride	ND		9.6	3.0	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Methyl-t-Butyl Ether (MTBE)	ND		1.9	0.18	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Naphthalene	ND		9.6	3.8	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
n-Butylbenzene	ND		0.96	0.20	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
N-Propylbenzene	ND		1.9	0.25	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
o-Xylene	ND		0.96	0.25	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
m,p-Xylene	ND		1.9	0.46	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
p-Isopropyltoluene	ND		0.96	0.27	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
sec-Butylbenzene	ND		0.96	0.26	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Styrene	ND		0.96	0.31	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
trans-1,2-Dichloroethene	ND		0.96	0.29	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
trans-1,3-Dichloropropene	ND		1.9	0.27	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Tert-amyl-methyl ether (TAME)	ND		0.96	0.19	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
tert-Butyl alcohol (TBA)	ND		19	6.7	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
tert-Butylbenzene	ND		0.96	0.25	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Tetrachloroethene	ND		0.96	0.22	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Toluene	ND		0.96	0.26	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Trichloroethene	ND		1.9	0.37	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Trichlorofluoromethane	ND		9.6	0.26	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Vinyl acetate	ND		9.6	3.8	ug/Kg		06/05/23 16:14	06/06/23 04:18	1
Vinyl chloride	ND		0.96	0.36	ug/Kg		06/05/23 16:14	06/06/23 04:18	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	130		32 - 179	06/05/23 16:14	06/06/23 04:18	1
4-Bromofluorobenzene (Surr)	102		80 - 120	06/05/23 16:14	06/06/23 04:18	1
Dibromofluoromethane (Surr)	112		58 - 147	06/05/23 16:14	06/06/23 04:18	1
Toluene-d8 (Surr)	99		80 - 120	06/05/23 16:14	06/06/23 04:18	1

Client Sample ID: SV11-10
Date Collected: 06/03/23 13:05
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-28
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.2	0.34	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
1,1,1-Trichloroethane	ND		1.2	0.28	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
1,1,2,2-Tetrachloroethane	ND		2.4	0.64	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		12	0.55	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
1,1,2-Trichloroethane	ND		1.2	0.55	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
1,1-Dichloroethane	ND		1.2	0.33	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
1,1-Dichloroethene	ND		1.2	0.31	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
1,1-Dichloropropene	ND		2.4	0.46	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
1,2,3-Trichlorobenzene	ND		2.4	0.45	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
1,2,3-Trichloropropane	ND		2.4	0.50	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
1,2,4-Trichlorobenzene	ND		2.4	0.49	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
1,2,4-Trimethylbenzene	ND		2.4	0.71	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
1,2-Dibromo-3-Chloropropane	ND		12	3.9	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
1,2-Dibromoethane	ND		1.2	0.24	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
1,2-Dichlorobenzene	ND		1.2	0.30	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
1,2-Dichloroethane	ND		1.2	0.33	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
1,2-Dichloropropane	ND		1.2	0.33	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
1,3,5-Trimethylbenzene	ND		2.4	0.32	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
1,3-Dichlorobenzene	ND		1.2	0.30	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
1,3-Dichloropropane	ND		1.2	0.35	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
1,4-Dichlorobenzene	ND		1.2	0.36	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
2,2-Dichloropropane	ND		5.9	0.32	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
2-Butanone	ND		24	5.3	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
2-Chlorotoluene	ND		1.2	0.30	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
2-Hexanone	ND		24	3.6	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
4-Chlorotoluene	ND		1.2	0.29	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
4-Methyl-2-pentanone	ND		24	3.4	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Acetone	**43**		24	12	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Benzene	ND		1.2	0.30	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Bromobenzene	ND		1.2	0.25	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Bromochloromethane	ND		2.4	0.53	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Bromodichloromethane	ND		1.2	0.38	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Bromoform	ND		5.9	1.6	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Bromomethane	ND		24	7.8	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
cis-1,2-Dichloroethene	ND		1.2	0.40	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
cis-1,3-Dichloropropene	ND		1.2	0.41	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Carbon disulfide	ND		12	0.47	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Carbon tetrachloride	ND		1.2	0.35	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Chlorobenzene	ND		1.2	0.32	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Chloroethane	ND		2.4	0.88	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Chloroform	ND		1.2	0.70	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Chloromethane	ND		24	1.8	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Dibromochloromethane	ND		2.4	0.32	ug/Kg		06/05/23 16:14	06/06/23 04:40	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV11-10
Date Collected: 06/03/23 13:05
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-28
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	ND		1.2	0.36	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Dichlorodifluoromethane	ND		2.4	0.54	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Di-isopropyl ether (DIPE)	ND		1.2	0.59	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Ethanol	ND		300	110	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Ethylbenzene	ND		1.2	0.24	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Ethyl-t-butyl ether (ETBE)	ND		1.2	0.28	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Isopropylbenzene	ND		1.2	0.33	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Methylene Chloride	ND		12	3.7	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Methyl-t-Butyl Ether (MTBE)	ND		2.4	0.22	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Naphthalene	ND		12	4.6	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
n-Butylbenzene	ND		1.2	0.25	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
N-Propylbenzene	ND		2.4	0.31	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
o-Xylene	ND		1.2	0.30	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
m,p-Xylene	ND		2.4	0.56	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
p-Isopropyltoluene	ND		1.2	0.33	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
sec-Butylbenzene	ND		1.2	0.32	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Styrene	ND		1.2	0.38	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
trans-1,2-Dichloroethene	ND		1.2	0.36	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
trans-1,3-Dichloropropene	ND		2.4	0.33	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Tert-amyl-methyl ether (TAME)	ND		1.2	0.23	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
tert-Butyl alcohol (TBA)	ND		24	8.3	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
tert-Butylbenzene	ND		1.2	0.30	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Tetrachloroethene	ND		1.2	0.26	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Toluene	ND		1.2	0.32	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Trichloroethene	ND		2.4	0.46	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Trichlorofluoromethane	ND		12	0.32	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Vinyl acetate	ND		12	4.6	ug/Kg		06/05/23 16:14	06/06/23 04:40	1
Vinyl chloride	ND		1.2	0.45	ug/Kg		06/05/23 16:14	06/06/23 04:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*126*		*32 - 179*	*06/05/23 16:14*	*06/06/23 04:40*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*	*06/05/23 16:14*	*06/06/23 04:40*	*1*
Dibromofluoromethane (Surr)	*109*		*58 - 147*	*06/05/23 16:14*	*06/06/23 04:40*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*	*06/05/23 16:14*	*06/06/23 04:40*	*1*

Client Sample ID: SV11-15
Date Collected: 06/03/23 13:09
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-29
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.66	0.19	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
1,1,1-Trichloroethane	ND		0.66	0.15	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
1,1,2,2-Tetrachloroethane	ND		1.3	0.36	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		6.6	0.31	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
1,1,2-Trichloroethane	ND		0.66	0.31	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
1,1-Dichloroethane	ND		0.66	0.19	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
1,1-Dichloroethene	ND		0.66	0.18	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
1,1-Dichloropropene	ND		1.3	0.26	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
1,2,3-Trichlorobenzene	ND		1.3	0.25	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
1,2,3-Trichloropropane	ND		1.3	0.28	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
1,2,4-Trichlorobenzene	ND		1.3	0.27	ug/Kg		06/05/23 16:14	06/06/23 05:02	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV11-15
Date Collected: 06/03/23 13:09
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-29
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		1.3	0.40	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
1,2-Dibromo-3-Chloropropane	ND		6.6	2.2	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
1,2-Dibromoethane	ND		0.66	0.14	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
1,2-Dichlorobenzene	ND		0.66	0.17	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
1,2-Dichloroethane	ND		0.66	0.18	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
1,2-Dichloropropane	ND		0.66	0.18	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
1,3,5-Trimethylbenzene	ND		1.3	0.18	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
1,3-Dichlorobenzene	ND		0.66	0.17	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
1,3-Dichloropropane	ND		0.66	0.20	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
1,4-Dichlorobenzene	ND		0.66	0.20	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
2,2-Dichloropropane	ND		3.3	0.18	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
2-Butanone	ND		13	3.0	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
2-Chlorotoluene	ND		0.66	0.17	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
2-Hexanone	ND		13	2.0	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
4-Chlorotoluene	ND		0.66	0.16	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
4-Methyl-2-pentanone	ND		13	1.9	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Acetone	**24**		13	6.5	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Benzene	ND		0.66	0.17	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Bromobenzene	ND		0.66	0.14	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Bromochloromethane	ND		1.3	0.29	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Bromodichloromethane	ND		0.66	0.22	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Bromoform	ND		3.3	0.88	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Bromomethane	ND		13	4.4	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
cis-1,2-Dichloroethene	ND		0.66	0.22	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
cis-1,3-Dichloropropene	ND		0.66	0.23	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Carbon disulfide	ND		6.6	0.27	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Carbon tetrachloride	ND		0.66	0.20	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Chlorobenzene	ND		0.66	0.18	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Chloroethane	ND		1.3	0.49	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Chloroform	ND		0.66	0.39	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Chloromethane	ND		13	1.0	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Dibromochloromethane	ND		1.3	0.18	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Dibromomethane	ND		0.66	0.20	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Dichlorodifluoromethane	ND		1.3	0.30	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Di-isopropyl ether (DIPE)	ND		0.66	0.33	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Ethanol	ND		170	61	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Ethylbenzene	ND		0.66	0.14	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Ethyl-t-butyl ether (ETBE)	ND		0.66	0.16	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Isopropylbenzene	ND		0.66	0.18	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Methylene Chloride	ND		6.6	2.1	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Methyl-t-Butyl Ether (MTBE)	ND		1.3	0.12	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Naphthalene	ND		6.6	2.6	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
n-Butylbenzene	ND		0.66	0.14	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
N-Propylbenzene	ND		1.3	0.17	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
o-Xylene	ND		0.66	0.17	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
m,p-Xylene	ND		1.3	0.31	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
p-Isopropyltoluene	ND		0.66	0.19	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
sec-Butylbenzene	ND		0.66	0.18	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Styrene	ND		0.66	0.21	ug/Kg		06/05/23 16:14	06/06/23 05:02	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV11-15
Date Collected: 06/03/23 13:09
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-29
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		0.66	0.20	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
trans-1,3-Dichloropropene	ND		1.3	0.19	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Tert-amyl-methyl ether (TAME)	ND		0.66	0.13	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
tert-Butyl alcohol (TBA)	ND		13	4.6	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
tert-Butylbenzene	ND		0.66	0.17	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Tetrachloroethene	**0.21**	**J**	0.66	0.15	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Toluene	ND		0.66	0.18	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Trichloroethene	ND		1.3	0.26	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Trichlorofluoromethane	ND		6.6	0.18	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Vinyl acetate	ND		6.6	2.6	ug/Kg		06/05/23 16:14	06/06/23 05:02	1
Vinyl chloride	ND		0.66	0.25	ug/Kg		06/05/23 16:14	06/06/23 05:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*133*		*32 - 179*	*06/05/23 16:14*	*06/06/23 05:02*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*	*06/05/23 16:14*	*06/06/23 05:02*	*1*
Dibromofluoromethane (Surr)	*113*		*58 - 147*	*06/05/23 16:14*	*06/06/23 05:02*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*	*06/05/23 16:14*	*06/06/23 05:02*	*1*

Client Sample ID: SV12-5
Date Collected: 06/03/23 13:40
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-30
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.94	0.27	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
1,1,1-Trichloroethane	ND		0.94	0.22	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
1,1,2,2-Tetrachloroethane	ND		1.9	0.51	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		9.4	0.43	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
1,1,2-Trichloroethane	ND		0.94	0.44	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
1,1-Dichloroethane	ND		0.94	0.26	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
1,1-Dichloroethene	ND		0.94	0.25	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
1,1-Dichloropropene	ND		1.9	0.36	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
1,2,3-Trichlorobenzene	ND		1.9	0.35	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
1,2,3-Trichloropropane	ND		1.9	0.39	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
1,2,4-Trichlorobenzene	ND		1.9	0.39	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
1,2,4-Trimethylbenzene	ND		1.9	0.56	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
1,2-Dibromo-3-Chloropropane	ND		9.4	3.1	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
1,2-Dibromoethane	ND		0.94	0.19	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
1,2-Dichlorobenzene	ND		0.94	0.24	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
1,2-Dichloroethane	ND		0.94	0.26	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
1,2-Dichloropropane	ND		0.94	0.26	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
1,3,5-Trimethylbenzene	ND		1.9	0.25	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
1,3-Dichlorobenzene	ND		0.94	0.24	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
1,3-Dichloropropane	ND		0.94	0.28	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
1,4-Dichlorobenzene	ND		0.94	0.29	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
2,2-Dichloropropane	ND		4.7	0.26	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
2-Butanone	**7.2**	**J**	19	4.2	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
2-Chlorotoluene	ND		0.94	0.24	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
2-Hexanone	ND		19	2.9	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
4-Chlorotoluene	ND		0.94	0.23	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
4-Methyl-2-pentanone	ND		19	2.7	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Acetone	**83**		19	9.2	ug/Kg		06/05/23 16:14	06/06/23 05:23	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV12-5
Date Collected: 06/03/23 13:40
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-30
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.94	0.24	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Bromobenzene	ND		0.94	0.20	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Bromochloromethane	ND		1.9	0.42	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Bromodichloromethane	ND		0.94	0.31	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Bromoform	ND		4.7	1.2	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Bromomethane	ND		19	6.2	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
cis-1,2-Dichloroethene	ND		0.94	0.32	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
cis-1,3-Dichloropropene	ND		0.94	0.33	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Carbon disulfide	ND		9.4	0.38	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Carbon tetrachloride	ND		0.94	0.28	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Chlorobenzene	ND		0.94	0.25	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Chloroethane	ND		1.9	0.70	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Chloroform	ND		0.94	0.55	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Chloromethane	ND		19	1.4	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Dibromochloromethane	ND		1.9	0.26	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Dibromomethane	ND		0.94	0.29	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Dichlorodifluoromethane	ND		1.9	0.43	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Di-isopropyl ether (DIPE)	ND		0.94	0.47	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Ethanol	ND		240	87	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Ethylbenzene	ND		0.94	0.19	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Ethyl-t-butyl ether (ETBE)	ND		0.94	0.22	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Isopropylbenzene	ND		0.94	0.26	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Methylene Chloride	ND		9.4	2.9	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Methyl-t-Butyl Ether (MTBE)	ND		1.9	0.18	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Naphthalene	ND		9.4	3.7	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
n-Butylbenzene	ND		0.94	0.20	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
N-Propylbenzene	ND		1.9	0.24	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
o-Xylene	ND		0.94	0.24	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
m,p-Xylene	ND		1.9	0.45	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
p-Isopropyltoluene	ND		0.94	0.27	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
sec-Butylbenzene	ND		0.94	0.26	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Styrene	ND		0.94	0.30	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
trans-1,2-Dichloroethene	ND		0.94	0.28	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
trans-1,3-Dichloropropene	ND		1.9	0.26	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Tert-amyl-methyl ether (TAME)	ND		0.94	0.18	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
tert-Butyl alcohol (TBA)	ND		19	6.6	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
tert-Butylbenzene	ND		0.94	0.24	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Tetrachloroethene	ND		0.94	0.21	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Toluene	ND		0.94	0.25	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Trichloroethene	ND		1.9	0.36	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Trichlorofluoromethane	ND		9.4	0.26	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Vinyl acetate	ND		9.4	3.7	ug/Kg		06/05/23 16:14	06/06/23 05:23	1
Vinyl chloride	ND		0.94	0.36	ug/Kg		06/05/23 16:14	06/06/23 05:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*129*		*32 - 179*	*06/05/23 16:14*	*06/06/23 05:23*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*	*06/05/23 16:14*	*06/06/23 05:23*	*1*
Dibromofluoromethane (Surr)	*111*		*58 - 147*	*06/05/23 16:14*	*06/06/23 05:23*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*	*06/05/23 16:14*	*06/06/23 05:23*	*1*

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS)

Client Sample ID: SV12-10
Date Collected: 06/03/23 13:45
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-31
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.71	0.21	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
1,1,1-Trichloroethane	ND		0.71	0.17	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
1,1,2,2-Tetrachloroethane	ND		1.4	0.39	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		7.1	0.33	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
1,1,2-Trichloroethane	ND		0.71	0.33	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
1,1-Dichloroethane	ND		0.71	0.20	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
1,1-Dichloroethene	ND		0.71	0.19	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
1,1-Dichloropropene	ND		1.4	0.28	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
1,2,3-Trichlorobenzene	ND		1.4	0.27	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
1,2,3-Trichloropropane	ND		1.4	0.30	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
1,2,4-Trichlorobenzene	ND		1.4	0.29	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
1,2,4-Trimethylbenzene	ND		1.4	0.43	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
1,2-Dibromo-3-Chloropropane	ND		7.1	2.4	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
1,2-Dibromoethane	ND		0.71	0.15	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
1,2-Dichlorobenzene	ND		0.71	0.18	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
1,2-Dichloroethane	ND		0.71	0.20	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
1,2-Dichloropropane	ND		0.71	0.20	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
1,3,5-Trimethylbenzene	ND		1.4	0.19	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
1,3-Dichlorobenzene	ND		0.71	0.18	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
1,3-Dichloropropane	ND		0.71	0.21	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
1,4-Dichlorobenzene	ND		0.71	0.22	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
2,2-Dichloropropane	ND		3.6	0.19	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
2-Butanone	ND		14	3.2	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
2-Chlorotoluene	ND		0.71	0.18	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
2-Hexanone	ND		14	2.2	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
4-Chlorotoluene	ND		0.71	0.17	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
4-Methyl-2-pentanone	ND		14	2.1	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Acetone	**28**		14	7.0	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Benzene	ND		0.71	0.18	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Bromobenzene	ND		0.71	0.15	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Bromochloromethane	ND		1.4	0.32	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Bromodichloromethane	ND		0.71	0.23	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Bromoform	ND		3.6	0.94	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Bromomethane	ND		14	4.7	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
cis-1,2-Dichloroethene	ND		0.71	0.24	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
cis-1,3-Dichloropropene	ND		0.71	0.25	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Carbon disulfide	ND		7.1	0.28	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Carbon tetrachloride	ND		0.71	0.21	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Chlorobenzene	ND		0.71	0.19	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Chloroethane	ND		1.4	0.53	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Chloroform	ND		0.71	0.42	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Chloromethane	ND		14	1.1	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Dibromochloromethane	ND		1.4	0.19	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Dibromomethane	ND		0.71	0.22	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Dichlorodifluoromethane	ND		1.4	0.32	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Di-isopropyl ether (DIPE)	ND		0.71	0.36	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Ethanol	ND		180	66	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Ethylbenzene	ND		0.71	0.15	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Ethyl-t-butyl ether (ETBE)	ND		0.71	0.17	ug/Kg		06/05/23 16:14	06/06/23 05:45	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV12-10
Date Collected: 06/03/23 13:45
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-31
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		0.71	0.20	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Methylene Chloride	ND		7.1	2.2	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Methyl-t-Butyl Ether (MTBE)	ND		1.4	0.13	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Naphthalene	ND		7.1	2.8	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
n-Butylbenzene	ND		0.71	0.15	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
N-Propylbenzene	ND		1.4	0.19	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
o-Xylene	ND		0.71	0.18	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
m,p-Xylene	ND		1.4	0.34	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
p-Isopropyltoluene	ND		0.71	0.20	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
sec-Butylbenzene	ND		0.71	0.19	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Styrene	ND		0.71	0.23	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
trans-1,2-Dichloroethene	ND		0.71	0.21	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
trans-1,3-Dichloropropene	ND		1.4	0.20	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Tert-amyl-methyl ether (TAME)	ND		0.71	0.14	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
tert-Butyl alcohol (TBA)	**9.4**	**J**	14	5.0	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
tert-Butylbenzene	ND		0.71	0.18	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Tetrachloroethene	ND		0.71	0.16	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Toluene	ND		0.71	0.19	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Trichloroethene	ND		1.4	0.27	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Trichlorofluoromethane	ND		7.1	0.19	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Vinyl acetate	ND		7.1	2.8	ug/Kg		06/05/23 16:14	06/06/23 05:45	1
Vinyl chloride	ND		0.71	0.27	ug/Kg		06/05/23 16:14	06/06/23 05:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*128*		*32 - 179*	*06/05/23 16:14*	*06/06/23 05:45*	*1*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*	*06/05/23 16:14*	*06/06/23 05:45*	*1*
Dibromofluoromethane (Surr)	*111*		*58 - 147*	*06/05/23 16:14*	*06/06/23 05:45*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*	*06/05/23 16:14*	*06/06/23 05:45*	*1*

Client Sample ID: SV12-15
Date Collected: 06/03/23 13:49
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-32
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.71	0.21	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
1,1,1-Trichloroethane	ND		0.71	0.17	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
1,1,2,2-Tetrachloroethane	ND		1.4	0.39	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		7.1	0.33	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
1,1,2-Trichloroethane	ND		0.71	0.33	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
1,1-Dichloroethane	ND		0.71	0.20	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
1,1-Dichloroethene	ND		0.71	0.19	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
1,1-Dichloropropene	ND		1.4	0.28	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
1,2,3-Trichlorobenzene	ND		1.4	0.27	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
1,2,3-Trichloropropane	ND		1.4	0.30	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
1,2,4-Trichlorobenzene	ND		1.4	0.29	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
1,2,4-Trimethylbenzene	ND		1.4	0.43	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
1,2-Dibromo-3-Chloropropane	ND		7.1	2.4	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
1,2-Dibromoethane	ND		0.71	0.15	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
1,2-Dichlorobenzene	ND		0.71	0.18	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
1,2-Dichloroethane	ND		0.71	0.20	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
1,2-Dichloropropane	ND		0.71	0.20	ug/Kg		06/05/23 16:14	06/06/23 06:07	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV12-15
Date Collected: 06/03/23 13:49
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-32
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		1.4	0.19	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
1,3-Dichlorobenzene	ND		0.71	0.18	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
1,3-Dichloropropane	ND		0.71	0.21	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
1,4-Dichlorobenzene	ND		0.71	0.22	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
2,2-Dichloropropane	ND		3.5	0.19	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
2-Butanone	ND		14	3.2	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
2-Chlorotoluene	ND		0.71	0.18	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
2-Hexanone	ND		14	2.2	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
4-Chlorotoluene	ND		0.71	0.17	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
4-Methyl-2-pentanone	ND		14	2.1	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Acetone	**20**		14	7.0	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Benzene	ND		0.71	0.18	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Bromobenzene	ND		0.71	0.15	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Bromochloromethane	ND		1.4	0.32	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Bromodichloromethane	ND		0.71	0.23	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Bromoform	ND		3.5	0.94	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Bromomethane	ND		14	4.7	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
cis-1,2-Dichloroethene	ND		0.71	0.24	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
cis-1,3-Dichloropropene	ND		0.71	0.25	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Carbon disulfide	ND		7.1	0.28	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Carbon tetrachloride	ND		0.71	0.21	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Chlorobenzene	ND		0.71	0.19	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Chloroethane	ND		1.4	0.53	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Chloroform	ND		0.71	0.42	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Chloromethane	ND		14	1.1	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Dibromochloromethane	ND		1.4	0.19	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Dibromomethane	ND		0.71	0.22	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Dichlorodifluoromethane	ND		1.4	0.32	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Di-isopropyl ether (DIPE)	ND		0.71	0.35	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Ethanol	ND		180	65	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Ethylbenzene	ND		0.71	0.15	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Ethyl-t-butyl ether (ETBE)	ND		0.71	0.17	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Isopropylbenzene	ND		0.71	0.20	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Methylene Chloride	ND		7.1	2.2	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Methyl-t-Butyl Ether (MTBE)	ND		1.4	0.13	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Naphthalene	ND		7.1	2.8	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
n-Butylbenzene	ND		0.71	0.15	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
N-Propylbenzene	ND		1.4	0.18	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
o-Xylene	ND		0.71	0.18	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
m,p-Xylene	ND		1.4	0.34	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
p-Isopropyltoluene	ND		0.71	0.20	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
sec-Butylbenzene	ND		0.71	0.19	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Styrene	ND		0.71	0.22	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
trans-1,2-Dichloroethene	ND		0.71	0.21	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
trans-1,3-Dichloropropene	ND		1.4	0.20	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Tert-amyl-methyl ether (TAME)	ND		0.71	0.14	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
tert-Butyl alcohol (TBA)	ND		14	5.0	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
tert-Butylbenzene	ND		0.71	0.18	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Tetrachloroethene	ND		0.71	0.16	ug/Kg		06/05/23 16:14	06/06/23 06:07	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV12-15
Date Collected: 06/03/23 13:49
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-32
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		0.71	0.19	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Trichloroethene	ND		1.4	0.27	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Trichlorofluoromethane	ND		7.1	0.19	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Vinyl acetate	ND		7.1	2.8	ug/Kg		06/05/23 16:14	06/06/23 06:07	1
Vinyl chloride	ND		0.71	0.27	ug/Kg		06/05/23 16:14	06/06/23 06:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*127*		*32 - 179*	*06/05/23 16:14*	*06/06/23 06:07*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*	*06/05/23 16:14*	*06/06/23 06:07*	*1*
Dibromofluoromethane (Surr)	*110*		*58 - 147*	*06/05/23 16:14*	*06/06/23 06:07*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*	*06/05/23 16:14*	*06/06/23 06:07*	*1*

Client Sample ID: SV13-5
Date Collected: 06/03/23 14:17
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-33
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.76	0.22	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
1,1,1-Trichloroethane	ND		0.76	0.18	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
1,1,2,2-Tetrachloroethane	ND		1.5	0.41	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		7.6	0.35	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
1,1,2-Trichloroethane	ND		0.76	0.35	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
1,1-Dichloroethane	ND		0.76	0.21	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
1,1-Dichloroethene	ND		0.76	0.20	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
1,1-Dichloropropene	ND		1.5	0.30	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
1,2,3-Trichlorobenzene	ND		1.5	0.29	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
1,2,3-Trichloropropane	ND		1.5	0.32	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
1,2,4-Trichlorobenzene	ND		1.5	0.31	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
1,2,4-Trimethylbenzene	ND		1.5	0.46	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
1,2-Dibromo-3-Chloropropane	ND		7.6	2.5	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
1,2-Dibromoethane	ND		0.76	0.16	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
1,2-Dichlorobenzene	ND		0.76	0.19	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
1,2-Dichloroethane	ND		0.76	0.21	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
1,2-Dichloropropane	ND		0.76	0.21	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
1,3,5-Trimethylbenzene	ND		1.5	0.20	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
1,3-Dichlorobenzene	ND		0.76	0.19	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
1,3-Dichloropropane	ND		0.76	0.22	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
1,4-Dichlorobenzene	ND		0.76	0.23	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
2,2-Dichloropropane	ND		3.8	0.21	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
2-Butanone	ND		15	3.4	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
2-Chlorotoluene	ND		0.76	0.19	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
2-Hexanone	ND		15	2.3	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
4-Chlorotoluene	ND		0.76	0.18	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
4-Methyl-2-pentanone	ND		15	2.2	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Acetone	**33**		15	7.5	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Benzene	ND		0.76	0.20	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Bromobenzene	ND		0.76	0.16	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Bromochloromethane	ND		1.5	0.34	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Bromodichloromethane	ND		0.76	0.25	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Bromoform	ND		3.8	1.0	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Bromomethane	ND		15	5.0	ug/Kg		06/05/23 16:14	06/06/23 06:29	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV13-5
Date Collected: 06/03/23 14:17
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-33
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		0.76	0.26	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
cis-1,3-Dichloropropene	ND		0.76	0.27	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Carbon disulfide	ND		7.6	0.30	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Carbon tetrachloride	ND		0.76	0.23	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Chlorobenzene	ND		0.76	0.20	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Chloroethane	ND		1.5	0.57	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Chloroform	ND		0.76	0.45	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Chloromethane	ND		15	1.2	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Dibromochloromethane	ND		1.5	0.21	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Dibromomethane	ND		0.76	0.23	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Dichlorodifluoromethane	ND		1.5	0.35	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Di-isopropyl ether (DIPE)	ND		0.76	0.38	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Ethanol	ND		190	70	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Ethylbenzene	ND		0.76	0.16	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Ethyl-t-butyl ether (ETBE)	ND		0.76	0.18	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Isopropylbenzene	ND		0.76	0.21	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Methylene Chloride	ND		7.6	2.4	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Methyl-t-Butyl Ether (MTBE)	ND		1.5	0.14	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Naphthalene	ND		7.6	3.0	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
n-Butylbenzene	ND		0.76	0.16	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
N-Propylbenzene	ND		1.5	0.20	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
o-Xylene	ND		0.76	0.19	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
m,p-Xylene	ND		1.5	0.36	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
p-Isopropyltoluene	ND		0.76	0.21	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
sec-Butylbenzene	ND		0.76	0.21	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Styrene	ND		0.76	0.24	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
trans-1,2-Dichloroethene	ND		0.76	0.23	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
trans-1,3-Dichloropropene	ND		1.5	0.21	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Tert-amyl-methyl ether (TAME)	ND		0.76	0.15	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
tert-Butyl alcohol (TBA)	ND		15	5.3	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
tert-Butylbenzene	ND		0.76	0.19	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Tetrachloroethene	ND		0.76	0.17	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Toluene	ND		0.76	0.20	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Trichloroethene	ND		1.5	0.29	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Trichlorofluoromethane	ND		7.6	0.21	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Vinyl acetate	ND		7.6	3.0	ug/Kg		06/05/23 16:14	06/06/23 06:29	1
Vinyl chloride	ND		0.76	0.29	ug/Kg		06/05/23 16:14	06/06/23 06:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*128*		*32 - 179*	*06/05/23 16:14*	*06/06/23 06:29*	*1*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*	*06/05/23 16:14*	*06/06/23 06:29*	*1*
Dibromofluoromethane (Surr)	*111*		*58 - 147*	*06/05/23 16:14*	*06/06/23 06:29*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*	*06/05/23 16:14*	*06/06/23 06:29*	*1*

Client Sample ID: SV13-10
Date Collected: 06/03/23 14:19
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-34
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.91	0.26	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
1,1,1-Trichloroethane	ND		0.91	0.21	ug/Kg		06/05/23 16:14	06/06/23 06:50	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV13-10
Date Collected: 06/03/23 14:19
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-34
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		1.8	0.49	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		9.1	0.42	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
1,1,2-Trichloroethane	ND		0.91	0.42	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
1,1-Dichloroethane	ND		0.91	0.25	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
1,1-Dichloroethene	ND		0.91	0.24	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
1,1-Dichloropropene	ND		1.8	0.35	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
1,2,3-Trichlorobenzene	ND		1.8	0.34	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
1,2,3-Trichloropropane	ND		1.8	0.38	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
1,2,4-Trichlorobenzene	ND		1.8	0.37	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
1,2,4-Trimethylbenzene	ND		1.8	0.55	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
1,2-Dibromo-3-Chloropropane	ND		9.1	3.0	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
1,2-Dibromoethane	ND		0.91	0.19	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
1,2-Dichlorobenzene	ND		0.91	0.23	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
1,2-Dichloroethane	ND		0.91	0.25	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
1,2-Dichloropropane	ND		0.91	0.25	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
1,3,5-Trimethylbenzene	ND		1.8	0.24	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
1,3-Dichlorobenzene	ND		0.91	0.23	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
1,3-Dichloropropane	ND		0.91	0.27	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
1,4-Dichlorobenzene	ND		0.91	0.28	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
2,2-Dichloropropane	ND		4.5	0.25	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
2-Butanone	ND		18	4.1	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
2-Chlorotoluene	ND		0.91	0.23	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
2-Hexanone	ND		18	2.8	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
4-Chlorotoluene	ND		0.91	0.22	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
4-Methyl-2-pentanone	ND		18	2.6	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Acetone	**54**		18	8.9	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Benzene	ND		0.91	0.23	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Bromobenzene	ND		0.91	0.19	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Bromochloromethane	ND		1.8	0.40	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Bromodichloromethane	ND		0.91	0.30	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Bromoform	ND		4.5	1.2	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Bromomethane	ND		18	6.0	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
cis-1,2-Dichloroethene	ND		0.91	0.31	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
cis-1,3-Dichloropropene	ND		0.91	0.32	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Carbon disulfide	ND		9.1	0.36	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Carbon tetrachloride	ND		0.91	0.27	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Chlorobenzene	ND		0.91	0.24	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Chloroethane	ND		1.8	0.68	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Chloroform	ND		0.91	0.54	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Chloromethane	ND		18	1.4	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Dibromochloromethane	ND		1.8	0.25	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Dibromomethane	ND		0.91	0.28	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Dichlorodifluoromethane	ND		1.8	0.41	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Di-isopropyl ether (DIPE)	ND		0.91	0.45	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Ethanol	ND		230	84	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Ethylbenzene	ND		0.91	0.19	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Ethyl-t-butyl ether (ETBE)	ND		0.91	0.21	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Isopropylbenzene	ND		0.91	0.25	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Methylene Chloride	ND		9.1	2.8	ug/Kg		06/05/23 16:14	06/06/23 06:50	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV13-10
Date Collected: 06/03/23 14:19
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-34
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl-t-Butyl Ether (MTBE)	ND		1.8	0.17	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Naphthalene	ND		9.1	3.6	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
n-Butylbenzene	ND		0.91	0.19	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
N-Propylbenzene	ND		1.8	0.24	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
o-Xylene	ND		0.91	0.23	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
m,p-Xylene	ND		1.8	0.43	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
p-Isopropyltoluene	ND		0.91	0.26	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
sec-Butylbenzene	ND		0.91	0.25	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Styrene	ND		0.91	0.29	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
trans-1,2-Dichloroethene	ND		0.91	0.27	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
trans-1,3-Dichloropropene	ND		1.8	0.25	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Tert-amyl-methyl ether (TAME)	ND		0.91	0.18	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
tert-Butyl alcohol (TBA)	ND		18	6.4	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
tert-Butylbenzene	ND		0.91	0.23	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Tetrachloroethene	**0.31**	**J**	0.91	0.20	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Toluene	ND		0.91	0.24	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Trichloroethene	ND		1.8	0.35	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Trichlorofluoromethane	ND		9.1	0.25	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Vinyl acetate	ND		9.1	3.6	ug/Kg		06/05/23 16:14	06/06/23 06:50	1
Vinyl chloride	ND		0.91	0.34	ug/Kg		06/05/23 16:14	06/06/23 06:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*128*		*32 - 179*	*06/05/23 16:14*	*06/06/23 06:50*	*1*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*	*06/05/23 16:14*	*06/06/23 06:50*	*1*
Dibromofluoromethane (Surr)	*111*		*58 - 147*	*06/05/23 16:14*	*06/06/23 06:50*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*	*06/05/23 16:14*	*06/06/23 06:50*	*1*

Client Sample ID: SV13-15
Date Collected: 06/03/23 14:24
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-35
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.2	0.36	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
1,1,1-Trichloroethane	ND		1.2	0.29	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
1,1,2,2-Tetrachloroethane	ND		2.5	0.68	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		12	0.57	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
1,1,2-Trichloroethane	ND		1.2	0.58	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
1,1-Dichloroethane	ND		1.2	0.35	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
1,1-Dichloroethene	ND		1.2	0.33	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
1,1-Dichloropropene	ND		2.5	0.48	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
1,2,3-Trichlorobenzene	ND		2.5	0.47	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
1,2,3-Trichloropropane	ND		2.5	0.52	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
1,2,4-Trichlorobenzene	ND		2.5	0.51	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
1,2,4-Trimethylbenzene	ND		2.5	0.75	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
1,2-Dibromo-3-Chloropropane	ND		12	4.1	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
1,2-Dibromoethane	ND		1.2	0.26	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
1,2-Dichlorobenzene	ND		1.2	0.31	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
1,2-Dichloroethane	ND		1.2	0.34	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
1,2-Dichloropropane	ND		1.2	0.34	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
1,3,5-Trimethylbenzene	ND		2.5	0.33	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
1,3-Dichlorobenzene	ND		1.2	0.31	ug/Kg		06/05/23 16:14	06/06/23 13:02	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV13-15
Date Collected: 06/03/23 14:24
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-35
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichloropropane	ND		1.2	0.37	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
1,4-Dichlorobenzene	ND		1.2	0.38	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
2,2-Dichloropropane	ND		6.2	0.34	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
2-Butanone	ND		25	5.6	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
2-Chlorotoluene	ND		1.2	0.31	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
2-Hexanone	ND		25	3.8	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
4-Chlorotoluene	ND		1.2	0.30	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
4-Methyl-2-pentanone	ND		25	3.6	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Acetone	**17**	**J**	25	12	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Benzene	ND		1.2	0.32	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Bromobenzene	ND		1.2	0.26	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Bromochloromethane	ND		2.5	0.55	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Bromodichloromethane	ND		1.2	0.40	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Bromoform	ND		6.2	1.6	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Bromomethane	ND		25	8.2	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
cis-1,2-Dichloroethene	ND		1.2	0.42	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
cis-1,3-Dichloropropene	ND		1.2	0.43	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Carbon disulfide	ND		12	0.50	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Carbon tetrachloride	ND		1.2	0.37	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Chlorobenzene	ND		1.2	0.33	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Chloroethane	ND		2.5	0.92	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Chloroform	ND		1.2	0.73	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Chloromethane	ND		25	1.9	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Dibromochloromethane	ND		2.5	0.34	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Dibromomethane	ND		1.2	0.38	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Dichlorodifluoromethane	ND		2.5	0.56	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Di-isopropyl ether (DIPE)	ND		1.2	0.62	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Ethanol	ND		310	110	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Ethylbenzene	ND		1.2	0.26	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Ethyl-t-butyl ether (ETBE)	ND		1.2	0.29	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Isopropylbenzene	ND		1.2	0.34	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Methylene Chloride	ND		12	3.9	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Methyl-t-Butyl Ether (MTBE)	ND		2.5	0.23	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Naphthalene	ND		12	4.9	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
n-Butylbenzene	ND		1.2	0.26	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
N-Propylbenzene	ND		2.5	0.32	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
o-Xylene	ND		1.2	0.32	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
m,p-Xylene	ND		2.5	0.59	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
p-Isopropyltoluene	ND		1.2	0.35	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
sec-Butylbenzene	ND		1.2	0.34	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Styrene	ND		1.2	0.39	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
trans-1,2-Dichloroethene	ND		1.2	0.37	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
trans-1,3-Dichloropropene	ND		2.5	0.35	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Tert-amyl-methyl ether (TAME)	ND		1.2	0.24	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
tert-Butyl alcohol (TBA)	ND		25	8.7	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
tert-Butylbenzene	ND		1.2	0.32	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Tetrachloroethene	**1.7**		1.2	0.28	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Toluene	ND		1.2	0.33	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Trichloroethene	ND		2.5	0.48	ug/Kg		06/05/23 16:14	06/06/23 13:02	1

Method: SW846 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: SV13-15
Date Collected: 06/03/23 14:24
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-35
Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		12	0.34	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Vinyl acetate	ND		12	4.9	ug/Kg		06/05/23 16:14	06/06/23 13:02	1
Vinyl chloride	ND		1.2	0.47	ug/Kg		06/05/23 16:14	06/06/23 13:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*113*		*32 - 179*	*06/05/23 16:14*	*06/06/23 13:02*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*	*06/05/23 16:14*	*06/06/23 13:02*	*1*
Dibromofluoromethane (Surr)	*98*		*58 - 147*	*06/05/23 16:14*	*06/06/23 13:02*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*	*06/05/23 16:14*	*06/06/23 13:02*	*1*

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: EB
Date Collected: 06/03/23 07:20
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		2.0	0.36	ug/L			06/08/23 00:57	1
1,1,1-Trichloroethane	ND		1.0	0.36	ug/L			06/08/23 00:57	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.31	ug/L			06/08/23 00:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10	2.5	ug/L			06/08/23 00:57	1
1,1,2-Trichloroethane	ND		1.0	0.30	ug/L			06/08/23 00:57	1
1,1-Dichloroethane	ND		1.0	0.34	ug/L			06/08/23 00:57	1
1,1-Dichloroethene	ND		1.0	0.42	ug/L			06/08/23 00:57	1
1,1-Dichloropropene	ND		1.0	0.41	ug/L			06/08/23 00:57	1
1,2,3-Trichlorobenzene	ND		1.0	0.59	ug/L			06/08/23 00:57	1
1,2,3-Trichloropropane	ND		5.0	0.42	ug/L			06/08/23 00:57	1
1,2,4-Trichlorobenzene	ND		1.0	0.71	ug/L			06/08/23 00:57	1
1,2,4-Trimethylbenzene	ND		1.0	0.34	ug/L			06/08/23 00:57	1
1,2-Dibromo-3-Chloropropane	ND		10	2.1	ug/L			06/08/23 00:57	1
1,2-Dibromoethane	ND		1.0	0.41	ug/L			06/08/23 00:57	1
1,2-Dichlorobenzene	ND		1.0	0.26	ug/L			06/08/23 00:57	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			06/08/23 00:57	1
1,2-Dichloropropane	ND		1.0	0.42	ug/L			06/08/23 00:57	1
1,3,5-Trimethylbenzene	ND		1.0	0.50	ug/L			06/08/23 00:57	1
1,3-Dichlorobenzene	ND		1.0	0.26	ug/L			06/08/23 00:57	1
1,3-Dichloropropane	ND		1.0	0.32	ug/L			06/08/23 00:57	1
1,4-Dichlorobenzene	ND		1.0	0.28	ug/L			06/08/23 00:57	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			06/08/23 00:57	1
2-Butanone	ND		10	4.5	ug/L			06/08/23 00:57	1
2-Chlorotoluene	ND		1.0	0.33	ug/L			06/08/23 00:57	1
2-Hexanone	ND		10	2.7	ug/L			06/08/23 00:57	1
4-Chlorotoluene	ND		1.0	0.35	ug/L			06/08/23 00:57	1
4-Methyl-2-pentanone	ND		10	3.2	ug/L			06/08/23 00:57	1
Acetone	ND		10	7.4	ug/L			06/08/23 00:57	1
Benzene	ND		0.50	0.24	ug/L			06/08/23 00:57	1
Bromobenzene	ND		1.0	0.29	ug/L			06/08/23 00:57	1
Bromochloromethane	ND		2.0	0.38	ug/L			06/08/23 00:57	1
Bromodichloromethane	ND		1.0	0.29	ug/L			06/08/23 00:57	1
Bromoform	ND		5.0	1.9	ug/L			06/08/23 00:57	1
Bromomethane	ND		25	7.4	ug/L			06/08/23 00:57	1
cis-1,2-Dichloroethene	ND		1.0	0.39	ug/L			06/08/23 00:57	1
cis-1,3-Dichloropropene	ND		0.50	0.26	ug/L			06/08/23 00:57	1
Carbon disulfide	ND		10	0.42	ug/L			06/08/23 00:57	1
Carbon tetrachloride	ND		0.50	0.37	ug/L			06/08/23 00:57	1
Chlorobenzene	ND		1.0	0.26	ug/L			06/08/23 00:57	1
Chloroethane	ND		5.0	1.9	ug/L			06/08/23 00:57	1
Chloroform	ND		1.0	0.32	ug/L			06/08/23 00:57	1
Chloromethane	ND		10	2.2	ug/L			06/08/23 00:57	1
Dibromochloromethane	ND		2.0	0.37	ug/L			06/08/23 00:57	1
Dibromomethane	ND		1.0	0.33	ug/L			06/08/23 00:57	1
Dichlorodifluoromethane	ND		5.0	0.62	ug/L			06/08/23 00:57	1
Di-isopropyl ether (DIPE)	ND		2.0	0.33	ug/L			06/08/23 00:57	1
Ethanol	ND		100	52	ug/L			06/08/23 00:57	1
Ethylbenzene	ND		1.0	0.30	ug/L			06/08/23 00:57	1
Ethyl-t-butyl ether (ETBE)	ND		2.0	0.35	ug/L			06/08/23 00:57	1

Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: EB
Date Collected: 06/03/23 07:20
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		1.0	0.41	ug/L			06/08/23 00:57	1
Methylene Chloride	ND		10	3.0	ug/L			06/08/23 00:57	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.30	ug/L			06/08/23 00:57	1
Naphthalene	ND		10	4.9	ug/L			06/08/23 00:57	1
n-Butylbenzene	ND		1.0	0.53	ug/L			06/08/23 00:57	1
N-Propylbenzene	ND		1.0	0.47	ug/L			06/08/23 00:57	1
o-Xylene	ND		1.0	0.27	ug/L			06/08/23 00:57	1
m,p-Xylene	ND		2.0	0.49	ug/L			06/08/23 00:57	1
p-Isopropyltoluene	ND		1.0	0.47	ug/L			06/08/23 00:57	1
sec-Butylbenzene	ND		1.0	0.37	ug/L			06/08/23 00:57	1
Styrene	ND		1.0	0.38	ug/L			06/08/23 00:57	1
trans-1,2-Dichloroethene	ND		1.0	0.42	ug/L			06/08/23 00:57	1
trans-1,3-Dichloropropene	ND		0.50	0.31	ug/L			06/08/23 00:57	1
Tert-amyl-methyl ether (TAME)	ND		2.0	0.39	ug/L			06/08/23 00:57	1
tert-Butyl alcohol (TBA)	ND		10	2.7	ug/L			06/08/23 00:57	1
tert-Butylbenzene	ND		1.0	0.38	ug/L			06/08/23 00:57	1
Tetrachloroethene	ND		1.0	0.40	ug/L			06/08/23 00:57	1
Toluene	ND		1.0	0.30	ug/L			06/08/23 00:57	1
Trichloroethene	ND		1.0	0.39	ug/L			06/08/23 00:57	1
Trichlorofluoromethane	ND		10	0.75	ug/L			06/08/23 00:57	1
Vinyl acetate	ND		10	5.0	ug/L			06/08/23 00:57	1
Vinyl chloride	ND		0.50	0.43	ug/L			06/08/23 00:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 123*		*06/08/23 00:57*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*06/08/23 00:57*	*1*
Dibromofluoromethane (Surr)	*104*		*78 - 120*		*06/08/23 00:57*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/08/23 00:57*	*1*

Client Sample ID: TB
Date Collected: 06/03/23 00:00
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		2.0	0.36	ug/L			06/08/23 00:15	1
1,1,1-Trichloroethane	ND		1.0	0.36	ug/L			06/08/23 00:15	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.31	ug/L			06/08/23 00:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10	2.5	ug/L			06/08/23 00:15	1
1,1,2-Trichloroethane	ND		1.0	0.30	ug/L			06/08/23 00:15	1
1,1-Dichloroethane	ND		1.0	0.34	ug/L			06/08/23 00:15	1
1,1-Dichloroethene	ND		1.0	0.42	ug/L			06/08/23 00:15	1
1,1-Dichloropropene	ND		1.0	0.41	ug/L			06/08/23 00:15	1
1,2,3-Trichlorobenzene	ND		1.0	0.59	ug/L			06/08/23 00:15	1
1,2,3-Trichloropropane	ND		5.0	0.42	ug/L			06/08/23 00:15	1
1,2,4-Trichlorobenzene	ND		1.0	0.71	ug/L			06/08/23 00:15	1
1,2,4-Trimethylbenzene	ND		1.0	0.34	ug/L			06/08/23 00:15	1
1,2-Dibromo-3-Chloropropane	ND		10	2.1	ug/L			06/08/23 00:15	1
1,2-Dibromoethane	ND		1.0	0.41	ug/L			06/08/23 00:15	1
1,2-Dichlorobenzene	ND		1.0	0.26	ug/L			06/08/23 00:15	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			06/08/23 00:15	1
1,2-Dichloropropane	ND		1.0	0.42	ug/L			06/08/23 00:15	1

Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: TB
Date Collected: 06/03/23 00:00
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		1.0	0.50	ug/L			06/08/23 00:15	1
1,3-Dichlorobenzene	ND		1.0	0.26	ug/L			06/08/23 00:15	1
1,3-Dichloropropane	ND		1.0	0.32	ug/L			06/08/23 00:15	1
1,4-Dichlorobenzene	ND		1.0	0.28	ug/L			06/08/23 00:15	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			06/08/23 00:15	1
2-Butanone	ND		10	4.5	ug/L			06/08/23 00:15	1
2-Chlorotoluene	ND		1.0	0.33	ug/L			06/08/23 00:15	1
2-Hexanone	ND		10	2.7	ug/L			06/08/23 00:15	1
4-Chlorotoluene	ND		1.0	0.35	ug/L			06/08/23 00:15	1
4-Methyl-2-pentanone	ND		10	3.2	ug/L			06/08/23 00:15	1
Acetone	ND		10	7.4	ug/L			06/08/23 00:15	1
Benzene	ND		0.50	0.24	ug/L			06/08/23 00:15	1
Bromobenzene	ND		1.0	0.29	ug/L			06/08/23 00:15	1
Bromochloromethane	ND		2.0	0.38	ug/L			06/08/23 00:15	1
Bromodichloromethane	ND		1.0	0.29	ug/L			06/08/23 00:15	1
Bromoform	ND		5.0	1.9	ug/L			06/08/23 00:15	1
Bromomethane	ND		25	7.4	ug/L			06/08/23 00:15	1
cis-1,2-Dichloroethene	ND		1.0	0.39	ug/L			06/08/23 00:15	1
cis-1,3-Dichloropropene	ND		0.50	0.26	ug/L			06/08/23 00:15	1
Carbon disulfide	ND		10	0.42	ug/L			06/08/23 00:15	1
Carbon tetrachloride	ND		0.50	0.37	ug/L			06/08/23 00:15	1
Chlorobenzene	ND		1.0	0.26	ug/L			06/08/23 00:15	1
Chloroethane	ND		5.0	1.9	ug/L			06/08/23 00:15	1
Chloroform	ND		1.0	0.32	ug/L			06/08/23 00:15	1
Chloromethane	ND		10	2.2	ug/L			06/08/23 00:15	1
Dibromochloromethane	ND		2.0	0.37	ug/L			06/08/23 00:15	1
Dibromomethane	ND		1.0	0.33	ug/L			06/08/23 00:15	1
Dichlorodifluoromethane	ND		5.0	0.62	ug/L			06/08/23 00:15	1
Di-isopropyl ether (DIPE)	ND		2.0	0.33	ug/L			06/08/23 00:15	1
Ethanol	ND		100	52	ug/L			06/08/23 00:15	1
Ethylbenzene	ND		1.0	0.30	ug/L			06/08/23 00:15	1
Ethyl-t-butyl ether (ETBE)	ND		2.0	0.35	ug/L			06/08/23 00:15	1
Isopropylbenzene	ND		1.0	0.41	ug/L			06/08/23 00:15	1
Methylene Chloride	ND		10	3.0	ug/L			06/08/23 00:15	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.30	ug/L			06/08/23 00:15	1
Naphthalene	ND		10	4.9	ug/L			06/08/23 00:15	1
n-Butylbenzene	ND		1.0	0.53	ug/L			06/08/23 00:15	1
N-Propylbenzene	ND		1.0	0.47	ug/L			06/08/23 00:15	1
o-Xylene	ND		1.0	0.27	ug/L			06/08/23 00:15	1
m,p-Xylene	ND		2.0	0.49	ug/L			06/08/23 00:15	1
p-Isopropyltoluene	ND		1.0	0.47	ug/L			06/08/23 00:15	1
sec-Butylbenzene	ND		1.0	0.37	ug/L			06/08/23 00:15	1
Styrene	ND		1.0	0.38	ug/L			06/08/23 00:15	1
trans-1,2-Dichloroethene	ND		1.0	0.42	ug/L			06/08/23 00:15	1
trans-1,3-Dichloropropene	ND		0.50	0.31	ug/L			06/08/23 00:15	1
Tert-amyl-methyl ether (TAME)	ND		2.0	0.39	ug/L			06/08/23 00:15	1
tert-Butyl alcohol (TBA)	ND		10	2.7	ug/L			06/08/23 00:15	1
tert-Butylbenzene	ND		1.0	0.38	ug/L			06/08/23 00:15	1
Tetrachloroethene	ND		1.0	0.40	ug/L			06/08/23 00:15	1

Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: TB
Date Collected: 06/03/23 00:00
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		1.0	0.30	ug/L			06/08/23 00:15	1
Trichloroethene	ND		1.0	0.39	ug/L			06/08/23 00:15	1
Trichlorofluoromethane	ND		10	0.75	ug/L			06/08/23 00:15	1
Vinyl acetate	ND		10	5.0	ug/L			06/08/23 00:15	1
Vinyl chloride	ND		0.50	0.43	ug/L			06/08/23 00:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 123*		*06/08/23 00:15*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/08/23 00:15*	*1*
Dibromofluoromethane (Surr)	*101*		*78 - 120*		*06/08/23 00:15*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/08/23 00:15*	*1*

Surrogate Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-140498-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(70-123)	(80-120)	(78-120)	(80-120)
570-140498-1	EB	104	95	104	100
570-140498-2	TB	101	99	101	100
LCS 570-335308/4	Lab Control Sample	103	100	100	98
LCSD 570-335308/5	Lab Control Sample Dup	100	100	100	99
MB 570-335308/7	Method Blank	102	96	103	100

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B/5035 - Volatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(32-179)	(80-120)	(58-147)	(80-120)
570-140498-3	SV4-5	122	101	105	100
570-140498-4	SV4-10	122	104	104	99
570-140498-5	SV4-15	121	100	106	98
570-140498-6	SV5-5	119	102	102	99
570-140498-7	SV5-10	118	100	106	101
570-140498-8	SV5-15	119	102	107	100
570-140498-9	SV6-5	117	102	101	100
570-140498-10	SV6-10	117	105	103	98
570-140498-11	SV6-15	120	103	109	96
570-140498-12	SV7-5	122	105	107	102
570-140498-13	SV7-5 DUP	121	103	106	99
570-140498-14	SV7-10	118	101	102	98
570-140498-15	SV7-10 DUP	119	101	105	98
570-140498-16	SV7-15	121	100	105	97
570-140498-17	SV7-15 DUP	123	101	106	97
570-140498-18	SV8-5	123	101	109	98
570-140498-19	SV8-10	130	99	110	98
570-140498-20	SV8-15	125	100	107	98
570-140498-21	SV9-5	125	101	108	99
570-140498-22	SV9-10	125	100	110	98
570-140498-23	SV9-15	124	100	107	97
570-140498-24	SV10-5	132	102	110	98
570-140498-25	SV10-10	125	100	109	99
570-140498-26	SV10-15	124	99	106	97
570-140498-27	SV11-5	130	102	112	99
570-140498-28	SV11-10	126	100	109	99
570-140498-29	SV11-15	133	99	113	98
570-140498-30	SV12-5	129	103	111	100
570-140498-31	SV12-10	128	101	111	99
570-140498-32	SV12-15	127	100	110	98
570-140498-33	SV13-5	128	103	111	100
570-140498-34	SV13-10	128	100	111	99

Surrogate Summary

Client: NV5, Inc
Job ID: 570-140498-1
Project/Site: McKinley Elementary School

Method: 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	**Client Sample ID**	**(32-179)**	**(80-120)**	**(58-147)**	**(80-120)**
570-140498-35	SV13-15	113	97	98	97
LCS 570-334614/3	Lab Control Sample	102	102	103	103
LCS 570-334622/3	Lab Control Sample	102	102	99	100
LCS 570-334743/4	Lab Control Sample	101	100	103	102
LCSD 570-334614/4	Lab Control Sample Dup	101	101	102	101
LCSD 570-334622/4	Lab Control Sample Dup	104	100	102	101
LCSD 570-334743/5	Lab Control Sample Dup	102	100	104	102
MB 570-334614/8	Method Blank	103	99	97	98
MB 570-334622/6	Method Blank	103	95	99	100
MB 570-334743/9	Method Blank	101	97	96	97

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-335308/7
Matrix: Water
Analysis Batch: 335308

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		2.0	0.36	ug/L			06/07/23 23:11	1
1,1,1-Trichloroethane	ND		1.0	0.36	ug/L			06/07/23 23:11	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.31	ug/L			06/07/23 23:11	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10	2.5	ug/L			06/07/23 23:11	1
1,1,2-Trichloroethane	ND		1.0	0.30	ug/L			06/07/23 23:11	1
1,1-Dichloroethane	ND		1.0	0.34	ug/L			06/07/23 23:11	1
1,1-Dichloroethene	ND		1.0	0.42	ug/L			06/07/23 23:11	1
1,1-Dichloropropene	ND		1.0	0.41	ug/L			06/07/23 23:11	1
1,2,3-Trichlorobenzene	ND		1.0	0.59	ug/L			06/07/23 23:11	1
1,2,3-Trichloropropane	ND		5.0	0.42	ug/L			06/07/23 23:11	1
1,2,4-Trichlorobenzene	ND		1.0	0.71	ug/L			06/07/23 23:11	1
1,2,4-Trimethylbenzene	ND		1.0	0.34	ug/L			06/07/23 23:11	1
1,2-Dibromo-3-Chloropropane	ND		10	2.1	ug/L			06/07/23 23:11	1
1,2-Dibromoethane	ND		1.0	0.41	ug/L			06/07/23 23:11	1
1,2-Dichlorobenzene	ND		1.0	0.26	ug/L			06/07/23 23:11	1
1,2-Dichloroethane	ND		0.50	0.25	ug/L			06/07/23 23:11	1
1,2-Dichloropropane	ND		1.0	0.42	ug/L			06/07/23 23:11	1
1,3,5-Trimethylbenzene	ND		1.0	0.50	ug/L			06/07/23 23:11	1
1,3-Dichlorobenzene	ND		1.0	0.26	ug/L			06/07/23 23:11	1
1,3-Dichloropropane	ND		1.0	0.32	ug/L			06/07/23 23:11	1
1,4-Dichlorobenzene	ND		1.0	0.28	ug/L			06/07/23 23:11	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			06/07/23 23:11	1
2-Butanone	ND		10	4.5	ug/L			06/07/23 23:11	1
2-Chlorotoluene	ND		1.0	0.33	ug/L			06/07/23 23:11	1
2-Hexanone	ND		10	2.7	ug/L			06/07/23 23:11	1
4-Chlorotoluene	ND		1.0	0.35	ug/L			06/07/23 23:11	1
4-Methyl-2-pentanone	ND		10	3.2	ug/L			06/07/23 23:11	1
Acetone	ND		10	7.4	ug/L			06/07/23 23:11	1
Benzene	ND		0.50	0.24	ug/L			06/07/23 23:11	1
Bromobenzene	ND		1.0	0.29	ug/L			06/07/23 23:11	1
Bromochloromethane	ND		2.0	0.38	ug/L			06/07/23 23:11	1
Bromodichloromethane	ND		1.0	0.29	ug/L			06/07/23 23:11	1
Bromoform	ND		5.0	1.9	ug/L			06/07/23 23:11	1
Bromomethane	ND		25	7.4	ug/L			06/07/23 23:11	1
cis-1,2-Dichloroethene	ND		1.0	0.39	ug/L			06/07/23 23:11	1
cis-1,3-Dichloropropene	ND		0.50	0.26	ug/L			06/07/23 23:11	1
Carbon disulfide	ND		10	0.42	ug/L			06/07/23 23:11	1
Carbon tetrachloride	ND		0.50	0.37	ug/L			06/07/23 23:11	1
Chlorobenzene	ND		1.0	0.26	ug/L			06/07/23 23:11	1
Chloroethane	ND		5.0	1.9	ug/L			06/07/23 23:11	1
Chloroform	ND		1.0	0.32	ug/L			06/07/23 23:11	1
Chloromethane	ND		10	2.2	ug/L			06/07/23 23:11	1
Dibromochloromethane	ND		2.0	0.37	ug/L			06/07/23 23:11	1
Dibromomethane	ND		1.0	0.33	ug/L			06/07/23 23:11	1
Dichlorodifluoromethane	ND		5.0	0.62	ug/L			06/07/23 23:11	1
Di-isopropyl ether (DIPE)	ND		2.0	0.33	ug/L			06/07/23 23:11	1
Ethanol	ND		100	52	ug/L			06/07/23 23:11	1
Ethylbenzene	ND		1.0	0.30	ug/L			06/07/23 23:11	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 570-335308/7
Matrix: Water
Analysis Batch: 335308

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethyl-t-butyl ether (ETBE)	ND		2.0	0.35	ug/L			06/07/23 23:11	1
Isopropylbenzene	ND		1.0	0.41	ug/L			06/07/23 23:11	1
Methylene Chloride	ND		10	3.0	ug/L			06/07/23 23:11	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.30	ug/L			06/07/23 23:11	1
Naphthalene	ND		10	4.9	ug/L			06/07/23 23:11	1
n-Butylbenzene	ND		1.0	0.53	ug/L			06/07/23 23:11	1
N-Propylbenzene	ND		1.0	0.47	ug/L			06/07/23 23:11	1
o-Xylene	ND		1.0	0.27	ug/L			06/07/23 23:11	1
m,p-Xylene	ND		2.0	0.49	ug/L			06/07/23 23:11	1
p-Isopropyltoluene	ND		1.0	0.47	ug/L			06/07/23 23:11	1
sec-Butylbenzene	ND		1.0	0.37	ug/L			06/07/23 23:11	1
Styrene	ND		1.0	0.38	ug/L			06/07/23 23:11	1
trans-1,2-Dichloroethene	ND		1.0	0.42	ug/L			06/07/23 23:11	1
trans-1,3-Dichloropropene	ND		0.50	0.31	ug/L			06/07/23 23:11	1
Tert-amyl-methyl ether (TAME)	ND		2.0	0.39	ug/L			06/07/23 23:11	1
tert-Butyl alcohol (TBA)	ND		10	2.7	ug/L			06/07/23 23:11	1
tert-Butylbenzene	ND		1.0	0.38	ug/L			06/07/23 23:11	1
Tetrachloroethene	ND		1.0	0.40	ug/L			06/07/23 23:11	1
Toluene	ND		1.0	0.30	ug/L			06/07/23 23:11	1
Trichloroethene	ND		1.0	0.39	ug/L			06/07/23 23:11	1
Trichlorofluoromethane	ND		10	0.75	ug/L			06/07/23 23:11	1
Vinyl acetate	ND		10	5.0	ug/L			06/07/23 23:11	1
Vinyl chloride	ND		0.50	0.43	ug/L			06/07/23 23:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 123*		*06/07/23 23:11*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*06/07/23 23:11*	*1*
Dibromofluoromethane (Surr)	*103*		*78 - 120*		*06/07/23 23:11*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/07/23 23:11*	*1*

Lab Sample ID: LCS 570-335308/4
Matrix: Water
Analysis Batch: 335308

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	20.0	19.05		ug/L		95	80 - 122
1,1,1-Trichloroethane	20.0	18.75		ug/L		94	78 - 125
1,1,2,2-Tetrachloroethane	20.0	19.42		ug/L		97	79 - 127
1,1,2-Trichloro-1,2,2-trifluoroetha ne	20.0	20.72		ug/L		104	72 - 138
1,1,2-Trichloroethane	20.0	18.88		ug/L		94	80 - 124
1,1-Dichloroethane	20.0	19.21		ug/L		96	80 - 127
1,1-Dichloroethene	20.0	19.73		ug/L		99	80 - 133
1,1-Dichloropropene	20.0	18.79		ug/L		94	79 - 126
1,2,3-Trichlorobenzene	20.0	18.85		ug/L		94	79 - 128
1,2,3-Trichloropropane	20.0	18.61		ug/L		93	71 - 128
1,2,4-Trichlorobenzene	20.0	19.10		ug/L		95	77 - 126
1,2,4-Trimethylbenzene	20.0	19.96		ug/L		100	80 - 121
1,2-Dibromo-3-Chloropropane	20.0	16.84		ug/L		84	66 - 122

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 570-335308/4
Matrix: Water
Analysis Batch: 335308

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dibromoethane	20.0	18.24		ug/L		91	80 - 120
1,2-Dichlorobenzene	20.0	19.96		ug/L		100	80 - 121
1,2-Dichloroethane	20.0	17.61		ug/L		88	77 - 122
1,2-Dichloropropane	20.0	17.86		ug/L		89	80 - 122
1,3,5-Trimethylbenzene	20.0	20.08		ug/L		100	80 - 123
1,3-Dichlorobenzene	20.0	20.26		ug/L		101	80 - 120
1,3-Dichloropropane	20.0	18.96		ug/L		95	80 - 121
1,4-Dichlorobenzene	20.0	19.02		ug/L		95	80 - 120
2,2-Dichloropropane	20.0	19.33		ug/L		97	68 - 143
2-Butanone	20.0	17.09		ug/L		85	61 - 139
2-Chlorotoluene	20.0	19.30		ug/L		97	80 - 121
2-Hexanone	20.0	18.01		ug/L		90	63 - 134
4-Chlorotoluene	20.0	19.87		ug/L		99	80 - 121
4-Methyl-2-pentanone	20.0	17.69		ug/L		88	67 - 125
Acetone	20.0	20.33		ug/L		102	45 - 150
Benzene	20.0	18.88		ug/L		94	80 - 121
Bromobenzene	20.0	19.08		ug/L		95	80 - 120
Bromochloromethane	20.0	19.16		ug/L		96	80 - 121
Bromodichloromethane	20.0	17.78		ug/L		89	80 - 121
Bromoform	20.0	18.71		ug/L		94	78 - 124
Bromomethane	20.0	19.50	J	ug/L		97	48 - 156
cis-1,2-Dichloroethene	20.0	19.14		ug/L		96	80 - 125
cis-1,3-Dichloropropene	20.0	16.43		ug/L		82	80 - 120
Carbon disulfide	20.0	19.93		ug/L		100	76 - 129
Carbon tetrachloride	20.0	19.14		ug/L		96	71 - 137
Chlorobenzene	20.0	18.65		ug/L		93	80 - 120
Chloroethane	20.0	19.99		ug/L		100	73 - 138
Chloroform	20.0	18.19		ug/L		91	80 - 121
Chloromethane	20.0	17.50		ug/L		87	57 - 138
Dibromochloromethane	20.0	18.39		ug/L		92	80 - 126
Dibromomethane	20.0	18.47		ug/L		92	80 - 120
Dichlorodifluoromethane	20.0	19.69		ug/L		98	44 - 148
Di-isopropyl ether (DIPE)	20.0	19.37		ug/L		97	75 - 134
Ethanol	200	212.5		ug/L		106	50 - 168
Ethylbenzene	20.0	19.23		ug/L		96	80 - 121
Ethyl-t-butyl ether (ETBE)	20.0	18.86		ug/L		94	80 - 124
Isopropylbenzene	20.0	21.22		ug/L		106	80 - 121
Methylene Chloride	20.0	18.00		ug/L		90	80 - 121
Methyl-t-Butyl Ether (MTBE)	20.0	18.45		ug/L		92	78 - 123
Naphthalene	20.0	17.54		ug/L		88	65 - 133
n-Butylbenzene	20.0	19.76		ug/L		99	80 - 125
N-Propylbenzene	20.0	20.56		ug/L		103	80 - 125
o-Xylene	20.0	19.02		ug/L		95	80 - 122
m,p-Xylene	40.0	40.79		ug/L		102	80 - 123
p-Isopropyltoluene	20.0	20.06		ug/L		100	80 - 124
sec-Butylbenzene	20.0	20.64		ug/L		103	80 - 122
Styrene	20.0	20.07		ug/L		100	80 - 120
trans-1,2-Dichloroethene	20.0	19.70		ug/L		98	80 - 122
trans-1,3-Dichloropropene	20.0	19.00		ug/L		95	80 - 125

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 570-335308/4
Matrix: Water
Analysis Batch: 335308

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Tert-amyl-methyl ether (TAME)	20.0	18.36		ug/L		92	74 - 125
tert-Butyl alcohol (TBA)	100	97.29		ug/L		97	70 - 141
tert-Butylbenzene	20.0	20.62		ug/L		103	80 - 122
Tetrachloroethene	20.0	18.39		ug/L		92	80 - 122
Toluene	20.0	18.09		ug/L		90	80 - 120
Trichloroethene	20.0	17.99		ug/L		90	80 - 120
Trichlorofluoromethane	20.0	19.91		ug/L		100	67 - 142
Vinyl acetate	20.0	14.91		ug/L		75	62 - 140
Vinyl chloride	20.0	20.16		ug/L		101	66 - 136

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 123*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*78 - 120*
Toluene-d8 (Surr)	*98*		*80 - 120*

Lab Sample ID: LCSD 570-335308/5
Matrix: Water
Analysis Batch: 335308

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	20.0	20.79		ug/L		104	80 - 122	9	20
1,1,1-Trichloroethane	20.0	20.39		ug/L		102	78 - 125	8	20
1,1,2,2-Tetrachloroethane	20.0	20.67		ug/L		103	79 - 127	6	20
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	22.22		ug/L		111	72 - 138	7	20
1,1,2-Trichloroethane	20.0	20.37		ug/L		102	80 - 124	8	20
1,1-Dichloroethane	20.0	20.65		ug/L		103	80 - 127	7	20
1,1-Dichloroethene	20.0	20.80		ug/L		104	80 - 133	5	20
1,1-Dichloropropene	20.0	20.87		ug/L		104	79 - 126	10	20
1,2,3-Trichlorobenzene	20.0	20.48		ug/L		102	79 - 128	8	20
1,2,3-Trichloropropane	20.0	20.20		ug/L		101	71 - 128	8	20
1,2,4-Trichlorobenzene	20.0	20.66		ug/L		103	77 - 126	8	20
1,2,4-Trimethylbenzene	20.0	21.90		ug/L		110	80 - 121	9	20
1,2-Dibromo-3-Chloropropane	20.0	18.53		ug/L		93	66 - 122	10	20
1,2-Dibromoethane	20.0	19.82		ug/L		99	80 - 120	8	20
1,2-Dichlorobenzene	20.0	21.67		ug/L		108	80 - 121	8	20
1,2-Dichloroethane	20.0	19.07		ug/L		95	77 - 122	8	20
1,2-Dichloropropane	20.0	19.64		ug/L		98	80 - 122	10	20
1,3,5-Trimethylbenzene	20.0	22.26		ug/L		111	80 - 123	10	20
1,3-Dichlorobenzene	20.0	21.92		ug/L		110	80 - 120	8	20
1,3-Dichloropropane	20.0	20.34		ug/L		102	80 - 121	7	20
1,4-Dichlorobenzene	20.0	20.67		ug/L		103	80 - 120	8	20
2,2-Dichloropropane	20.0	21.24		ug/L		106	68 - 143	9	20
2-Butanone	20.0	20.76		ug/L		104	61 - 139	19	25
2-Chlorotoluene	20.0	20.92		ug/L		105	80 - 121	8	20
2-Hexanone	20.0	19.17		ug/L		96	63 - 134	6	21
4-Chlorotoluene	20.0	21.93		ug/L		110	80 - 121	10	20
4-Methyl-2-pentanone	20.0	18.66		ug/L		93	67 - 125	5	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 570-335308/5
Matrix: Water
Analysis Batch: 335308

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Acetone	20.0	20.21		ug/L		101	45 - 150	1	23
Benzene	20.0	20.88		ug/L		104	80 - 121	10	20
Bromobenzene	20.0	21.08		ug/L		105	80 - 120	10	20
Bromochloromethane	20.0	20.34		ug/L		102	80 - 121	6	20
Bromodichloromethane	20.0	19.64		ug/L		98	80 - 121	10	20
Bromoform	20.0	20.04		ug/L		100	78 - 124	7	20
Bromomethane	20.0	21.94	J	ug/L		110	48 - 156	12	21
cis-1,2-Dichloroethene	20.0	20.83		ug/L		104	80 - 125	8	20
cis-1,3-Dichloropropene	20.0	17.84		ug/L		89	80 - 120	8	20
Carbon disulfide	20.0	21.37		ug/L		107	76 - 129	7	20
Carbon tetrachloride	20.0	20.77		ug/L		104	71 - 137	8	20
Chlorobenzene	20.0	20.60		ug/L		103	80 - 120	10	20
Chloroethane	20.0	21.63		ug/L		108	73 - 138	8	20
Chloroform	20.0	19.63		ug/L		98	80 - 121	8	20
Chloromethane	20.0	19.36		ug/L		97	57 - 138	10	20
Dibromochloromethane	20.0	19.97		ug/L		100	80 - 126	8	20
Dibromomethane	20.0	19.84		ug/L		99	80 - 120	7	20
Dichlorodifluoromethane	20.0	22.10		ug/L		110	44 - 148	12	28
Di-isopropyl ether (DIPE)	20.0	20.65		ug/L		103	75 - 134	6	20
Ethanol	200	213.5		ug/L		107	50 - 168	0	29
Ethylbenzene	20.0	21.23		ug/L		106	80 - 121	10	20
Ethyl-t-butyl ether (ETBE)	20.0	20.18		ug/L		101	80 - 124	7	20
Isopropylbenzene	20.0	23.81		ug/L		119	80 - 121	11	20
Methylene Chloride	20.0	19.09		ug/L		95	80 - 121	6	20
Methyl-t-Butyl Ether (MTBE)	20.0	20.04		ug/L		100	78 - 123	8	20
Naphthalene	20.0	19.01		ug/L		95	65 - 133	8	20
n-Butylbenzene	20.0	21.63		ug/L		108	80 - 125	9	20
N-Propylbenzene	20.0	22.57		ug/L		113	80 - 125	9	20
o-Xylene	20.0	21.21		ug/L		106	80 - 122	11	20
m,p-Xylene	40.0	45.14		ug/L		113	80 - 123	10	20
p-Isopropyltoluene	20.0	22.18		ug/L		111	80 - 124	10	20
sec-Butylbenzene	20.0	22.80		ug/L		114	80 - 122	10	20
Styrene	20.0	21.87		ug/L		109	80 - 120	9	20
trans-1,2-Dichloroethene	20.0	21.32		ug/L		107	80 - 122	8	20
trans-1,3-Dichloropropene	20.0	20.75		ug/L		104	80 - 125	9	20
Tert-amyl-methyl ether (TAME)	20.0	20.24		ug/L		101	74 - 125	10	20
tert-Butyl alcohol (TBA)	100	100.0		ug/L		100	70 - 141	3	20
tert-Butylbenzene	20.0	22.50		ug/L		112	80 - 122	9	20
Tetrachloroethene	20.0	20.74		ug/L		104	80 - 122	12	20
Toluene	20.0	19.94		ug/L		100	80 - 120	10	20
Trichloroethene	20.0	20.16		ug/L		101	80 - 120	11	20
Trichlorofluoromethane	20.0	21.54		ug/L		108	67 - 142	8	20
Vinyl acetate	20.0	15.77		ug/L		79	62 - 140	6	21
Vinyl chloride	20.0	21.70		ug/L		108	66 - 136	7	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 123*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 570-335308/5
Matrix: Water
Analysis Batch: 335308

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Dibromofluoromethane (Surr)	100		78 - 120
Toluene-d8 (Surr)	99		80 - 120

Method: 8260B/5035 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 570-334614/8
Matrix: Solid
Analysis Batch: 334614

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.29	ug/Kg			06/05/23 23:13	1
1,1,1-Trichloroethane	ND		1.0	0.23	ug/Kg			06/05/23 23:13	1
1,1,2,2-Tetrachloroethane	ND		2.0	0.54	ug/Kg			06/05/23 23:13	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10	0.46	ug/Kg			06/05/23 23:13	1
1,1,2-Trichloroethane	ND		1.0	0.46	ug/Kg			06/05/23 23:13	1
1,1-Dichloroethane	ND		1.0	0.28	ug/Kg			06/05/23 23:13	1
1,1-Dichloroethene	ND		1.0	0.27	ug/Kg			06/05/23 23:13	1
1,1-Dichloropropene	ND		2.0	0.39	ug/Kg			06/05/23 23:13	1
1,2,3-Trichlorobenzene	ND		2.0	0.38	ug/Kg			06/05/23 23:13	1
1,2,3-Trichloropropane	ND		2.0	0.42	ug/Kg			06/05/23 23:13	1
1,2,4-Trichlorobenzene	ND		2.0	0.41	ug/Kg			06/05/23 23:13	1
1,2,4-Trimethylbenzene	ND		2.0	0.60	ug/Kg			06/05/23 23:13	1
1,2-Dibromo-3-Chloropropane	ND		10	3.3	ug/Kg			06/05/23 23:13	1
1,2-Dibromoethane	ND		1.0	0.21	ug/Kg			06/05/23 23:13	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/Kg			06/05/23 23:13	1
1,2-Dichloroethane	ND		1.0	0.28	ug/Kg			06/05/23 23:13	1
1,2-Dichloropropane	ND		1.0	0.28	ug/Kg			06/05/23 23:13	1
1,3,5-Trimethylbenzene	ND		2.0	0.27	ug/Kg			06/05/23 23:13	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/Kg			06/05/23 23:13	1
1,3-Dichloropropane	ND		1.0	0.30	ug/Kg			06/05/23 23:13	1
1,4-Dichlorobenzene	ND		1.0	0.31	ug/Kg			06/05/23 23:13	1
2,2-Dichloropropane	ND		5.0	0.27	ug/Kg			06/05/23 23:13	1
2-Butanone	ND		20	4.5	ug/Kg			06/05/23 23:13	1
2-Chlorotoluene	ND		1.0	0.25	ug/Kg			06/05/23 23:13	1
2-Hexanone	ND		20	3.1	ug/Kg			06/05/23 23:13	1
4-Chlorotoluene	ND		1.0	0.24	ug/Kg			06/05/23 23:13	1
4-Methyl-2-pentanone	ND		20	2.9	ug/Kg			06/05/23 23:13	1
Acetone	ND		20	9.8	ug/Kg			06/05/23 23:13	1
Benzene	ND		1.0	0.26	ug/Kg			06/05/23 23:13	1
Bromobenzene	ND		1.0	0.21	ug/Kg			06/05/23 23:13	1
Bromochloromethane	ND		2.0	0.44	ug/Kg			06/05/23 23:13	1
Bromodichloromethane	ND		1.0	0.33	ug/Kg			06/05/23 23:13	1
Bromoform	ND		5.0	1.3	ug/Kg			06/05/23 23:13	1
Bromomethane	ND		20	6.6	ug/Kg			06/05/23 23:13	1
cis-1,2-Dichloroethene	ND		1.0	0.34	ug/Kg			06/05/23 23:13	1
cis-1,3-Dichloropropene	ND		1.0	0.35	ug/Kg			06/05/23 23:13	1
Carbon disulfide	ND		10	0.40	ug/Kg			06/05/23 23:13	1
Carbon tetrachloride	ND		1.0	0.30	ug/Kg			06/05/23 23:13	1
Chlorobenzene	ND		1.0	0.27	ug/Kg			06/05/23 23:13	1

Method: 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 570-334614/8
Matrix: Solid
Analysis Batch: 334614

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	ND		2.0	0.74	ug/Kg			06/05/23 23:13	1
Chloroform	ND		1.0	0.59	ug/Kg			06/05/23 23:13	1
Chloromethane	ND		20	1.5	ug/Kg			06/05/23 23:13	1
Dibromochloromethane	ND		2.0	0.27	ug/Kg			06/05/23 23:13	1
Dibromomethane	ND		1.0	0.31	ug/Kg			06/05/23 23:13	1
Dichlorodifluoromethane	ND		2.0	0.45	ug/Kg			06/05/23 23:13	1
Di-isopropyl ether (DIPE)	ND		1.0	0.50	ug/Kg			06/05/23 23:13	1
Ethanol	ND		250	92	ug/Kg			06/05/23 23:13	1
Ethylbenzene	ND		1.0	0.21	ug/Kg			06/05/23 23:13	1
Ethyl-t-butyl ether (ETBE)	ND		1.0	0.24	ug/Kg			06/05/23 23:13	1
Isopropylbenzene	ND		1.0	0.28	ug/Kg			06/05/23 23:13	1
Methylene Chloride	ND		10	3.1	ug/Kg			06/05/23 23:13	1
Methyl-t-Butyl Ether (MTBE)	ND		2.0	0.19	ug/Kg			06/05/23 23:13	1
Naphthalene	ND		10	3.9	ug/Kg			06/05/23 23:13	1
n-Butylbenzene	ND		1.0	0.21	ug/Kg			06/05/23 23:13	1
N-Propylbenzene	ND		2.0	0.26	ug/Kg			06/05/23 23:13	1
o-Xylene	ND		1.0	0.26	ug/Kg			06/05/23 23:13	1
m,p-Xylene	ND		2.0	0.47	ug/Kg			06/05/23 23:13	1
p-Isopropyltoluene	ND		1.0	0.28	ug/Kg			06/05/23 23:13	1
sec-Butylbenzene	ND		1.0	0.27	ug/Kg			06/05/23 23:13	1
Styrene	ND		1.0	0.32	ug/Kg			06/05/23 23:13	1
trans-1,2-Dichloroethene	ND		1.0	0.30	ug/Kg			06/05/23 23:13	1
trans-1,3-Dichloropropene	ND		2.0	0.28	ug/Kg			06/05/23 23:13	1
Tert-amyl-methyl ether (TAME)	ND		1.0	0.19	ug/Kg			06/05/23 23:13	1
tert-Butyl alcohol (TBA)	ND		20	7.0	ug/Kg			06/05/23 23:13	1
tert-Butylbenzene	ND		1.0	0.25	ug/Kg			06/05/23 23:13	1
Tetrachloroethene	ND		1.0	0.22	ug/Kg			06/05/23 23:13	1
Toluene	ND		1.0	0.27	ug/Kg			06/05/23 23:13	1
Trichloroethene	ND		2.0	0.39	ug/Kg			06/05/23 23:13	1
Trichlorofluoromethane	ND		10	0.27	ug/Kg			06/05/23 23:13	1
Vinyl acetate	ND		10	3.9	ug/Kg			06/05/23 23:13	1
Vinyl chloride	ND		1.0	0.38	ug/Kg			06/05/23 23:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*32 - 179*		*06/05/23 23:13*	*1*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/05/23 23:13*	*1*
Dibromofluoromethane (Surr)	*97*		*58 - 147*		*06/05/23 23:13*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*06/05/23 23:13*	*1*

Lab Sample ID: LCS 570-334614/3
Matrix: Solid
Analysis Batch: 334614

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	50.0	52.06		ug/Kg		104	80 - 125
1,1,1-Trichloroethane	50.0	53.35		ug/Kg		107	78 - 130
1,1,2,2-Tetrachloroethane	50.0	54.71		ug/Kg		109	80 - 124
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	43.59		ug/Kg		87	73 - 130

Method: 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 570-334614/3
Matrix: Solid
Analysis Batch: 334614

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,2-Trichloroethane	50.0	53.95		ug/Kg		108	80 - 123
1,1-Dichloroethane	50.0	52.71		ug/Kg		105	79 - 124
1,1-Dichloroethene	50.0	44.34		ug/Kg		89	74 - 132
1,1-Dichloropropene	50.0	51.52		ug/Kg		103	78 - 130
1,2,3-Trichlorobenzene	50.0	51.83		ug/Kg		104	80 - 123
1,2,3-Trichloropropane	50.0	53.64		ug/Kg		107	79 - 120
1,2,4-Trichlorobenzene	50.0	53.34		ug/Kg		107	80 - 125
1,2,4-Trimethylbenzene	50.0	53.39		ug/Kg		107	80 - 124
1,2-Dibromo-3-Chloropropane	50.0	44.96		ug/Kg		90	67 - 120
1,2-Dibromoethane	50.0	52.61		ug/Kg		105	80 - 120
1,2-Dichlorobenzene	50.0	54.51		ug/Kg		109	80 - 120
1,2-Dichloroethane	50.0	53.94		ug/Kg		108	77 - 120
1,2-Dichloropropane	50.0	53.37		ug/Kg		107	80 - 126
1,3,5-Trimethylbenzene	50.0	53.94		ug/Kg		108	80 - 121
1,3-Dichlorobenzene	50.0	53.34		ug/Kg		107	80 - 120
1,3-Dichloropropane	50.0	54.61		ug/Kg		109	80 - 120
1,4-Dichlorobenzene	50.0	52.64		ug/Kg		105	80 - 120
2,2-Dichloropropane	50.0	58.41		ug/Kg		117	73 - 135
2-Butanone	50.0	56.12		ug/Kg		112	67 - 136
2-Chlorotoluene	50.0	53.82		ug/Kg		108	80 - 120
2-Hexanone	50.0	58.61		ug/Kg		117	70 - 137
4-Chlorotoluene	50.0	53.78		ug/Kg		108	80 - 121
4-Methyl-2-pentanone	50.0	55.02		ug/Kg		110	74 - 124
Acetone	50.0	58.24		ug/Kg		116	61 - 142
Benzene	50.0	54.93		ug/Kg		110	80 - 120
Bromobenzene	50.0	53.07		ug/Kg		106	80 - 120
Bromochloromethane	50.0	56.87		ug/Kg		114	80 - 120
Bromodichloromethane	50.0	55.59		ug/Kg		111	80 - 125
Bromoform	50.0	53.67		ug/Kg		107	74 - 138
Bromomethane	50.0	48.70		ug/Kg		97	58 - 136
cis-1,2-Dichloroethene	50.0	55.31		ug/Kg		111	80 - 124
cis-1,3-Dichloropropene	50.0	52.47		ug/Kg		105	80 - 123
Carbon disulfide	50.0	56.15		ug/Kg		112	68 - 128
Carbon tetrachloride	50.0	54.21		ug/Kg		108	75 - 140
Chlorobenzene	50.0	53.13		ug/Kg		106	80 - 120
Chloroethane	50.0	51.40		ug/Kg		103	76 - 137
Chloroform	50.0	51.95		ug/Kg		104	80 - 121
Chloromethane	50.0	51.84		ug/Kg		104	74 - 133
Dibromochloromethane	50.0	53.81		ug/Kg		108	80 - 132
Dibromomethane	50.0	56.72		ug/Kg		113	80 - 120
Dichlorodifluoromethane	50.0	58.78		ug/Kg		118	63 - 146
Di-isopropyl ether (DIPE)	50.0	53.89		ug/Kg		108	73 - 132
Ethanol	500	404.4		ug/Kg		81	46 - 159
Ethylbenzene	50.0	53.54		ug/Kg		107	80 - 120
Ethyl-t-butyl ether (ETBE)	50.0	57.08		ug/Kg		114	77 - 129
Isopropylbenzene	50.0	57.85		ug/Kg		116	80 - 122
Methylene Chloride	50.0	51.26		ug/Kg		103	74 - 120
Methyl-t-Butyl Ether (MTBE)	50.0	54.78		ug/Kg		110	79 - 123
Naphthalene	50.0	50.35		ug/Kg		101	79 - 121

Method: 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 570-334614/3
Matrix: Solid
Analysis Batch: 334614

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
n-Butylbenzene	50.0	51.08		ug/Kg		102	79 - 131
N-Propylbenzene	50.0	54.35		ug/Kg		109	80 - 122
o-Xylene	50.0	53.44		ug/Kg		107	80 - 120
m,p-Xylene	100	110.5		ug/Kg		110	80 - 120
p-Isopropyltoluene	50.0	52.87		ug/Kg		106	80 - 126
sec-Butylbenzene	50.0	53.77		ug/Kg		108	80 - 125
Styrene	50.0	55.29		ug/Kg		111	80 - 120
trans-1,2-Dichloroethene	50.0	54.37		ug/Kg		109	75 - 123
trans-1,3-Dichloropropene	50.0	58.58		ug/Kg		117	80 - 124
Tert-amyl-methyl ether (TAME)	50.0	56.98		ug/Kg		114	80 - 120
tert-Butyl alcohol (TBA)	250	249.7		ug/Kg		100	74 - 123
tert-Butylbenzene	50.0	52.42		ug/Kg		105	80 - 124
Tetrachloroethene	50.0	52.22		ug/Kg		104	80 - 122
Toluene	50.0	53.46		ug/Kg		107	80 - 120
Trichloroethene	50.0	53.18		ug/Kg		106	80 - 127
Trichlorofluoromethane	50.0	51.19		ug/Kg		102	70 - 144
Vinyl acetate	50.0	50.85		ug/Kg		102	71 - 125
Vinyl chloride	50.0	52.11		ug/Kg		104	79 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*32 - 179*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*58 - 147*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: LCSD 570-334614/4
Matrix: Solid
Analysis Batch: 334614

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	50.0	52.97		ug/Kg		106	80 - 125	2	20
1,1,1-Trichloroethane	50.0	54.26		ug/Kg		109	78 - 130	2	20
1,1,2,2-Tetrachloroethane	50.0	53.84		ug/Kg		108	80 - 124	2	20
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	52.74		ug/Kg		105	73 - 130	19	20
1,1,2-Trichloroethane	50.0	54.60		ug/Kg		109	80 - 123	1	20
1,1-Dichloroethane	50.0	53.26		ug/Kg		107	79 - 124	1	20
1,1-Dichloroethene	50.0	52.15		ug/Kg		104	74 - 132	16	20
1,1-Dichloropropene	50.0	51.83		ug/Kg		104	78 - 130	1	20
1,2,3-Trichlorobenzene	50.0	51.19		ug/Kg		102	80 - 123	1	20
1,2,3-Trichloropropane	50.0	53.79		ug/Kg		108	79 - 120	0	20
1,2,4-Trichlorobenzene	50.0	52.05		ug/Kg		104	80 - 125	2	20
1,2,4-Trimethylbenzene	50.0	52.96		ug/Kg		106	80 - 124	1	20
1,2-Dibromo-3-Chloropropane	50.0	45.52		ug/Kg		91	67 - 120	1	20
1,2-Dibromoethane	50.0	53.63		ug/Kg		107	80 - 120	2	20
1,2-Dichlorobenzene	50.0	54.42		ug/Kg		109	80 - 120	0	20
1,2-Dichloroethane	50.0	54.22		ug/Kg		108	77 - 120	1	20
1,2-Dichloropropane	50.0	53.59		ug/Kg		107	80 - 126	0	20
1,3,5-Trimethylbenzene	50.0	54.20		ug/Kg		108	80 - 121	0	20

Method: 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 570-334614/4
Matrix: Solid
Analysis Batch: 334614

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	50.0	53.26		ug/Kg		107	80 - 120	0	20
1,3-Dichloropropane	50.0	55.23		ug/Kg		110	80 - 120	1	20
1,4-Dichlorobenzene	50.0	52.25		ug/Kg		104	80 - 120	1	20
2,2-Dichloropropane	50.0	59.80		ug/Kg		120	73 - 135	2	20
2-Butanone	50.0	55.72		ug/Kg		111	67 - 136	1	20
2-Chlorotoluene	50.0	53.83		ug/Kg		108	80 - 120	0	20
2-Hexanone	50.0	59.20		ug/Kg		118	70 - 137	1	20
4-Chlorotoluene	50.0	53.77		ug/Kg		108	80 - 121	0	20
4-Methyl-2-pentanone	50.0	55.25		ug/Kg		110	74 - 124	0	20
Acetone	50.0	59.69		ug/Kg		119	61 - 142	2	23
Benzene	50.0	55.02		ug/Kg		110	80 - 120	0	20
Bromobenzene	50.0	53.51		ug/Kg		107	80 - 120	1	20
Bromochloromethane	50.0	56.68		ug/Kg		113	80 - 120	0	20
Bromodichloromethane	50.0	56.03		ug/Kg		112	80 - 125	1	20
Bromoform	50.0	53.13		ug/Kg		106	74 - 138	1	20
Bromomethane	50.0	46.55		ug/Kg		93	58 - 136	5	20
cis-1,2-Dichloroethene	50.0	54.81		ug/Kg		110	80 - 124	1	20
cis-1,3-Dichloropropene	50.0	52.79		ug/Kg		106	80 - 123	1	20
Carbon disulfide	50.0	56.65		ug/Kg		113	68 - 128	1	20
Carbon tetrachloride	50.0	55.02		ug/Kg		110	75 - 140	1	20
Chlorobenzene	50.0	53.44		ug/Kg		107	80 - 120	1	20
Chloroethane	50.0	51.95		ug/Kg		104	76 - 137	1	20
Chloroform	50.0	51.84		ug/Kg		104	80 - 121	0	20
Chloromethane	50.0	51.98		ug/Kg		104	74 - 133	0	20
Dibromochloromethane	50.0	55.05		ug/Kg		110	80 - 132	2	20
Dibromomethane	50.0	57.01		ug/Kg		114	80 - 120	1	20
Dichlorodifluoromethane	50.0	58.83		ug/Kg		118	63 - 146	0	20
Di-isopropyl ether (DIPE)	50.0	54.32		ug/Kg		109	73 - 132	1	20
Ethanol	500	415.5		ug/Kg		83	46 - 159	3	30
Ethylbenzene	50.0	54.07		ug/Kg		108	80 - 120	1	20
Ethyl-t-butyl ether (ETBE)	50.0	57.57		ug/Kg		115	77 - 129	1	20
Isopropylbenzene	50.0	57.99		ug/Kg		116	80 - 122	0	20
Methylene Chloride	50.0	51.26		ug/Kg		103	74 - 120	0	20
Methyl-t-Butyl Ether (MTBE)	50.0	55.25		ug/Kg		111	79 - 123	1	20
Naphthalene	50.0	50.44		ug/Kg		101	79 - 121	0	20
n-Butylbenzene	50.0	50.15		ug/Kg		100	79 - 131	2	20
N-Propylbenzene	50.0	54.50		ug/Kg		109	80 - 122	0	20
o-Xylene	50.0	53.67		ug/Kg		107	80 - 120	0	20
m,p-Xylene	100	111.0		ug/Kg		111	80 - 120	0	20
p-Isopropyltoluene	50.0	52.60		ug/Kg		105	80 - 126	1	20
sec-Butylbenzene	50.0	53.54		ug/Kg		107	80 - 125	0	20
Styrene	50.0	56.03		ug/Kg		112	80 - 120	1	20
trans-1,2-Dichloroethene	50.0	54.23		ug/Kg		108	75 - 123	0	20
trans-1,3-Dichloropropene	50.0	59.54		ug/Kg		119	80 - 124	2	20
Tert-amyl-methyl ether (TAME)	50.0	57.34		ug/Kg		115	80 - 120	1	20
tert-Butyl alcohol (TBA)	250	250.9		ug/Kg		100	74 - 123	0	20
tert-Butylbenzene	50.0	52.67		ug/Kg		105	80 - 124	0	20
Tetrachloroethene	50.0	53.15		ug/Kg		106	80 - 122	2	20
Toluene	50.0	53.77		ug/Kg		108	80 - 120	1	20

Method: 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 570-334614/4
Matrix: Solid
Analysis Batch: 334614

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Trichloroethene			50.0	53.80		ug/Kg		108	80 - 127	1	20
Trichlorofluoromethane			50.0	51.78		ug/Kg		104	70 - 144	1	20
Vinyl acetate			50.0	47.82		ug/Kg		96	71 - 125	6	20
Vinyl chloride			50.0	52.54		ug/Kg		105	79 - 133	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*32 - 179*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*58 - 147*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: MB 570-334622/6
Matrix: Solid
Analysis Batch: 334622

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.29	ug/Kg			06/05/23 20:35	1
1,1,1-Trichloroethane	ND		1.0	0.23	ug/Kg			06/05/23 20:35	1
1,1,2,2-Tetrachloroethane	ND		2.0	0.54	ug/Kg			06/05/23 20:35	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10	0.46	ug/Kg			06/05/23 20:35	1
1,1,2-Trichloroethane	ND		1.0	0.46	ug/Kg			06/05/23 20:35	1
1,1-Dichloroethane	ND		1.0	0.28	ug/Kg			06/05/23 20:35	1
1,1-Dichloroethene	ND		1.0	0.27	ug/Kg			06/05/23 20:35	1
1,1-Dichloropropene	ND		2.0	0.39	ug/Kg			06/05/23 20:35	1
1,2,3-Trichlorobenzene	ND		2.0	0.38	ug/Kg			06/05/23 20:35	1
1,2,3-Trichloropropane	ND		2.0	0.42	ug/Kg			06/05/23 20:35	1
1,2,4-Trichlorobenzene	ND		2.0	0.41	ug/Kg			06/05/23 20:35	1
1,2,4-Trimethylbenzene	ND		2.0	0.60	ug/Kg			06/05/23 20:35	1
1,2-Dibromo-3-Chloropropane	ND		10	3.3	ug/Kg			06/05/23 20:35	1
1,2-Dibromoethane	ND		1.0	0.21	ug/Kg			06/05/23 20:35	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/Kg			06/05/23 20:35	1
1,2-Dichloroethane	ND		1.0	0.28	ug/Kg			06/05/23 20:35	1
1,2-Dichloropropane	ND		1.0	0.28	ug/Kg			06/05/23 20:35	1
1,3,5-Trimethylbenzene	ND		2.0	0.27	ug/Kg			06/05/23 20:35	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/Kg			06/05/23 20:35	1
1,3-Dichloropropane	ND		1.0	0.30	ug/Kg			06/05/23 20:35	1
1,4-Dichlorobenzene	ND		1.0	0.31	ug/Kg			06/05/23 20:35	1
2,2-Dichloropropane	ND		5.0	0.27	ug/Kg			06/05/23 20:35	1
2-Butanone	ND		20	4.5	ug/Kg			06/05/23 20:35	1
2-Chlorotoluene	ND		1.0	0.25	ug/Kg			06/05/23 20:35	1
2-Hexanone	ND		20	3.1	ug/Kg			06/05/23 20:35	1
4-Chlorotoluene	ND		1.0	0.24	ug/Kg			06/05/23 20:35	1
4-Methyl-2-pentanone	ND		20	2.9	ug/Kg			06/05/23 20:35	1
Acetone	ND		20	9.8	ug/Kg			06/05/23 20:35	1
Benzene	ND		1.0	0.26	ug/Kg			06/05/23 20:35	1
Bromobenzene	ND		1.0	0.21	ug/Kg			06/05/23 20:35	1
Bromochloromethane	ND		2.0	0.44	ug/Kg			06/05/23 20:35	1
Bromodichloromethane	ND		1.0	0.33	ug/Kg			06/05/23 20:35	1

Method: 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 570-334622/6
Matrix: Solid
Analysis Batch: 334622

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	ND		5.0	1.3	ug/Kg			06/05/23 20:35	1
Bromomethane	ND		20	6.6	ug/Kg			06/05/23 20:35	1
cis-1,2-Dichloroethene	ND		1.0	0.34	ug/Kg			06/05/23 20:35	1
cis-1,3-Dichloropropene	ND		1.0	0.35	ug/Kg			06/05/23 20:35	1
Carbon disulfide	ND		10	0.40	ug/Kg			06/05/23 20:35	1
Carbon tetrachloride	ND		1.0	0.30	ug/Kg			06/05/23 20:35	1
Chlorobenzene	ND		1.0	0.27	ug/Kg			06/05/23 20:35	1
Chloroethane	ND		2.0	0.74	ug/Kg			06/05/23 20:35	1
Chloroform	ND		1.0	0.59	ug/Kg			06/05/23 20:35	1
Chloromethane	ND		20	1.5	ug/Kg			06/05/23 20:35	1
Dibromochloromethane	ND		2.0	0.27	ug/Kg			06/05/23 20:35	1
Dibromomethane	ND		1.0	0.31	ug/Kg			06/05/23 20:35	1
Dichlorodifluoromethane	ND		2.0	0.45	ug/Kg			06/05/23 20:35	1
Di-isopropyl ether (DIPE)	ND		1.0	0.50	ug/Kg			06/05/23 20:35	1
Ethanol	ND		250	92	ug/Kg			06/05/23 20:35	1
Ethylbenzene	ND		1.0	0.21	ug/Kg			06/05/23 20:35	1
Ethyl-t-butyl ether (ETBE)	ND		1.0	0.24	ug/Kg			06/05/23 20:35	1
Isopropylbenzene	ND		1.0	0.28	ug/Kg			06/05/23 20:35	1
Methylene Chloride	ND		10	3.1	ug/Kg			06/05/23 20:35	1
Methyl-t-Butyl Ether (MTBE)	ND		2.0	0.19	ug/Kg			06/05/23 20:35	1
Naphthalene	ND		10	3.9	ug/Kg			06/05/23 20:35	1
n-Butylbenzene	ND		1.0	0.21	ug/Kg			06/05/23 20:35	1
N-Propylbenzene	ND		2.0	0.26	ug/Kg			06/05/23 20:35	1
o-Xylene	ND		1.0	0.26	ug/Kg			06/05/23 20:35	1
m,p-Xylene	ND		2.0	0.47	ug/Kg			06/05/23 20:35	1
p-Isopropyltoluene	ND		1.0	0.28	ug/Kg			06/05/23 20:35	1
sec-Butylbenzene	ND		1.0	0.27	ug/Kg			06/05/23 20:35	1
Styrene	ND		1.0	0.32	ug/Kg			06/05/23 20:35	1
trans-1,2-Dichloroethene	ND		1.0	0.30	ug/Kg			06/05/23 20:35	1
trans-1,3-Dichloropropene	ND		2.0	0.28	ug/Kg			06/05/23 20:35	1
Tert-amyl-methyl ether (TAME)	ND		1.0	0.19	ug/Kg			06/05/23 20:35	1
tert-Butyl alcohol (TBA)	ND		20	7.0	ug/Kg			06/05/23 20:35	1
tert-Butylbenzene	ND		1.0	0.25	ug/Kg			06/05/23 20:35	1
Tetrachloroethene	ND		1.0	0.22	ug/Kg			06/05/23 20:35	1
Toluene	ND		1.0	0.27	ug/Kg			06/05/23 20:35	1
Trichloroethene	ND		2.0	0.39	ug/Kg			06/05/23 20:35	1
Trichlorofluoromethane	ND		10	0.27	ug/Kg			06/05/23 20:35	1
Vinyl acetate	ND		10	3.9	ug/Kg			06/05/23 20:35	1
Vinyl chloride	ND		1.0	0.38	ug/Kg			06/05/23 20:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*32 - 179*		*06/05/23 20:35*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*06/05/23 20:35*	*1*
Dibromofluoromethane (Surr)	*99*		*58 - 147*		*06/05/23 20:35*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*06/05/23 20:35*	*1*

Method: 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 570-334622/3
Matrix: Solid
Analysis Batch: 334622

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	50.0	54.63		ug/Kg		109	80 - 125
1,1,1-Trichloroethane	50.0	49.28		ug/Kg		99	78 - 130
1,1,2,2-Tetrachloroethane	50.0	58.07		ug/Kg		116	80 - 124
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	52.89		ug/Kg		106	73 - 130
1,1,2-Trichloroethane	50.0	51.04		ug/Kg		102	80 - 123
1,1-Dichloroethane	50.0	53.99		ug/Kg		108	79 - 124
1,1-Dichloroethene	50.0	55.29		ug/Kg		111	74 - 132
1,1-Dichloropropene	50.0	51.40		ug/Kg		103	78 - 130
1,2,3-Trichlorobenzene	50.0	54.06		ug/Kg		108	80 - 123
1,2,3-Trichloropropane	50.0	53.22		ug/Kg		106	79 - 120
1,2,4-Trichlorobenzene	50.0	57.36		ug/Kg		115	80 - 125
1,2,4-Trimethylbenzene	50.0	54.13		ug/Kg		108	80 - 124
1,2-Dibromo-3-Chloropropane	50.0	49.37		ug/Kg		99	67 - 120
1,2-Dibromoethane	50.0	52.28		ug/Kg		105	80 - 120
1,2-Dichlorobenzene	50.0	53.84		ug/Kg		108	80 - 120
1,2-Dichloroethane	50.0	52.02		ug/Kg		104	77 - 120
1,2-Dichloropropane	50.0	53.05		ug/Kg		106	80 - 126
1,3,5-Trimethylbenzene	50.0	53.99		ug/Kg		108	80 - 121
1,3-Dichlorobenzene	50.0	52.91		ug/Kg		106	80 - 120
1,3-Dichloropropane	50.0	54.72		ug/Kg		109	80 - 120
1,4-Dichlorobenzene	50.0	51.44		ug/Kg		103	80 - 120
2,2-Dichloropropane	50.0	53.72		ug/Kg		107	73 - 135
2-Butanone	50.0	48.45		ug/Kg		97	67 - 136
2-Chlorotoluene	50.0	53.12		ug/Kg		106	80 - 120
2-Hexanone	50.0	57.36		ug/Kg		115	70 - 137
4-Chlorotoluene	50.0	52.32		ug/Kg		105	80 - 121
4-Methyl-2-pentanone	50.0	52.96		ug/Kg		106	74 - 124
Acetone	50.0	54.00		ug/Kg		108	61 - 142
Benzene	50.0	52.40		ug/Kg		105	80 - 120
Bromobenzene	50.0	52.86		ug/Kg		106	80 - 120
Bromochloromethane	50.0	51.77		ug/Kg		104	80 - 120
Bromodichloromethane	50.0	51.36		ug/Kg		103	80 - 125
Bromoform	50.0	54.91		ug/Kg		110	74 - 138
Bromomethane	50.0	46.73		ug/Kg		93	58 - 136
cis-1,2-Dichloroethene	50.0	52.98		ug/Kg		106	80 - 124
cis-1,3-Dichloropropene	50.0	53.13		ug/Kg		106	80 - 123
Carbon disulfide	50.0	54.95		ug/Kg		110	68 - 128
Carbon tetrachloride	50.0	51.91		ug/Kg		104	75 - 140
Chlorobenzene	50.0	52.55		ug/Kg		105	80 - 120
Chloroethane	50.0	55.26		ug/Kg		111	76 - 137
Chloroform	50.0	50.59		ug/Kg		101	80 - 121
Chloromethane	50.0	54.17		ug/Kg		108	74 - 133
Dibromochloromethane	50.0	52.08		ug/Kg		104	80 - 132
Dibromomethane	50.0	52.36		ug/Kg		105	80 - 120
Dichlorodifluoromethane	50.0	59.80		ug/Kg		120	63 - 146
Di-isopropyl ether (DIPE)	50.0	51.82		ug/Kg		104	73 - 132
Ethanol	500	473.9		ug/Kg		95	46 - 159
Ethylbenzene	50.0	53.00		ug/Kg		106	80 - 120

Method: 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 570-334622/3
Matrix: Solid
Analysis Batch: 334622

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ethyl-t-butyl ether (ETBE)	50.0	54.52		ug/Kg		109	77 - 129
Isopropylbenzene	50.0	57.16		ug/Kg		114	80 - 122
Methylene Chloride	50.0	50.42		ug/Kg		101	74 - 120
Methyl-t-Butyl Ether (MTBE)	50.0	52.18		ug/Kg		104	79 - 123
Naphthalene	50.0	53.23		ug/Kg		106	79 - 121
n-Butylbenzene	50.0	55.32		ug/Kg		111	79 - 131
N-Propylbenzene	50.0	55.02		ug/Kg		110	80 - 122
o-Xylene	50.0	53.19		ug/Kg		106	80 - 120
m,p-Xylene	100	108.8		ug/Kg		109	80 - 120
p-Isopropyltoluene	50.0	53.36		ug/Kg		107	80 - 126
sec-Butylbenzene	50.0	53.91		ug/Kg		108	80 - 125
Styrene	50.0	53.35		ug/Kg		107	80 - 120
trans-1,2-Dichloroethene	50.0	53.87		ug/Kg		108	75 - 123
trans-1,3-Dichloropropene	50.0	55.04		ug/Kg		110	80 - 124
Tert-amyl-methyl ether (TAME)	50.0	53.12		ug/Kg		106	80 - 120
tert-Butyl alcohol (TBA)	250	267.6		ug/Kg		107	74 - 123
tert-Butylbenzene	50.0	52.23		ug/Kg		104	80 - 124
Tetrachloroethene	50.0	53.40		ug/Kg		107	80 - 122
Toluene	50.0	52.06		ug/Kg		104	80 - 120
Trichloroethene	50.0	50.25		ug/Kg		101	80 - 127
Trichlorofluoromethane	50.0	53.58		ug/Kg		107	70 - 144
Vinyl acetate	50.0	50.04		ug/Kg		100	71 - 125
Vinyl chloride	50.0	57.47		ug/Kg		115	79 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*32 - 179*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*58 - 147*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: LCSD 570-334622/4
Matrix: Solid
Analysis Batch: 334622

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	50.0	52.93		ug/Kg		106	80 - 125	3	20
1,1,1-Trichloroethane	50.0	50.62		ug/Kg		101	78 - 130	3	20
1,1,2,2-Tetrachloroethane	50.0	55.35		ug/Kg		111	80 - 124	5	20
1,1,2-Trichloro-1,2,2-trifluoroetha ne	50.0	53.68		ug/Kg		107	73 - 130	1	20
1,1,2-Trichloroethane	50.0	49.23		ug/Kg		98	80 - 123	4	20
1,1-Dichloroethane	50.0	52.71		ug/Kg		105	79 - 124	2	20
1,1-Dichloroethene	50.0	55.41		ug/Kg		111	74 - 132	0	20
1,1-Dichloropropene	50.0	51.66		ug/Kg		103	78 - 130	0	20
1,2,3-Trichlorobenzene	50.0	52.03		ug/Kg		104	80 - 123	4	20
1,2,3-Trichloropropane	50.0	51.91		ug/Kg		104	79 - 120	2	20
1,2,4-Trichlorobenzene	50.0	56.34		ug/Kg		113	80 - 125	2	20
1,2,4-Trimethylbenzene	50.0	51.22		ug/Kg		102	80 - 124	6	20
1,2-Dibromo-3-Chloropropane	50.0	49.95		ug/Kg		100	67 - 120	1	20

Method: 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 570-334622/4
Matrix: Solid
Analysis Batch: 334622

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dibromoethane	50.0	51.56		ug/Kg		103	80 - 120	1	20
1,2-Dichlorobenzene	50.0	51.62		ug/Kg		103	80 - 120	4	20
1,2-Dichloroethane	50.0	51.36		ug/Kg		103	77 - 120	1	20
1,2-Dichloropropane	50.0	51.04		ug/Kg		102	80 - 126	4	20
1,3,5-Trimethylbenzene	50.0	51.77		ug/Kg		104	80 - 121	4	20
1,3-Dichlorobenzene	50.0	51.66		ug/Kg		103	80 - 120	2	20
1,3-Dichloropropane	50.0	51.64		ug/Kg		103	80 - 120	6	20
1,4-Dichlorobenzene	50.0	49.93		ug/Kg		100	80 - 120	3	20
2,2-Dichloropropane	50.0	52.45		ug/Kg		105	73 - 135	2	20
2-Butanone	50.0	53.21		ug/Kg		106	67 - 136	9	20
2-Chlorotoluene	50.0	50.37		ug/Kg		101	80 - 120	5	20
2-Hexanone	50.0	53.89		ug/Kg		108	70 - 137	6	20
4-Chlorotoluene	50.0	50.08		ug/Kg		100	80 - 121	4	20
4-Methyl-2-pentanone	50.0	50.88		ug/Kg		102	74 - 124	4	20
Acetone	50.0	54.57		ug/Kg		109	61 - 142	1	23
Benzene	50.0	51.66		ug/Kg		103	80 - 120	1	20
Bromobenzene	50.0	50.13		ug/Kg		100	80 - 120	5	20
Bromochloromethane	50.0	55.27		ug/Kg		111	80 - 120	7	20
Bromodichloromethane	50.0	51.83		ug/Kg		104	80 - 125	1	20
Bromoform	50.0	53.34		ug/Kg		107	74 - 138	3	20
Bromomethane	50.0	46.60		ug/Kg		93	58 - 136	0	20
cis-1,2-Dichloroethene	50.0	52.70		ug/Kg		105	80 - 124	1	20
cis-1,3-Dichloropropene	50.0	52.32		ug/Kg		105	80 - 123	2	20
Carbon disulfide	50.0	55.49		ug/Kg		111	68 - 128	1	20
Carbon tetrachloride	50.0	52.26		ug/Kg		105	75 - 140	1	20
Chlorobenzene	50.0	50.94		ug/Kg		102	80 - 120	3	20
Chloroethane	50.0	57.58		ug/Kg		115	76 - 137	4	20
Chloroform	50.0	50.39		ug/Kg		101	80 - 121	0	20
Chloromethane	50.0	54.53		ug/Kg		109	74 - 133	1	20
Dibromochloromethane	50.0	51.57		ug/Kg		103	80 - 132	1	20
Dibromomethane	50.0	50.95		ug/Kg		102	80 - 120	3	20
Dichlorodifluoromethane	50.0	56.07		ug/Kg		112	63 - 146	6	20
Di-isopropyl ether (DIPE)	50.0	52.61		ug/Kg		105	73 - 132	2	20
Ethanol	500	435.3		ug/Kg		87	46 - 159	8	30
Ethylbenzene	50.0	51.39		ug/Kg		103	80 - 120	3	20
Ethyl-t-butyl ether (ETBE)	50.0	54.35		ug/Kg		109	77 - 129	0	20
Isopropylbenzene	50.0	55.12		ug/Kg		110	80 - 122	4	20
Methylene Chloride	50.0	50.13		ug/Kg		100	74 - 120	1	20
Methyl-t-Butyl Ether (MTBE)	50.0	52.14		ug/Kg		104	79 - 123	0	20
Naphthalene	50.0	50.05		ug/Kg		100	79 - 121	6	20
n-Butylbenzene	50.0	52.97		ug/Kg		106	79 - 131	4	20
N-Propylbenzene	50.0	52.90		ug/Kg		106	80 - 122	4	20
o-Xylene	50.0	51.89		ug/Kg		104	80 - 120	2	20
m,p-Xylene	100	104.5		ug/Kg		105	80 - 120	4	20
p-Isopropyltoluene	50.0	51.67		ug/Kg		103	80 - 126	3	20
sec-Butylbenzene	50.0	51.97		ug/Kg		104	80 - 125	4	20
Styrene	50.0	51.45		ug/Kg		103	80 - 120	4	20
trans-1,2-Dichloroethene	50.0	53.19		ug/Kg		106	75 - 123	1	20
trans-1,3-Dichloropropene	50.0	53.71		ug/Kg		107	80 - 124	2	20

Method: 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 570-334622/4
Matrix: Solid
Analysis Batch: 334622

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Tert-amyl-methyl ether (TAME)	50.0	53.27		ug/Kg		107	80 - 120	0	20
tert-Butyl alcohol (TBA)	250	246.9		ug/Kg		99	74 - 123	8	20
tert-Butylbenzene	50.0	50.20		ug/Kg		100	80 - 124	4	20
Tetrachloroethene	50.0	52.01		ug/Kg		104	80 - 122	3	20
Toluene	50.0	52.21		ug/Kg		104	80 - 120	0	20
Trichloroethene	50.0	50.08		ug/Kg		100	80 - 127	0	20
Trichlorofluoromethane	50.0	54.53		ug/Kg		109	70 - 144	2	20
Vinyl acetate	50.0	46.02		ug/Kg		92	71 - 125	8	20
Vinyl chloride	50.0	58.87		ug/Kg		118	79 - 133	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*32 - 179*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*58 - 147*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: MB 570-334743/9
Matrix: Solid
Analysis Batch: 334743

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.29	ug/Kg			06/06/23 11:13	1
1,1,1-Trichloroethane	ND		1.0	0.23	ug/Kg			06/06/23 11:13	1
1,1,2,2-Tetrachloroethane	ND		2.0	0.54	ug/Kg			06/06/23 11:13	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10	0.46	ug/Kg			06/06/23 11:13	1
1,1,2-Trichloroethane	ND		1.0	0.46	ug/Kg			06/06/23 11:13	1
1,1-Dichloroethane	ND		1.0	0.28	ug/Kg			06/06/23 11:13	1
1,1-Dichloroethene	ND		1.0	0.27	ug/Kg			06/06/23 11:13	1
1,1-Dichloropropene	ND		2.0	0.39	ug/Kg			06/06/23 11:13	1
1,2,3-Trichlorobenzene	ND		2.0	0.38	ug/Kg			06/06/23 11:13	1
1,2,3-Trichloropropane	ND		2.0	0.42	ug/Kg			06/06/23 11:13	1
1,2,4-Trichlorobenzene	ND		2.0	0.41	ug/Kg			06/06/23 11:13	1
1,2,4-Trimethylbenzene	ND		2.0	0.60	ug/Kg			06/06/23 11:13	1
1,2-Dibromo-3-Chloropropane	ND		10	3.3	ug/Kg			06/06/23 11:13	1
1,2-Dibromoethane	ND		1.0	0.21	ug/Kg			06/06/23 11:13	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/Kg			06/06/23 11:13	1
1,2-Dichloroethane	ND		1.0	0.28	ug/Kg			06/06/23 11:13	1
1,2-Dichloropropane	ND		1.0	0.28	ug/Kg			06/06/23 11:13	1
1,3,5-Trimethylbenzene	ND		2.0	0.27	ug/Kg			06/06/23 11:13	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/Kg			06/06/23 11:13	1
1,3-Dichloropropane	ND		1.0	0.30	ug/Kg			06/06/23 11:13	1
1,4-Dichlorobenzene	ND		1.0	0.31	ug/Kg			06/06/23 11:13	1
2,2-Dichloropropane	ND		5.0	0.27	ug/Kg			06/06/23 11:13	1
2-Butanone	ND		20	4.5	ug/Kg			06/06/23 11:13	1
2-Chlorotoluene	ND		1.0	0.25	ug/Kg			06/06/23 11:13	1
2-Hexanone	ND		20	3.1	ug/Kg			06/06/23 11:13	1
4-Chlorotoluene	ND		1.0	0.24	ug/Kg			06/06/23 11:13	1
4-Methyl-2-pentanone	ND		20	2.9	ug/Kg			06/06/23 11:13	1

Method: 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 570-334743/9
Matrix: Solid
Analysis Batch: 334743

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		20	9.8	ug/Kg			06/06/23 11:13	1
Benzene	ND		1.0	0.26	ug/Kg			06/06/23 11:13	1
Bromobenzene	ND		1.0	0.21	ug/Kg			06/06/23 11:13	1
Bromochloromethane	ND		2.0	0.44	ug/Kg			06/06/23 11:13	1
Bromodichloromethane	ND		1.0	0.33	ug/Kg			06/06/23 11:13	1
Bromoform	ND		5.0	1.3	ug/Kg			06/06/23 11:13	1
Bromomethane	ND		20	6.6	ug/Kg			06/06/23 11:13	1
cis-1,2-Dichloroethene	ND		1.0	0.34	ug/Kg			06/06/23 11:13	1
cis-1,3-Dichloropropene	ND		1.0	0.35	ug/Kg			06/06/23 11:13	1
Carbon disulfide	ND		10	0.40	ug/Kg			06/06/23 11:13	1
Carbon tetrachloride	ND		1.0	0.30	ug/Kg			06/06/23 11:13	1
Chlorobenzene	ND		1.0	0.27	ug/Kg			06/06/23 11:13	1
Chloroethane	ND		2.0	0.74	ug/Kg			06/06/23 11:13	1
Chloroform	ND		1.0	0.59	ug/Kg			06/06/23 11:13	1
Chloromethane	ND		20	1.5	ug/Kg			06/06/23 11:13	1
Dibromochloromethane	ND		2.0	0.27	ug/Kg			06/06/23 11:13	1
Dibromomethane	ND		1.0	0.31	ug/Kg			06/06/23 11:13	1
Dichlorodifluoromethane	ND		2.0	0.45	ug/Kg			06/06/23 11:13	1
Di-isopropyl ether (DIPE)	ND		1.0	0.50	ug/Kg			06/06/23 11:13	1
Ethanol	ND		250	92	ug/Kg			06/06/23 11:13	1
Ethylbenzene	ND		1.0	0.21	ug/Kg			06/06/23 11:13	1
Ethyl-t-butyl ether (ETBE)	ND		1.0	0.24	ug/Kg			06/06/23 11:13	1
Isopropylbenzene	ND		1.0	0.28	ug/Kg			06/06/23 11:13	1
Methylene Chloride	ND		10	3.1	ug/Kg			06/06/23 11:13	1
Methyl-t-Butyl Ether (MTBE)	ND		2.0	0.19	ug/Kg			06/06/23 11:13	1
Naphthalene	ND		10	3.9	ug/Kg			06/06/23 11:13	1
n-Butylbenzene	ND		1.0	0.21	ug/Kg			06/06/23 11:13	1
N-Propylbenzene	ND		2.0	0.26	ug/Kg			06/06/23 11:13	1
o-Xylene	ND		1.0	0.26	ug/Kg			06/06/23 11:13	1
m,p-Xylene	ND		2.0	0.47	ug/Kg			06/06/23 11:13	1
p-Isopropyltoluene	ND		1.0	0.28	ug/Kg			06/06/23 11:13	1
sec-Butylbenzene	ND		1.0	0.27	ug/Kg			06/06/23 11:13	1
Styrene	ND		1.0	0.32	ug/Kg			06/06/23 11:13	1
trans-1,2-Dichloroethene	ND		1.0	0.30	ug/Kg			06/06/23 11:13	1
trans-1,3-Dichloropropene	ND		2.0	0.28	ug/Kg			06/06/23 11:13	1
Tert-amyl-methyl ether (TAME)	ND		1.0	0.19	ug/Kg			06/06/23 11:13	1
tert-Butyl alcohol (TBA)	ND		20	7.0	ug/Kg			06/06/23 11:13	1
tert-Butylbenzene	ND		1.0	0.25	ug/Kg			06/06/23 11:13	1
Tetrachloroethene	ND		1.0	0.22	ug/Kg			06/06/23 11:13	1
Toluene	ND		1.0	0.27	ug/Kg			06/06/23 11:13	1
Trichloroethene	ND		2.0	0.39	ug/Kg			06/06/23 11:13	1
Trichlorofluoromethane	ND		10	0.27	ug/Kg			06/06/23 11:13	1
Vinyl acetate	ND		10	3.9	ug/Kg			06/06/23 11:13	1
Vinyl chloride	ND		1.0	0.38	ug/Kg			06/06/23 11:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*32 - 179*		*06/06/23 11:13*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*06/06/23 11:13*	*1*

Method: 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 570-334743/9
Matrix: Solid
Analysis Batch: 334743

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	96		58 - 147		06/06/23 11:13	1
Toluene-d8 (Surr)	97		80 - 120		06/06/23 11:13	1

Lab Sample ID: LCS 570-334743/4
Matrix: Solid
Analysis Batch: 334743

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	50.0	50.76		ug/Kg		102	80 - 125
1,1,1-Trichloroethane	50.0	53.27		ug/Kg		107	78 - 130
1,1,2,2-Tetrachloroethane	50.0	50.14		ug/Kg		100	80 - 124
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	50.18		ug/Kg		100	73 - 130
1,1,2-Trichloroethane	50.0	50.50		ug/Kg		101	80 - 123
1,1-Dichloroethane	50.0	52.01		ug/Kg		104	79 - 124
1,1-Dichloroethene	50.0	48.56		ug/Kg		97	74 - 132
1,1-Dichloropropene	50.0	51.81		ug/Kg		104	78 - 130
1,2,3-Trichlorobenzene	50.0	49.45		ug/Kg		99	80 - 123
1,2,3-Trichloropropane	50.0	49.17		ug/Kg		98	79 - 120
1,2,4-Trichlorobenzene	50.0	52.26		ug/Kg		105	80 - 125
1,2,4-Trimethylbenzene	50.0	52.44		ug/Kg		105	80 - 124
1,2-Dibromo-3-Chloropropane	50.0	41.19		ug/Kg		82	67 - 120
1,2-Dibromoethane	50.0	48.06		ug/Kg		96	80 - 120
1,2-Dichlorobenzene	50.0	52.43		ug/Kg		105	80 - 120
1,2-Dichloroethane	50.0	51.33		ug/Kg		103	77 - 120
1,2-Dichloropropane	50.0	50.81		ug/Kg		102	80 - 126
1,3,5-Trimethylbenzene	50.0	53.83		ug/Kg		108	80 - 121
1,3-Dichlorobenzene	50.0	52.19		ug/Kg		104	80 - 120
1,3-Dichloropropane	50.0	50.83		ug/Kg		102	80 - 120
1,4-Dichlorobenzene	50.0	51.02		ug/Kg		102	80 - 120
2,2-Dichloropropane	50.0	55.13		ug/Kg		110	73 - 135
2-Butanone	50.0	52.02		ug/Kg		104	67 - 136
2-Chlorotoluene	50.0	52.79		ug/Kg		106	80 - 120
2-Hexanone	50.0	51.71		ug/Kg		103	70 - 137
4-Chlorotoluene	50.0	52.56		ug/Kg		105	80 - 121
4-Methyl-2-pentanone	50.0	47.51		ug/Kg		95	74 - 124
Acetone	50.0	54.26		ug/Kg		109	61 - 142
Benzene	50.0	53.30		ug/Kg		107	80 - 120
Bromobenzene	50.0	50.37		ug/Kg		101	80 - 120
Bromochloromethane	50.0	53.90		ug/Kg		108	80 - 120
Bromodichloromethane	50.0	53.18		ug/Kg		106	80 - 125
Bromoform	50.0	50.73		ug/Kg		101	74 - 138
Bromomethane	50.0	50.32		ug/Kg		101	58 - 136
cis-1,2-Dichloroethene	50.0	53.76		ug/Kg		108	80 - 124
cis-1,3-Dichloropropene	50.0	49.59		ug/Kg		99	80 - 123
Carbon disulfide	50.0	56.04		ug/Kg		112	68 - 128
Carbon tetrachloride	50.0	54.48		ug/Kg		109	75 - 140
Chlorobenzene	50.0	50.99		ug/Kg		102	80 - 120
Chloroethane	50.0	53.75		ug/Kg		108	76 - 137

Method: 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 570-334743/4
Matrix: Solid
Analysis Batch: 334743

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	50.0	50.60		ug/Kg		101	80 - 121
Chloromethane	50.0	53.85		ug/Kg		108	74 - 133
Dibromochloromethane	50.0	50.85		ug/Kg		102	80 - 132
Dibromomethane	50.0	52.85		ug/Kg		106	80 - 120
Dichlorodifluoromethane	50.0	60.57		ug/Kg		121	63 - 146
Di-isopropyl ether (DIPE)	50.0	51.13		ug/Kg		102	73 - 132
Ethanol	500	436.3		ug/Kg		87	46 - 159
Ethylbenzene	50.0	52.74		ug/Kg		105	80 - 120
Ethyl-t-butyl ether (ETBE)	50.0	50.73		ug/Kg		101	77 - 129
Isopropylbenzene	50.0	56.99		ug/Kg		114	80 - 122
Methylene Chloride	50.0	48.91		ug/Kg		98	74 - 120
Methyl-t-Butyl Ether (MTBE)	50.0	49.40		ug/Kg		99	79 - 123
Naphthalene	50.0	46.12		ug/Kg		92	79 - 121
n-Butylbenzene	50.0	51.35		ug/Kg		103	79 - 131
N-Propylbenzene	50.0	54.52		ug/Kg		109	80 - 122
o-Xylene	50.0	52.05		ug/Kg		104	80 - 120
m,p-Xylene	100	108.1		ug/Kg		108	80 - 120
p-Isopropyltoluene	50.0	53.05		ug/Kg		106	80 - 126
sec-Butylbenzene	50.0	53.50		ug/Kg		107	80 - 125
Styrene	50.0	53.65		ug/Kg		107	80 - 120
trans-1,2-Dichloroethene	50.0	54.16		ug/Kg		108	75 - 123
trans-1,3-Dichloropropene	50.0	53.89		ug/Kg		108	80 - 124
Tert-amyl-methyl ether (TAME)	50.0	50.05		ug/Kg		100	80 - 120
tert-Butyl alcohol (TBA)	250	240.3		ug/Kg		96	74 - 123
tert-Butylbenzene	50.0	51.94		ug/Kg		104	80 - 124
Tetrachloroethene	50.0	51.54		ug/Kg		103	80 - 122
Toluene	50.0	51.91		ug/Kg		104	80 - 120
Trichloroethene	50.0	52.13		ug/Kg		104	80 - 127
Trichlorofluoromethane	50.0	54.44		ug/Kg		109	70 - 144
Vinyl acetate	50.0	46.52		ug/Kg		93	71 - 125
Vinyl chloride	50.0	54.94		ug/Kg		110	79 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*32 - 179*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*58 - 147*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Sample ID: LCSD 570-334743/5
Matrix: Solid
Analysis Batch: 334743

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	50.0	52.00		ug/Kg		104	80 - 125	2	20
1,1,1-Trichloroethane	50.0	54.83		ug/Kg		110	78 - 130	3	20
1,1,2,2-Tetrachloroethane	50.0	53.80		ug/Kg		108	80 - 124	7	20
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	48.22		ug/Kg		96	73 - 130	4	20
1,1,2-Trichloroethane	50.0	53.33		ug/Kg		107	80 - 123	5	20

Method: 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 570-334743/5
Matrix: Solid
Analysis Batch: 334743

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloroethane	50.0	53.59		ug/Kg		107	79 - 124	3	20
1,1-Dichloroethene	50.0	47.29		ug/Kg		95	74 - 132	3	20
1,1-Dichloropropene	50.0	52.95		ug/Kg		106	78 - 130	2	20
1,2,3-Trichlorobenzene	50.0	52.23		ug/Kg		104	80 - 123	5	20
1,2,3-Trichloropropane	50.0	51.85		ug/Kg		104	79 - 120	5	20
1,2,4-Trichlorobenzene	50.0	54.44		ug/Kg		109	80 - 125	4	20
1,2,4-Trimethylbenzene	50.0	54.48		ug/Kg		109	80 - 124	4	20
1,2-Dibromo-3-Chloropropane	50.0	44.09		ug/Kg		88	67 - 120	7	20
1,2-Dibromoethane	50.0	51.57		ug/Kg		103	80 - 120	7	20
1,2-Dichlorobenzene	50.0	54.47		ug/Kg		109	80 - 120	4	20
1,2-Dichloroethane	50.0	52.62		ug/Kg		105	77 - 120	2	20
1,2-Dichloropropane	50.0	51.98		ug/Kg		104	80 - 126	2	20
1,3,5-Trimethylbenzene	50.0	54.44		ug/Kg		109	80 - 121	1	20
1,3-Dichlorobenzene	50.0	54.47		ug/Kg		109	80 - 120	4	20
1,3-Dichloropropane	50.0	53.55		ug/Kg		107	80 - 120	5	20
1,4-Dichlorobenzene	50.0	52.50		ug/Kg		105	80 - 120	3	20
2,2-Dichloropropane	50.0	57.40		ug/Kg		115	73 - 135	4	20
2-Butanone	50.0	54.55		ug/Kg		109	67 - 136	5	20
2-Chlorotoluene	50.0	53.64		ug/Kg		107	80 - 120	2	20
2-Hexanone	50.0	54.87		ug/Kg		110	70 - 137	6	20
4-Chlorotoluene	50.0	54.50		ug/Kg		109	80 - 121	4	20
4-Methyl-2-pentanone	50.0	50.89		ug/Kg		102	74 - 124	7	20
Acetone	50.0	59.02		ug/Kg		118	61 - 142	8	23
Benzene	50.0	54.02		ug/Kg		108	80 - 120	1	20
Bromobenzene	50.0	51.91		ug/Kg		104	80 - 120	3	20
Bromochloromethane	50.0	55.31		ug/Kg		111	80 - 120	3	20
Bromodichloromethane	50.0	54.85		ug/Kg		110	80 - 125	3	20
Bromoform	50.0	53.82		ug/Kg		108	74 - 138	6	20
Bromomethane	50.0	49.53		ug/Kg		99	58 - 136	2	20
cis-1,2-Dichloroethene	50.0	55.09		ug/Kg		110	80 - 124	2	20
cis-1,3-Dichloropropene	50.0	50.94		ug/Kg		102	80 - 123	3	20
Carbon disulfide	50.0	57.29		ug/Kg		115	68 - 128	2	20
Carbon tetrachloride	50.0	56.28		ug/Kg		113	75 - 140	3	20
Chlorobenzene	50.0	52.38		ug/Kg		105	80 - 120	3	20
Chloroethane	50.0	54.79		ug/Kg		110	76 - 137	2	20
Chloroform	50.0	51.96		ug/Kg		104	80 - 121	3	20
Chloromethane	50.0	55.13		ug/Kg		110	74 - 133	2	20
Dibromochloromethane	50.0	53.65		ug/Kg		107	80 - 132	5	20
Dibromomethane	50.0	54.62		ug/Kg		109	80 - 120	3	20
Dichlorodifluoromethane	50.0	60.80		ug/Kg		122	63 - 146	0	20
Di-isopropyl ether (DIPE)	50.0	53.28		ug/Kg		107	73 - 132	4	20
Ethanol	500	451.1		ug/Kg		90	46 - 159	3	30
Ethylbenzene	50.0	53.78		ug/Kg		108	80 - 120	2	20
Ethyl-t-butyl ether (ETBE)	50.0	53.72		ug/Kg		107	77 - 129	6	20
Isopropylbenzene	50.0	57.83		ug/Kg		116	80 - 122	1	20
Methylene Chloride	50.0	50.74		ug/Kg		101	74 - 120	4	20
Methyl-t-Butyl Ether (MTBE)	50.0	52.79		ug/Kg		106	79 - 123	7	20
Naphthalene	50.0	49.24		ug/Kg		98	79 - 121	7	20
n-Butylbenzene	50.0	52.59		ug/Kg		105	79 - 131	2	20

Method: 8260B/5035 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 570-334743/5
Matrix: Solid
Analysis Batch: 334743

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
N-Propylbenzene			50.0	54.96		ug/Kg		110	80 - 122	1	20
o-Xylene			50.0	52.94		ug/Kg		106	80 - 120	2	20
m,p-Xylene			100	111.0		ug/Kg		111	80 - 120	3	20
p-Isopropyltoluene			50.0	54.31		ug/Kg		109	80 - 126	2	20
sec-Butylbenzene			50.0	55.08		ug/Kg		110	80 - 125	3	20
Styrene			50.0	54.61		ug/Kg		109	80 - 120	2	20
trans-1,2-Dichloroethene			50.0	55.36		ug/Kg		111	75 - 123	2	20
trans-1,3-Dichloropropene			50.0	57.15		ug/Kg		114	80 - 124	6	20
Tert-amyl-methyl ether (TAME)			50.0	52.47		ug/Kg		105	80 - 120	5	20
tert-Butyl alcohol (TBA)			250	245.9		ug/Kg		98	74 - 123	2	20
tert-Butylbenzene			50.0	54.02		ug/Kg		108	80 - 124	4	20
Tetrachloroethene			50.0	52.88		ug/Kg		106	80 - 122	3	20
Toluene			50.0	53.21		ug/Kg		106	80 - 120	2	20
Trichloroethene			50.0	52.59		ug/Kg		105	80 - 127	1	20
Trichlorofluoromethane			50.0	54.53		ug/Kg		109	70 - 144	0	20
Vinyl acetate			50.0	48.71		ug/Kg		97	71 - 125	5	20
Vinyl chloride			50.0	55.70		ug/Kg		111	79 - 133	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*32 - 179*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*104*		*58 - 147*
Toluene-d8 (Surr)	*102*		*80 - 120*

GC/MS VOA

Prep Batch: 334580

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140498-3	SV4-5	Total/NA	Solid	5035	
570-140498-4	SV4-10	Total/NA	Solid	5035	
570-140498-5	SV4-15	Total/NA	Solid	5035	
570-140498-6	SV5-5	Total/NA	Solid	5035	
570-140498-7	SV5-10	Total/NA	Solid	5035	
570-140498-8	SV5-15	Total/NA	Solid	5035	
570-140498-9	SV6-5	Total/NA	Solid	5035	
570-140498-10	SV6-10	Total/NA	Solid	5035	
570-140498-11	SV6-15	Total/NA	Solid	5035	
570-140498-12	SV7-5	Total/NA	Solid	5035	
570-140498-13	SV7-5 DUP	Total/NA	Solid	5035	
570-140498-14	SV7-10	Total/NA	Solid	5035	
570-140498-15	SV7-10 DUP	Total/NA	Solid	5035	
570-140498-16	SV7-15	Total/NA	Solid	5035	
570-140498-17	SV7-15 DUP	Total/NA	Solid	5035	
570-140498-18	SV8-5	Total/NA	Solid	5035	
570-140498-19	SV8-10	Total/NA	Solid	5035	
570-140498-20	SV8-15	Total/NA	Solid	5035	
570-140498-21	SV9-5	Total/NA	Solid	5035	
570-140498-22	SV9-10	Total/NA	Solid	5035	
570-140498-23	SV9-15	Total/NA	Solid	5035	
570-140498-24	SV10-5	Total/NA	Solid	5035	
570-140498-25	SV10-10	Total/NA	Solid	5035	
570-140498-26	SV10-15	Total/NA	Solid	5035	
570-140498-27	SV11-5	Total/NA	Solid	5035	
570-140498-28	SV11-10	Total/NA	Solid	5035	
570-140498-29	SV11-15	Total/NA	Solid	5035	
570-140498-30	SV12-5	Total/NA	Solid	5035	
570-140498-31	SV12-10	Total/NA	Solid	5035	
570-140498-32	SV12-15	Total/NA	Solid	5035	
570-140498-33	SV13-5	Total/NA	Solid	5035	
570-140498-34	SV13-10	Total/NA	Solid	5035	
570-140498-35	SV13-15	Total/NA	Solid	5035	

Analysis Batch: 334614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140498-15	SV7-10 DUP	Total/NA	Solid	8260B/5035	334580
570-140498-16	SV7-15	Total/NA	Solid	8260B/5035	334580
570-140498-17	SV7-15 DUP	Total/NA	Solid	8260B/5035	334580
570-140498-18	SV8-5	Total/NA	Solid	8260B/5035	334580
570-140498-19	SV8-10	Total/NA	Solid	8260B/5035	334580
570-140498-20	SV8-15	Total/NA	Solid	8260B/5035	334580
570-140498-21	SV9-5	Total/NA	Solid	8260B/5035	334580
570-140498-22	SV9-10	Total/NA	Solid	8260B/5035	334580
570-140498-23	SV9-15	Total/NA	Solid	8260B/5035	334580
570-140498-24	SV10-5	Total/NA	Solid	8260B/5035	334580
570-140498-25	SV10-10	Total/NA	Solid	8260B/5035	334580
570-140498-26	SV10-15	Total/NA	Solid	8260B/5035	334580
570-140498-27	SV11-5	Total/NA	Solid	8260B/5035	334580
570-140498-28	SV11-10	Total/NA	Solid	8260B/5035	334580
570-140498-29	SV11-15	Total/NA	Solid	8260B/5035	334580

GC/MS VOA (Continued)

Analysis Batch: 334614 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140498-30	SV12-5	Total/NA	Solid	8260B/5035	334580
570-140498-31	SV12-10	Total/NA	Solid	8260B/5035	334580
570-140498-32	SV12-15	Total/NA	Solid	8260B/5035	334580
570-140498-33	SV13-5	Total/NA	Solid	8260B/5035	334580
570-140498-34	SV13-10	Total/NA	Solid	8260B/5035	334580
MB 570-334614/8	Method Blank	Total/NA	Solid	8260B/5035	
LCS 570-334614/3	Lab Control Sample	Total/NA	Solid	8260B/5035	
LCSD 570-334614/4	Lab Control Sample Dup	Total/NA	Solid	8260B/5035	

Analysis Batch: 334622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140498-3	SV4-5	Total/NA	Solid	8260B/5035	334580
570-140498-4	SV4-10	Total/NA	Solid	8260B/5035	334580
570-140498-6	SV5-5	Total/NA	Solid	8260B/5035	334580
570-140498-7	SV5-10	Total/NA	Solid	8260B/5035	334580
570-140498-8	SV5-15	Total/NA	Solid	8260B/5035	334580
570-140498-9	SV6-5	Total/NA	Solid	8260B/5035	334580
570-140498-10	SV6-10	Total/NA	Solid	8260B/5035	334580
570-140498-11	SV6-15	Total/NA	Solid	8260B/5035	334580
570-140498-12	SV7-5	Total/NA	Solid	8260B/5035	334580
570-140498-13	SV7-5 DUP	Total/NA	Solid	8260B/5035	334580
570-140498-14	SV7-10	Total/NA	Solid	8260B/5035	334580
MB 570-334622/6	Method Blank	Total/NA	Solid	8260B/5035	
LCS 570-334622/3	Lab Control Sample	Total/NA	Solid	8260B/5035	
LCSD 570-334622/4	Lab Control Sample Dup	Total/NA	Solid	8260B/5035	

Analysis Batch: 334743

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140498-5	SV4-15	Total/NA	Solid	8260B/5035	334580
570-140498-35	SV13-15	Total/NA	Solid	8260B/5035	334580
MB 570-334743/9	Method Blank	Total/NA	Solid	8260B/5035	
LCS 570-334743/4	Lab Control Sample	Total/NA	Solid	8260B/5035	
LCSD 570-334743/5	Lab Control Sample Dup	Total/NA	Solid	8260B/5035	

Analysis Batch: 335308

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140498-1	EB	Total/NA	Water	8260B	
570-140498-2	TB	Total/NA	Water	8260B	
MB 570-335308/7	Method Blank	Total/NA	Water	8260B	
LCS 570-335308/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 570-335308/5	Lab Control Sample Dup	Total/NA	Water	8260B	

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-140498-1

Client Sample ID: EB — Lab Sample ID: 570-140498-1

Date Collected: 06/03/23 07:20 — **Matrix: Water**
Date Received: 06/05/23 12:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	335308	06/08/23 00:57	A1W	EET CAL 4
	Instrument ID: GCMSW									

Client Sample ID: TB — Lab Sample ID: 570-140498-2

Date Collected: 06/03/23 00:00 — **Matrix: Water**
Date Received: 06/05/23 12:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	335308	06/08/23 00:15	A1W	EET CAL 4
	Instrument ID: GCMSW									

Client Sample ID: SV4-5 — Lab Sample ID: 570-140498-3

Date Collected: 06/03/23 08:18 — **Matrix: Solid**
Date Received: 06/05/23 12:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.182 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334622	06/06/23 00:06	AJ4K	EET CAL 4
	Instrument ID: GCMSQ									

Client Sample ID: SV4-10 — Lab Sample ID: 570-140498-4

Date Collected: 06/03/23 08:21 — **Matrix: Solid**
Date Received: 06/05/23 12:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.482 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334622	06/06/23 00:27	AJ4K	EET CAL 4
	Instrument ID: GCMSQ									

Client Sample ID: SV4-15 — Lab Sample ID: 570-140498-5

Date Collected: 06/03/23 08:24 — **Matrix: Solid**
Date Received: 06/05/23 12:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.913 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334743	06/06/23 11:57	OH1	EET CAL 4
	Instrument ID: GCMSGGG									

Client Sample ID: SV5-5 — Lab Sample ID: 570-140498-6

Date Collected: 06/03/23 08:49 — **Matrix: Solid**
Date Received: 06/05/23 12:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.304 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334622	06/06/23 01:09	AJ4K	EET CAL 4
	Instrument ID: GCMSQ									

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-140498-1

Client Sample ID: SV5-10
Date Collected: 06/03/23 08:53
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.223 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334622	06/06/23 01:30	AJ4K	EET CAL 4
	Instrument ID:	GCMSQ								

Client Sample ID: SV5-15
Date Collected: 06/03/23 08:57
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.241 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334622	06/06/23 01:51	AJ4K	EET CAL 4
	Instrument ID:	GCMSQ								

Client Sample ID: SV6-5
Date Collected: 06/03/23 09:25
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.447 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334622	06/06/23 02:12	AJ4K	EET CAL 4
	Instrument ID:	GCMSQ								

Client Sample ID: SV6-10
Date Collected: 06/03/23 09:30
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.525 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334622	06/06/23 02:33	AJ4K	EET CAL 4
	Instrument ID:	GCMSQ								

Client Sample ID: SV6-15
Date Collected: 06/03/23 09:37
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.105 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334622	06/06/23 02:54	AJ4K	EET CAL 4
	Instrument ID:	GCMSQ								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-140498-1

Client Sample ID: SV7-5
Date Collected: 06/03/23 10:02
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.563 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334622	06/06/23 03:15	AJ4K	EET CAL 4
	Instrument ID:	GCMSQ								

Client Sample ID: SV7-5 DUP
Date Collected: 06/03/23 10:02
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-13
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			7.493 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334622	06/06/23 03:36	AJ4K	EET CAL 4
	Instrument ID:	GCMSQ								

Client Sample ID: SV7-10
Date Collected: 06/03/23 10:10
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.708 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334622	06/06/23 03:58	AJ4K	EET CAL 4
	Instrument ID:	GCMSQ								

Client Sample ID: SV7-10 DUP
Date Collected: 06/03/23 10:10
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-15
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.676 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334614	06/05/23 23:57	AJ4K	EET CAL 4
	Instrument ID:	GCMSGGG								

Client Sample ID: SV7-15
Date Collected: 06/03/23 10:12
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-16
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3.783 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334614	06/06/23 00:18	AJ4K	EET CAL 4
	Instrument ID:	GCMSGGG								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-140498-1

Client Sample ID: SV7-15 DUP
Date Collected: 06/03/23 10:12
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-17
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3.675 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334614	06/06/23 00:40	AJ4K	EET CAL 4
	Instrument ID:	GCMSGGG								

Client Sample ID: SV8-5
Date Collected: 06/03/23 10:40
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-18
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.51 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334614	06/06/23 01:02	AJ4K	EET CAL 4
	Instrument ID:	GCMSGGG								

Client Sample ID: SV8-10
Date Collected: 06/03/23 10:45
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-19
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.877 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334614	06/06/23 01:24	AJ4K	EET CAL 4
	Instrument ID:	GCMSGGG								

Client Sample ID: SV8-15
Date Collected: 06/03/23 10:49
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-20
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3.686 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334614	06/06/23 01:46	AJ4K	EET CAL 4
	Instrument ID:	GCMSGGG								

Client Sample ID: SV9-5
Date Collected: 06/03/23 11:18
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-21
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.698 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334614	06/06/23 02:07	AJ4K	EET CAL 4
	Instrument ID:	GCMSGGG								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-140498-1

Client Sample ID: SV9-10
Date Collected: 06/03/23 11:22
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-22
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.2 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334614	06/06/23 02:29	AJ4K	EET CAL 4
	Instrument ID:	GCMSGGG								

Client Sample ID: SV9-15
Date Collected: 06/03/23 11:29
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-23
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.414 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334614	06/06/23 02:51	AJ4K	EET CAL 4
	Instrument ID:	GCMSGGG								

Client Sample ID: SV10-5
Date Collected: 06/03/23 12:28
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-24
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.861 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334614	06/06/23 03:13	AJ4K	EET CAL 4
	Instrument ID:	GCMSGGG								

Client Sample ID: SV10-10
Date Collected: 06/03/23 12:33
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-25
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.827 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334614	06/06/23 03:35	AJ4K	EET CAL 4
	Instrument ID:	GCMSGGG								

Client Sample ID: SV10-15
Date Collected: 06/03/23 12:36
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-26
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3.602 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334614	06/06/23 03:56	AJ4K	EET CAL 4
	Instrument ID:	GCMSGGG								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-140498-1

Client Sample ID: SV11-5
Date Collected: 06/03/23 13:03
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-27
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.185 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334614	06/06/23 04:18	AJ4K	EET CAL 4
	Instrument ID:	GCMSGGG								

Client Sample ID: SV11-10
Date Collected: 06/03/23 13:05
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-28
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.224 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334614	06/06/23 04:40	AJ4K	EET CAL 4
	Instrument ID:	GCMSGGG								

Client Sample ID: SV11-15
Date Collected: 06/03/23 13:09
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-29
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			7.541 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334614	06/06/23 05:02	AJ4K	EET CAL 4
	Instrument ID:	GCMSGGG								

Client Sample ID: SV12-5
Date Collected: 06/03/23 13:40
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-30
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.317 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334614	06/06/23 05:23	AJ4K	EET CAL 4
	Instrument ID:	GCMSGGG								

Client Sample ID: SV12-10
Date Collected: 06/03/23 13:45
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-31
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			7.026 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334614	06/06/23 05:45	AJ4K	EET CAL 4
	Instrument ID:	GCMSGGG								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-140498-1

Client Sample ID: SV12-15
Date Collected: 06/03/23 13:49
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-32
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			7.048 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334614	06/06/23 06:07	AJ4K	EET CAL 4
	Instrument ID:	GCMSGGG								

Client Sample ID: SV13-5
Date Collected: 06/03/23 14:17
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-33
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.571 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334614	06/06/23 06:29	AJ4K	EET CAL 4
	Instrument ID:	GCMSGGG								

Client Sample ID: SV13-10
Date Collected: 06/03/23 14:19
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-34
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.502 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334614	06/06/23 06:50	AJ4K	EET CAL 4
	Instrument ID:	GCMSGGG								

Client Sample ID: SV13-15
Date Collected: 06/03/23 14:24
Date Received: 06/05/23 12:09

Lab Sample ID: 570-140498-35
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.025 g	5 mL	334580	06/05/23 16:14	AJ4K	EET CAL 4
Total/NA	Analysis	8260B/5035		1	5 g	5 mL	334743	06/06/23 13:02	OH1	EET CAL 4
	Instrument ID:	GCMSGGG								

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Accreditation/Certification Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-140498-1

Laboratory: Eurofins Calscience

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State	3082	07-31-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	1,1-Dichloropropene
8260B		Water	1,2,3-Trichlorobenzene
8260B		Water	1,2,4-Trimethylbenzene
8260B		Water	1,3,5-Trimethylbenzene
8260B		Water	1,3-Dichloropropane
8260B		Water	2,2-Dichloropropane
8260B		Water	2-Butanone
8260B		Water	2-Chlorotoluene
8260B		Water	2-Hexanone
8260B		Water	Acetone
8260B		Water	Ethanol
8260B		Water	Isopropylbenzene
8260B		Water	p-Isopropyltoluene
8260B		Water	Vinyl acetate
8260B/5035	5035	Solid	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B/5035	5035	Solid	1,1-Dichloropropene
8260B/5035	5035	Solid	1,2,3-Trichlorobenzene
8260B/5035	5035	Solid	1,2,4-Trimethylbenzene
8260B/5035	5035	Solid	1,3,5-Trimethylbenzene
8260B/5035	5035	Solid	1,3-Dichloropropane
8260B/5035	5035	Solid	2,2-Dichloropropane
8260B/5035	5035	Solid	2-Butanone
8260B/5035	5035	Solid	2-Chlorotoluene
8260B/5035	5035	Solid	2-Hexanone
8260B/5035	5035	Solid	Acetone
8260B/5035	5035	Solid	Ethanol
8260B/5035	5035	Solid	Isopropylbenzene
8260B/5035	5035	Solid	p-Isopropyltoluene
8260B/5035	5035	Solid	Vinyl acetate

Oregon	NELAP	4175	02-02-24

Method Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-140498-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	EET CAL 4
8260B/5035	Volatile Organic Compounds (GC/MS)	SW846	EET CAL 4
5030C	Purge and Trap	SW846	EET CAL 4
5035	Closed System Purge and Trap	SW846	EET CAL 4

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Sample Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-140498-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-140498-1	EB	Water	06/03/23 07:20	06/05/23 12:09
570-140498-2	TB	Water	06/03/23 00:00	06/05/23 12:09
570-140498-3	SV4-5	Solid	06/03/23 08:18	06/05/23 12:09
570-140498-4	SV4-10	Solid	06/03/23 08:21	06/05/23 12:09
570-140498-5	SV4-15	Solid	06/03/23 08:24	06/05/23 12:09
570-140498-6	SV5-5	Solid	06/03/23 08:49	06/05/23 12:09
570-140498-7	SV5-10	Solid	06/03/23 08:53	06/05/23 12:09
570-140498-8	SV5-15	Solid	06/03/23 08:57	06/05/23 12:09
570-140498-9	SV6-5	Solid	06/03/23 09:25	06/05/23 12:09
570-140498-10	SV6-10	Solid	06/03/23 09:30	06/05/23 12:09
570-140498-11	SV6-15	Solid	06/03/23 09:37	06/05/23 12:09
570-140498-12	SV7-5	Solid	06/03/23 10:02	06/05/23 12:09
570-140498-13	SV7-5 DUP	Solid	06/03/23 10:02	06/05/23 12:09
570-140498-14	SV7-10	Solid	06/03/23 10:10	06/05/23 12:09
570-140498-15	SV7-10 DUP	Solid	06/03/23 10:10	06/05/23 12:09
570-140498-16	SV7-15	Solid	06/03/23 10:12	06/05/23 12:09
570-140498-17	SV7-15 DUP	Solid	06/03/23 10:12	06/05/23 12:09
570-140498-18	SV8-5	Solid	06/03/23 10:40	06/05/23 12:09
570-140498-19	SV8-10	Solid	06/03/23 10:45	06/05/23 12:09
570-140498-20	SV8-15	Solid	06/03/23 10:49	06/05/23 12:09
570-140498-21	SV9-5	Solid	06/03/23 11:18	06/05/23 12:09
570-140498-22	SV9-10	Solid	06/03/23 11:22	06/05/23 12:09
570-140498-23	SV9-15	Solid	06/03/23 11:29	06/05/23 12:09
570-140498-24	SV10-5	Solid	06/03/23 12:28	06/05/23 12:09
570-140498-25	SV10-10	Solid	06/03/23 12:33	06/05/23 12:09
570-140498-26	SV10-15	Solid	06/03/23 12:36	06/05/23 12:09
570-140498-27	SV11-5	Solid	06/03/23 13:03	06/05/23 12:09
570-140498-28	SV11-10	Solid	06/03/23 13:05	06/05/23 12:09
570-140498-29	SV11-15	Solid	06/03/23 13:09	06/05/23 12:09
570-140498-30	SV12-5	Solid	06/03/23 13:40	06/05/23 12:09
570-140498-31	SV12-10	Solid	06/03/23 13:45	06/05/23 12:09
570-140498-32	SV12-15	Solid	06/03/23 13:49	06/05/23 12:09
570-140498-33	SV13-5	Solid	06/03/23 14:17	06/05/23 12:09
570-140498-34	SV13-10	Solid	06/03/23 14:19	06/05/23 12:09
570-140498-35	SV13-15	Solid	06/03/23 14:24	06/05/23 12:09

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FRM51408 Rev. 1.2

570-140498 Chain of Custody

Loc: 570

CHAIN-OF-CUSTODY F 140498

DATE: 06/03/2023

PAGE: 1 OF 4

LABORATORY CLIENT: Alta Environmental/NV5

ADDRESS: 3777 Long Beach Blvd, Annex Building

CITY: Long Beach STATE: CA ZIP: 90807

TEL: 562-544-3977 E-MAIL: eric.fraske@nv5.com

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ■ STANDARD

EDD:

☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

CLIENT PROJECT NAME / NO.: McKinley Elementary School

P.O. NO.: SMSD-23-11532

PROJECT CONTACT: Eric Fraske

LAB CONTACT OR QUOTE NO.: 57015391

GLOBAL ID:

LOG CODE:

SAMPLER(S): (PRINT) Eric Fraske and Noah Stevens

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	☐ TPH(g) ☐ GRO	☐ TPH(d) ☐ DRO	TPH ☐ C6-C36 ☐ C6-C44	TPH ____	BTEX / MTBE ☐ 8260 ☐ ____	VOCs (8260)	Oxygenates (8260)	Prep (5035) ☐ En Core ☐ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☐ 6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 7199 ☐ 218.6				
1	EB	6/3/23	7:20	H2O	3		X							X	X											
2	TB	6/3/23		H2O	2		X							X	X	EF										
3	SV4-5	6/3/23	8:18	Soil	4	1	3							X	X											
4	SV4-10	6/3/23	8:21	Soil	4	1	3							X	X											
5	SV4-15	6/3/23	8:24	Soil	4	1	3							X	X											
6	SV5-5	6/3/23	8:49	Soil	4	1	3							X	X											
7	SV5-10	6/3/23	8:53	Soil	4	1	3							X	X											
8	SV5-15	6/3/23	8:57	Soil	4	1	3							X	X											
9	SV6-5	6/3/23	9:25	Soil	4	1	3							X	X											
10	SV6-10	6/3/23	9:30	Soil	4	1	3							X	X											

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	6/5/23	11:05	[signature] EC	6/5/23	11:05
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:

SW 2-6/24, 2-7/24

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CHAIN-OF-CUSTODY RECORD

DATE: 06/03/2023

PAGE: 2 OF 4

LABORATORY CLIENT: Alta Environmental/NV5

ADDRESS: 3777 Long Beach Blvd, Annex Building

CITY: Long Beach STATE: CA ZIP: 90807

TEL: 562-544-3977 E-MAIL: eric.fraske@nv5.com

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ■ STANDARD

EDD:

☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

CLIENT PROJECT NAME / NO.: McKinley Elementary School

P.O. NO.: SMSD-23-11532

PROJECT CONTACT: Eric Fraske

LAB CONTACT OR QUOTE NO.: 57015391

GLOBAL ID:

LOG CODE:

SAMPLER(S): (PRINT) Eric Fraske and Noah Stevens

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	☐ TPH(g) ☐ GRO	☐ TPH(d) ☐ DRO	TPH ☐ C6-C36 ☐ C6-C44	TPH ____	BTEX / MTBE ☐ 8260 ☐ ____	VOCs (8260)	Oxygenates (8260)	Prep (5035) ☐ En Core ☐ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☐ 6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 7199 ☐ 218.6				
11	SV6-15	6/3/23	9:37	Soil	4	1	3							X	X											
12	SV7-5	6/3/23	10:02	Soil	4	1	3							X	X											
13	SV7-5 DUP	6/3/23	10:02	Soil	~~4~~ 3	~~4~~	3							X	X											
14	SV7-10	6/3/23	10:10	Soil	4	1	3							X	X											
15	SV7-10DUP	6/3/23	10:10	Soil	3		3							X	X											
16	SV7-15	6/3/23	10:12	Soil	4	1	3							X	X											
17	SV7-15 DUP	6/3/23	10:12	Soil	3		3							X	X											
18	SV8-5	6/3/23	10:40	Soil	4	1	3							X	X											
19	SV8-10	6/3/23	10:45	Soil	4	1	3							X	X											
20	SV8-15	6/3/23	10:49	Soil	4	1	3							X	X											

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	6/5/23	11:05	[signature] EL	6/5/23	11:05
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:

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FRM51408 Rev. 1.2

CHAIN-OF-CUSTODY RECORD

DATE: 06/03/2023

PAGE: 3 OF 4

LABORATORY CLIENT: Alta Environmental/NV5

ADDRESS: 3777 Long Beach Blvd, Annex Building

CITY: Long Beach STATE: CA ZIP: 90807

TEL: 562-544-3977 E-MAIL: eric.fraske@nv5.com

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ■ STANDARD

EDD:

☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

CLIENT PROJECT NAME / NO.: McKinley Elementary School

P.O. NO.: SMSD-23-11532

PROJECT CONTACT: Eric Fraske

LAB CONTACT OR QUOTE NO.: 57015391

GLOBAL ID:

LOG CODE:

SAMPLER(S): (PRINT) Eric Fraske and Noah Stevens

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	☐ TPH(g) ☐ GRO	☐ TPH(d) ☐ DRO	TPH ☐ C6-C36 ☐ C6-C44	TPH ____	BTEX / MTBE ☐ 8260 ☐ ____	VOCs (8260)	Oxygenates (8260)	Prep (5035) ☐ En Core ☐ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☐ 6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 7199 ☐ 218.6				
21	SV9-5	6/3/23	11:18	Soil	4	1	3							X	X											
22	SV9-10	6/3/23	11:22	Soil	4	1	3							X	X											
23	SV9-15	6/3/23	11:29	Soil	4	1	3							X	X											
24	SV10-5	6/3/23	12:28	Soil	4	1	3							X	X											
25	SV10-10	6/3/23	12:33	Soil	4	1	3							X	X											
26	SV10-15	6/3/23	12:36	Soil	4	1	3							X	X											
27	SV11-5	6/3/23	13:03	Soil	4	1	3							X	X											
28	SV11-10	6/3/23	13:05	Soil	4	1	3							X	X											
29	SV11-15	6/3/23	13:09	Soil	4	1	3							X	X											
30	SV12-5	6/3/23	13:40	Soil	4	1	3							X	X											

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	6/5/23	11:05	[signature]	6/5/23	11:05
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:

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FRM51408 Rev. 1.2

CHAIN-OF-CUSTODY RECORD

DATE: 06/03/2023

PAGE: 4 OF 7

LABORATORY CLIENT: Alta Environmental/NV5

ADDRESS: 3777 Long Beach Blvd, Annex Building

CITY: Long Beach STATE: CA ZIP: 90807

TEL: 562-544-3977 E-MAIL: eric.fraske@nv5.com

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ■ STANDARD

EDD:

☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

CLIENT PROJECT NAME / NO.: McKinley Elementary School

P.O. NO.: SMSD-23-11532

PROJECT CONTACT: Eric Fraske

LAB CONTACT OR QUOTE NO.: 57015391

GLOBAL ID:

LOG CODE:

SAMPLER(S): (PRINT) Eric Fraske and Noah Stevens

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	☐ TPH(g) ☐ GRO	☐ TPH(d) ☐ DRO	TPH ☐ C6-C36 ☐ C6-C44	TPH ____	BTEX / MTBE ☐ 8260 ☐ ____	VOCs (8260)	Oxygenates (8260)	Prep (5035) ☐ En Core ☐ Terra Core	SVOCs (8270)	Pesticides (8081)	PCBs (8082)	PAHs ☐ 8270 ☐ 8270 SIM	T22 Metals ☐ 6010/747X ☐ 6020/747X	Cr(VI) ☐ 7196 ☐ 7199 ☐ 218.6				
31	SV12-10	6/3/23	13:45	Soil	4	1	3							X	X											
32	SV12-15	6/3/23	13:49	Soil	4	1	3							X	X											
33	SV13-5	6/3/23	14:17	Soil	4	1	3							X	X											
34	SV13-10	6/3/23	14:19	Soil	4	1	3							X	X											
35	SV13-15	6/3/23	14:24	Soil	4	1	3							X	X											

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	6/5/23	11:05	[signature]	6/5/23	11:05

Login Sample Receipt Checklist

Client: NV5, Inc

Job Number: 570-140498-1

Login Number: 140498
List Number: 1
Creator: Skinner, Alma D

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

JONES ENVIRONMENTAL, INC.

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11007 FOREST PLACE
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20 June 2023

Eric Fraske
NV5 (Formerly Alta)
19700 Fairchild Rd., Suite 170
Irvine, CA 92612

Re: Mckinley Elementary School

Enclosed are the results of analyses for samples received by the laboratory on 06/10/23. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Colby Wakeman
Lab Director

11007 FOREST PLACE
SANTA FE SPRINGS, CA 90670
714-449-9937 PHONE
562-646-1611 FAX

NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SV4-5V	J231560-001	Soil Gas	06/10/2023 11:58	06/10/2023 00:00
SV4-15V	J231560-002	Soil Gas	06/10/2023 11:56	06/10/2023 00:00
SV13-5V	J231560-003	Soil Gas	06/10/2023 12:18	06/10/2023 00:00
SV13-15V	J231560-004	Soil Gas	06/10/2023 12:15	06/10/2023 00:00
SV12-5V	J231560-005	Soil Gas	06/10/2023 12:35	06/10/2023 00:00
SV12-15V	J231560-006	Soil Gas	06/10/2023 12:32	06/10/2023 00:00
SV11-5V	J231560-007	Soil Gas	06/10/2023 12:52	06/10/2023 00:00
SV11-15V	J231560-008	Soil Gas	06/10/2023 12:52	06/10/2023 00:00
SV10-5V	J231560-009	Soil Gas	06/10/2023 13:11	06/10/2023 00:00
SV10-15V	J231560-010	Soil Gas	06/10/2023 13:11	06/10/2023 00:00
SV8-5V	J231560-011	Soil Gas	06/10/2023 10:35	06/10/2023 00:00
SV8-15V	J231560-012	Soil Gas	06/10/2023 10:29	06/10/2023 00:00
SV8-15V REP	J231560-013	Soil Gas	06/10/2023 10:35	06/10/2023 00:00
SV7-5V	J231560-014	Soil Gas	06/10/2023 10:59	06/10/2023 00:00
SV7-5V REP	J231560-015	Soil Gas	06/10/2023 11:05	06/10/2023 00:00
SV7-15V	J231560-016	Soil Gas	06/10/2023 11:00	06/10/2023 00:00
SV6-5V	J231560-017	Soil Gas	06/10/2023 11:23	06/10/2023 00:00
SV6-15V	J231560-018	Soil Gas	06/10/2023 11:26	06/10/2023 00:00
SV5-5V	J231560-019	Soil Gas	06/10/2023 11:40	06/10/2023 00:00
SV5-15V	J231560-020	Soil Gas	06/10/2023 11:38	06/10/2023 00:00
SV9-5V	J231560-021	Soil Gas	06/10/2023 13:35	06/10/2023 00:00
SV9-15V	J231560-022	Soil Gas	06/10/2023 13:28	06/10/2023 00:00

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Colby Wakeman
Lab Director

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

DETECTIONS SUMMARY

Sample ID: SV4-5V **Laboratory ID:** J231560-001

Analyte	Result	Reporting Limit	Units	Method	Notes
Benzene	25	8	µg/m3	EPA 8260	
Ethylbenzene	111	8	µg/m3	EPA 8260	
Isopropylbenzene	27	8	µg/m3	EPA 8260	
4-Isopropyltoluene	232	8	µg/m3	EPA 8260	
n-Propylbenzene	66	8	µg/m3	EPA 8260	
Tetrachloroethene	489	8	µg/m3	EPA 8260	
Toluene	290	8	µg/m3	EPA 8260	
1,2,4-Trimethylbenzene	226	8	µg/m3	EPA 8260	
1,3,5-Trimethylbenzene	96	8	µg/m3	EPA 8260	
m,p-Xylene	461	16	µg/m3	EPA 8260	
o-Xylene	103	8	µg/m3	EPA 8260	

Sample ID: SV4-15V **Laboratory ID:** J231560-002

Analyte	Result	Reporting Limit	Units	Method	Notes
Tetrachloroethene	701	8	µg/m3	EPA 8260	

Sample ID: SV13-5V **Laboratory ID:** J231560-003

Analyte	Result	Reporting Limit	Units	Method	Notes
Benzene	14	8	µg/m3	EPA 8260	
Ethylbenzene	49	8	µg/m3	EPA 8260	
4-Isopropyltoluene	301	8	µg/m3	EPA 8260	
Tetrachloroethene	222	8	µg/m3	EPA 8260	
Toluene	153	8	µg/m3	EPA 8260	
1,2,4-Trimethylbenzene	15	8	µg/m3	EPA 8260	
m,p-Xylene	201	16	µg/m3	EPA 8260	
o-Xylene	69	8	µg/m3	EPA 8260	

Jones Environmental, Inc.

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Colby Wakeman
Lab Director

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

DETECTIONS SUMMARY

Sample ID: SV13-15V **Laboratory ID:** J231560-004

Analyte	Result	Reporting Limit	Units	Method	Notes
Tetrachloroethene	2600	8	µg/m3	EPA 8260	
Toluene	10	8	µg/m3	EPA 8260	

Sample ID: SV12-5V **Laboratory ID:** J231560-005

Analyte	Result	Reporting Limit	Units	Method	Notes
4-Isopropyltoluene	15	8	µg/m3	EPA 8260	
Methylene chloride	12	8	µg/m3	EPA 8260	
Toluene	93	8	µg/m3	EPA 8260	

Sample ID: SV12-15V **Laboratory ID:** J231560-006

Analyte	Result	Reporting Limit	Units	Method	Notes
4-Isopropyltoluene	29	8	µg/m3	EPA 8260	
Tetrachloroethene	82	8	µg/m3	EPA 8260	
Toluene	14	8	µg/m3	EPA 8260	
Trichloroethene	98	8	µg/m3	EPA 8260	

Sample ID: SV11-5V **Laboratory ID:** J231560-007

Analyte	Result	Reporting Limit	Units	Method	Notes
4-Isopropyltoluene	366	8	µg/m3	EPA 8260	
Tetrachloroethene	54	8	µg/m3	EPA 8260	
Toluene	231	8	µg/m3	EPA 8260	

Sample ID: SV11-15V **Laboratory ID:** J231560-008

Analyte	Result	Reporting Limit	Units	Method	Notes
Tetrachloroethene	926	8	µg/m3	EPA 8260	
Toluene	11	8	µg/m3	EPA 8260	
Trichloroethene	31	8	µg/m3	EPA 8260	

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Colby Wakeman
Lab Director

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

DETECTIONS SUMMARY

Sample ID: SV10-5V **Laboratory ID:** J231560-009

Analyte	Result	Reporting Limit	Units	Method	Notes
4-Isopropyltoluene	395	8	µg/m3	EPA 8260	
Tetrachloroethene	68	8	µg/m3	EPA 8260	
Toluene	198	8	µg/m3	EPA 8260	

Sample ID: SV10-15V **Laboratory ID:** J231560-010

Analyte	Result	Reporting Limit	Units	Method	Notes
4-Isopropyltoluene	88	8	µg/m3	EPA 8260	
Tetrachloroethene	646	8	µg/m3	EPA 8260	
Toluene	16	8	µg/m3	EPA 8260	

Sample ID: SV8-5V **Laboratory ID:** J231560-011

Analyte	Result	Reporting Limit	Units	Method	Notes
Benzene	13	8	µg/m3	EPA 8260	
Ethylbenzene	9	8	µg/m3	EPA 8260	
4-Isopropyltoluene	2480	8	µg/m3	EPA 8260	
Tetrachloroethene	467	8	µg/m3	EPA 8260	
Toluene	261	8	µg/m3	EPA 8260	
m,p-Xylene	35	16	µg/m3	EPA 8260	
o-Xylene	10	8	µg/m3	EPA 8260	

Sample ID: SV8-15V **Laboratory ID:** J231560-012

Analyte	Result	Reporting Limit	Units	Method	Notes
4-Isopropyltoluene	29	8	µg/m3	EPA 8260	
Tetrachloroethene	2470	8	µg/m3	EPA 8260	

Sample ID: SV8-15V REP **Laboratory ID:** J231560-013

Analyte	Result	Reporting Limit	Units	Method	Notes

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Lab Director

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

DETECTIONS SUMMARY

Sample ID: SV8-15V REP **Laboratory ID:** J231560-013

Analyte	Result	Reporting Limit	Units	Method	Notes
4-Isopropyltoluene	17	8	µg/m3	EPA 8260	
Tetrachloroethene	2180	8	µg/m3	EPA 8260	

Sample ID: SV7-5V **Laboratory ID:** J231560-014

Analyte	Result	Reporting Limit	Units	Method	Notes
Freon 12	16	16	µg/m3	EPA 8260	
Ethylbenzene	12	8	µg/m3	EPA 8260	
4-Isopropyltoluene	63	8	µg/m3	EPA 8260	
Tetrachloroethene	1100	8	µg/m3	EPA 8260	
Toluene	13	8	µg/m3	EPA 8260	
1,2,4-Trimethylbenzene	12	8	µg/m3	EPA 8260	
1,3,5-Trimethylbenzene	9	8	µg/m3	EPA 8260	
m,p-Xylene	24	16	µg/m3	EPA 8260	
o-Xylene	12	8	µg/m3	EPA 8260	

Sample ID: SV7-5V REP **Laboratory ID:** J231560-015

Analyte	Result	Reporting Limit	Units	Method	Notes
Freon 12	17	16	µg/m3	EPA 8260	
Ethylbenzene	13	8	µg/m3	EPA 8260	
4-Isopropyltoluene	69	8	µg/m3	EPA 8260	
Tetrachloroethene	1530	8	µg/m3	EPA 8260	
Toluene	15	8	µg/m3	EPA 8260	
1,2,4-Trimethylbenzene	12	8	µg/m3	EPA 8260	
1,3,5-Trimethylbenzene	10	8	µg/m3	EPA 8260	
m,p-Xylene	26	16	µg/m3	EPA 8260	
o-Xylene	13	8	µg/m3	EPA 8260	

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

DETECTIONS SUMMARY

Sample ID: SV7-15V **Laboratory ID:** J231560-016

Analyte	Result	Reporting Limit	Units	Method	Notes
Freon 12	17	16	µg/m3	EPA 8260	
4-Isopropyltoluene	8	8	µg/m3	EPA 8260	
Tetrachloroethene	2360	8	µg/m3	EPA 8260	

Sample ID: SV6-5V **Laboratory ID:** J231560-017

Analyte	Result	Reporting Limit	Units	Method	Notes
Freon 12	16	16	µg/m3	EPA 8260	
Ethylbenzene	16	8	µg/m3	EPA 8260	
4-Isopropyltoluene	231	8	µg/m3	EPA 8260	
Tetrachloroethene	167	8	µg/m3	EPA 8260	
Toluene	24	8	µg/m3	EPA 8260	
1,2,4-Trimethylbenzene	12	8	µg/m3	EPA 8260	
1,3,5-Trimethylbenzene	10	8	µg/m3	EPA 8260	
m,p-Xylene	32	16	µg/m3	EPA 8260	
o-Xylene	16	8	µg/m3	EPA 8260	

Sample ID: SV6-15V **Laboratory ID:** J231560-018

Analyte	Result	Reporting Limit	Units	Method	Notes
Tetrachloroethene	394	8	µg/m3	EPA 8260	

Sample ID: SV5-5V **Laboratory ID:** J231560-019

Analyte	Result	Reporting Limit	Units	Method	Notes
Benzene	13	8	µg/m3	EPA 8260	
Ethylbenzene	38	8	µg/m3	EPA 8260	
4-Isopropyltoluene	397	8	µg/m3	EPA 8260	
Tetrachloroethene	84	8	µg/m3	EPA 8260	
Toluene	102	8	µg/m3	EPA 8260	

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Lab Director

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

DETECTIONS SUMMARY

Sample ID: SV5-5V **Laboratory ID:** J231560-019

Analyte	Result	Reporting Limit	Units	Method	Notes
1,2,4-Trimethylbenzene	24	8	µg/m3	EPA 8260	
1,3,5-Trimethylbenzene	22	8	µg/m3	EPA 8260	
m,p-Xylene	78	16	µg/m3	EPA 8260	
o-Xylene	38	8	µg/m3	EPA 8260	

Sample ID: SV5-15V **Laboratory ID:** J231560-020

Analyte	Result	Reporting Limit	Units	Method	Notes
Freon 12	16	16	µg/m3	EPA 8260	
Tetrachloroethene	291	8	µg/m3	EPA 8260	

Sample ID: SV9-5V **Laboratory ID:** J231560-021

Analyte	Result	Reporting Limit	Units	Method	Notes
Freon 12	17	16	µg/m3	EPA 8260	
Ethylbenzene	14	8	µg/m3	EPA 8260	
4-Isopropyltoluene	239	8	µg/m3	EPA 8260	
Tetrachloroethene	55	8	µg/m3	EPA 8260	
Toluene	66	8	µg/m3	EPA 8260	
m,p-Xylene	30	16	µg/m3	EPA 8260	
o-Xylene	14	8	µg/m3	EPA 8260	

Sample ID: SV9-15V **Laboratory ID:** J231560-022

Analyte	Result	Reporting Limit	Units	Method	Notes
4-Isopropyltoluene	21	8	µg/m3	EPA 8260	
Tetrachloroethene	254	8	µg/m3	EPA 8260	
Toluene	24	8	µg/m3	EPA 8260	

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NV5 (Formerly Alta) 19700 Fairchild Rd., Suite 170 Irvine, CA 92612	Project: Mckinley Elementary School Project Number: SMSD-23-11335 Project Manager: Eric Fraske	Reported 06/20/23 16:32

SV4-5V
J231560-001(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
Benzene	25	8	3	µg/m3	1	QC2306313		06/12/23	EPA 8260	
Bromodichloromethane	ND	8	4	µg/m3	"	"		"	"	
Bromoform	ND	8	7	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
sec-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
tert-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	8	µg/m3	"	"		"	"	
Chloroform	ND	8	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	6	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	6	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	4	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
Freon 12	ND	16	12	µg/m3	"	"		"	"	
Freon 11	ND	16	10	µg/m3	"	"		"	"	
Freon 113	ND	16	5	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	5	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	6	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	5	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
Ethylbenzene	111	8	6	µg/m3	"	"		"	"	
Isopropylbenzene	27	8	7	µg/m3	"	"		"	"	
4-Isopropyltoluene	232	8	5	µg/m3	"	"		"	"	
Methylene chloride	ND	8	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	5	µg/m3	"	"		"	"	
n-Propylbenzene	66	8	5	µg/m3	"	"		"	"	
Styrene	ND	8	6	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	5	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	8	µg/m3	"	"		"	"	
Tetrachloroethene	489	8	8	µg/m3	"	"		"	"	
Toluene	290	8	5	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	7	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	5	µg/m3	"	"		"	"	
Trichloroethene	ND	8	8	µg/m3	"	"		"	"	

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

SV4-5V
J231560-001(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
1,2,4-Trimethylbenzene	226	8	6	µg/m3	1	QC2306313		06/12/23	EPA 8260	
1,3,5-Trimethylbenzene	96	8	6	µg/m3	"	"		"	"	
Vinyl chloride	ND	8	8	µg/m3	"	"		"	"	
m,p-Xylene	461	16	11	µg/m3	"	"		"	"	
o-Xylene	103	8	5	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	5	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	4	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	5	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	5	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	14	µg/m3	"	"		"	"	
n-Hexane (LCC)	59	80		µg/m3	"	"		"	"	
n-Pentane (LCC)	42	80		µg/m3	"	"		"	"	
n-Heptane (LCC)	ND	80		µg/m3	"	"		"	"	

Surrogate: Toluene-d8	*100.84 %*	*60 - 140*
Surrogate: Dibromofluoromethane	*85.86 %*	*60 - 140*
Surrogate: 4-Bromofluorobenzene	*84.09 %*	*60 - 140*

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NV5 (Formerly Alta) 19700 Fairchild Rd., Suite 170 Irvine, CA 92612	Project: Mckinley Elementary School Project Number: SMSD-23-11335 Project Manager: Eric Fraske	Reported 06/20/23 16:32

SV4-15V
J231560-002(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
Benzene	ND	8	3	µg/m3	1	QC2306313		06/12/23	EPA 8260	
Bromodichloromethane	ND	8	4	µg/m3	"	"		"	"	
Bromoform	ND	8	7	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
sec-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
tert-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	8	µg/m3	"	"		"	"	
Chloroform	ND	8	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	6	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	6	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	4	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
Freon 12	ND	16	12	µg/m3	"	"		"	"	
Freon 11	ND	16	10	µg/m3	"	"		"	"	
Freon 113	ND	16	5	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	5	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	6	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	5	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
Ethylbenzene	ND	8	6	µg/m3	"	"		"	"	
Isopropylbenzene	ND	8	7	µg/m3	"	"		"	"	
4-Isopropyltoluene	ND	8	5	µg/m3	"	"		"	"	
Methylene chloride	ND	8	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	5	µg/m3	"	"		"	"	
n-Propylbenzene	ND	8	5	µg/m3	"	"		"	"	
Styrene	ND	8	6	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	5	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	8	µg/m3	"	"		"	"	
Tetrachloroethene	701	8	8	µg/m3	"	"		"	"	
Toluene	ND	8	5	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	7	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	5	µg/m3	"	"		"	"	
Trichloroethene	ND	8	8	µg/m3	"	"		"	"	

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

SV4-15V
J231560-002(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
1,2,4-Trimethylbenzene	ND	8	6	µg/m3	1	QC2306313		06/12/23	EPA 8260	
1,3,5-Trimethylbenzene	ND	8	6	µg/m3	"	"		"	"	
Vinyl chloride	ND	8	8	µg/m3	"	"		"	"	
m,p-Xylene	ND	16	11	µg/m3	"	"		"	"	
o-Xylene	ND	8	5	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	5	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	4	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	5	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	5	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	14	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Heptane (LCC)	ND	80		µg/m3	"	"		"	"	

Surrogate: Toluene-d8	*102.65 %*	*60 - 140*
Surrogate: Dibromofluoromethane	*84.01 %*	*60 - 140*
Surrogate: 4-Bromofluorobenzene	*86.66 %*	*60 - 140*

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NV5 (Formerly Alta) 19700 Fairchild Rd., Suite 170 Irvine, CA 92612	Project: Mckinley Elementary School Project Number: SMSD-23-11335 Project Manager: Eric Fraske	Reported 06/20/23 16:32

SV13-5V
J231560-003(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
Benzene	14	8	3	µg/m3	1	QC2306313		06/12/23	EPA 8260	
Bromodichloromethane	ND	8	4	µg/m3	"	"		"	"	
Bromoform	ND	8	7	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
sec-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
tert-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	8	µg/m3	"	"		"	"	
Chloroform	ND	8	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	6	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	6	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	4	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
Freon 12	ND	16	12	µg/m3	"	"		"	"	
Freon 11	ND	16	10	µg/m3	"	"		"	"	
Freon 113	ND	16	5	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	5	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	6	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	5	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
Ethylbenzene	49	8	6	µg/m3	"	"		"	"	
Isopropylbenzene	ND	8	7	µg/m3	"	"		"	"	
4-Isopropyltoluene	301	8	5	µg/m3	"	"		"	"	
Methylene chloride	ND	8	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	5	µg/m3	"	"		"	"	
n-Propylbenzene	ND	8	5	µg/m3	"	"		"	"	
Styrene	ND	8	6	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	5	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	8	µg/m3	"	"		"	"	
Tetrachloroethene	222	8	8	µg/m3	"	"		"	"	
Toluene	153	8	5	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	7	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	5	µg/m3	"	"		"	"	
Trichloroethene	ND	8	8	µg/m3	"	"		"	"	

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

SV13-5V
J231560-003(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
1,2,4-Trimethylbenzene	15	8	6	µg/m3	1	QC2306313		06/12/23	EPA 8260	
1,3,5-Trimethylbenzene	ND	8	6	µg/m3	"	"		"	"	
Vinyl chloride	ND	8	8	µg/m3	"	"		"	"	
m,p-Xylene	201	16	11	µg/m3	"	"		"	"	
o-Xylene	69	8	5	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	5	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	4	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	5	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	5	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	14	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Heptane (LCC)	ND	80		µg/m3	"	"		"	"	

Surrogate: Toluene-d8	*101.61 %*	*60 - 140*
Surrogate: Dibromofluoromethane	*82.55 %*	*60 - 140*
Surrogate: 4-Bromofluorobenzene	*90.61 %*	*60 - 140*

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NV5 (Formerly Alta) 19700 Fairchild Rd., Suite 170 Irvine, CA 92612	Project: Mckinley Elementary School Project Number: SMSD-23-11335 Project Manager: Eric Fraske	Reported 06/20/23 16:32

SV13-15V
J231560-004(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
Benzene	ND	8	3	µg/m3	1	QC2306313		06/12/23	EPA 8260	
Bromodichloromethane	ND	8	4	µg/m3	"	"		"	"	
Bromoform	ND	8	7	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
sec-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
tert-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	8	µg/m3	"	"		"	"	
Chloroform	ND	8	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	6	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	6	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	4	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
Freon 12	ND	16	12	µg/m3	"	"		"	"	
Freon 11	ND	16	10	µg/m3	"	"		"	"	
Freon 113	ND	16	5	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	5	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	6	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	5	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
Ethylbenzene	ND	8	6	µg/m3	"	"		"	"	
Isopropylbenzene	ND	8	7	µg/m3	"	"		"	"	
4-Isopropyltoluene	ND	8	5	µg/m3	"	"		"	"	
Methylene chloride	ND	8	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	5	µg/m3	"	"		"	"	
n-Propylbenzene	ND	8	5	µg/m3	"	"		"	"	
Styrene	ND	8	6	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	5	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	8	µg/m3	"	"		"	"	
Tetrachloroethene	2600	8	8	µg/m3	"	"		"	"	
Toluene	10	8	5	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	7	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	5	µg/m3	"	"		"	"	
Trichloroethene	ND	8	8	µg/m3	"	"		"	"	

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

SV13-15V
J231560-004(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
1,2,4-Trimethylbenzene	ND	8	6	µg/m3	1	QC2306313		06/12/23	EPA 8260	
1,3,5-Trimethylbenzene	ND	8	6	µg/m3	"	"		"	"	
Vinyl chloride	ND	8	8	µg/m3	"	"		"	"	
m,p-Xylene	ND	16	11	µg/m3	"	"		"	"	
o-Xylene	ND	8	5	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	5	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	4	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	5	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	5	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	14	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Heptane (LCC)	ND	80		µg/m3	"	"		"	"	

Surrogate: Toluene-d8	*101.36 %*	*60 - 140*
Surrogate: Dibromofluoromethane	*83.13 %*	*60 - 140*
Surrogate: 4-Bromofluorobenzene	*90.36 %*	*60 - 140*

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562-646-1611 FAX

NV5 (Formerly Alta) 19700 Fairchild Rd., Suite 170 Irvine, CA 92612	Project: Mckinley Elementary School Project Number: SMSD-23-11335 Project Manager: Eric Fraske	Reported 06/20/23 16:32

SV12-5V
J231560-005(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
Benzene	ND	8	3	µg/m3	1	QC2306313		06/12/23	EPA 8260	
Bromodichloromethane	ND	8	4	µg/m3	"	"		"	"	
Bromoform	ND	8	7	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
sec-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
tert-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	8	µg/m3	"	"		"	"	
Chloroform	ND	8	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	6	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	6	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	4	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
Freon 12	ND	16	12	µg/m3	"	"		"	"	
Freon 11	ND	16	10	µg/m3	"	"		"	"	
Freon 113	ND	16	5	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	5	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	6	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	5	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
Ethylbenzene	ND	8	6	µg/m3	"	"		"	"	
Isopropylbenzene	ND	8	7	µg/m3	"	"		"	"	
4-Isopropyltoluene	15	8	5	µg/m3	"	"		"	"	
Methylene chloride	12	8	8	µg/m3	"	"		"	"	
Naphthalene	14	40	5	µg/m3	"	"		"	"	J
n-Propylbenzene	ND	8	5	µg/m3	"	"		"	"	
Styrene	ND	8	6	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	5	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	8	µg/m3	"	"		"	"	
Tetrachloroethene	ND	8	8	µg/m3	"	"		"	"	
Toluene	93	8	5	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	7	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	5	µg/m3	"	"		"	"	
Trichloroethene	ND	8	8	µg/m3	"	"		"	"	

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

SV12-5V
J231560-005(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
1,2,4-Trimethylbenzene	ND	8	6	µg/m3	1	QC2306313		06/12/23	EPA 8260	
1,3,5-Trimethylbenzene	ND	8	6	µg/m3	"	"		"	"	
Vinyl chloride	ND	8	8	µg/m3	"	"		"	"	
m,p-Xylene	16	16	11	µg/m3	"	"		"	"	J
o-Xylene	ND	8	5	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	5	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	4	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	5	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	5	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	14	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Heptane (LCC)	ND	80		µg/m3	"	"		"	"	

Surrogate: Toluene-d8	*100.41 %*	*60 - 140*
Surrogate: Dibromofluoromethane	*83.93 %*	*60 - 140*
Surrogate: 4-Bromofluorobenzene	*89.29 %*	*60 - 140*

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NV5 (Formerly Alta) 19700 Fairchild Rd., Suite 170 Irvine, CA 92612	Project: Mckinley Elementary School Project Number: SMSD-23-11335 Project Manager: Eric Fraske	Reported 06/20/23 16:32

SV12-15V
J231560-006(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
Benzene	ND	8	3	µg/m3	1	QC2306313		06/12/23	EPA 8260	
Bromodichloromethane	ND	8	4	µg/m3	"	"		"	"	
Bromoform	ND	8	7	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
sec-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
tert-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	8	µg/m3	"	"		"	"	
Chloroform	ND	8	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	6	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	6	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	4	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
Freon 12	ND	16	12	µg/m3	"	"		"	"	
Freon 11	ND	16	10	µg/m3	"	"		"	"	
Freon 113	ND	16	5	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	5	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	6	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	5	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
Ethylbenzene	ND	8	6	µg/m3	"	"		"	"	
Isopropylbenzene	ND	8	7	µg/m3	"	"		"	"	
4-Isopropyltoluene	29	8	5	µg/m3	"	"		"	"	
Methylene chloride	ND	8	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	5	µg/m3	"	"		"	"	
n-Propylbenzene	ND	8	5	µg/m3	"	"		"	"	
Styrene	ND	8	6	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	5	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	8	µg/m3	"	"		"	"	
Tetrachloroethene	82	8	8	µg/m3	"	"		"	"	
Toluene	14	8	5	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	7	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	5	µg/m3	"	"		"	"	
Trichloroethene	98	8	8	µg/m3	"	"		"	"	

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

SV12-15V
J231560-006(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
1,2,4-Trimethylbenzene	ND	8	6	µg/m3	1	QC2306313		06/12/23	EPA 8260	
1,3,5-Trimethylbenzene	ND	8	6	µg/m3	"	"		"	"	
Vinyl chloride	ND	8	8	µg/m3	"	"		"	"	
m,p-Xylene	ND	16	11	µg/m3	"	"		"	"	
o-Xylene	ND	8	5	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	5	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	4	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	5	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	5	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	14	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Heptane (LCC)	ND	80		µg/m3	"	"		"	"	

Surrogate: Toluene-d8	*100.41 %*	*60 - 140*
Surrogate: Dibromofluoromethane	*84.13 %*	*60 - 140*
Surrogate: 4-Bromofluorobenzene	*88.69 %*	*60 - 140*

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NV5 (Formerly Alta) 19700 Fairchild Rd., Suite 170 Irvine, CA 92612	Project: Mckinley Elementary School Project Number: SMSD-23-11335 Project Manager: Eric Fraske	Reported 06/20/23 16:32

SV11-5V
J231560-007(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
Benzene	6	8	3	µg/m3	1	QC2306313		06/12/23	EPA 8260	J
Bromodichloromethane	ND	8	4	µg/m3	"	"		"	"	
Bromoform	ND	8	7	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
sec-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
tert-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	8	µg/m3	"	"		"	"	
Chloroform	ND	8	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	6	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	6	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	4	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
Freon 12	ND	16	12	µg/m3	"	"		"	"	
Freon 11	ND	16	10	µg/m3	"	"		"	"	
Freon 113	ND	16	5	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	5	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	6	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	5	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
Ethylbenzene	ND	8	6	µg/m3	"	"		"	"	
Isopropylbenzene	ND	8	7	µg/m3	"	"		"	"	
4-Isopropyltoluene	366	8	5	µg/m3	"	"		"	"	
Methylene chloride	ND	8	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	5	µg/m3	"	"		"	"	
n-Propylbenzene	ND	8	5	µg/m3	"	"		"	"	
Styrene	ND	8	6	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	5	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	8	µg/m3	"	"		"	"	
Tetrachloroethene	54	8	8	µg/m3	"	"		"	"	
Toluene	231	8	5	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	7	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	5	µg/m3	"	"		"	"	
Trichloroethene	ND	8	8	µg/m3	"	"		"	"	

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

SV11-5V
J231560-007(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
1,2,4-Trimethylbenzene	ND	8	6	µg/m3	1	QC2306313		06/12/23	EPA 8260	
1,3,5-Trimethylbenzene	ND	8	6	µg/m3	"	"		"	"	
Vinyl chloride	ND	8	8	µg/m3	"	"		"	"	
m,p-Xylene	ND	16	11	µg/m3	"	"		"	"	
o-Xylene	ND	8	5	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	5	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	4	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	5	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	5	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	14	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Heptane (LCC)	ND	80		µg/m3	"	"		"	"	

Surrogate: Toluene-d8	*93.22 %*	*60 - 140*
Surrogate: Dibromofluoromethane	*85.94 %*	*60 - 140*
Surrogate: 4-Bromofluorobenzene	*91.75 %*	*60 - 140*

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NV5 (Formerly Alta) 19700 Fairchild Rd., Suite 170 Irvine, CA 92612	Project: Mckinley Elementary School Project Number: SMSD-23-11335 Project Manager: Eric Fraske	Reported 06/20/23 16:32

SV11-15V
J231560-008(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
Benzene	ND	8	3	µg/m3	1	QC2306313		06/12/23	EPA 8260	
Bromodichloromethane	ND	8	4	µg/m3	"	"		"	"	
Bromoform	ND	8	7	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
sec-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
tert-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	8	µg/m3	"	"		"	"	
Chloroform	ND	8	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	6	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	6	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	4	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
Freon 12	ND	16	12	µg/m3	"	"		"	"	
Freon 11	ND	16	10	µg/m3	"	"		"	"	
Freon 113	ND	16	5	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	5	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	6	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	5	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
Ethylbenzene	ND	8	6	µg/m3	"	"		"	"	
Isopropylbenzene	ND	8	7	µg/m3	"	"		"	"	
4-Isopropyltoluene	ND	8	5	µg/m3	"	"		"	"	
Methylene chloride	ND	8	8	µg/m3	"	"		"	"	
Naphthalene	14	40	5	µg/m3	"	"		"	"	J
n-Propylbenzene	ND	8	5	µg/m3	"	"		"	"	
Styrene	ND	8	6	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	5	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	8	µg/m3	"	"		"	"	
Tetrachloroethene	926	8	8	µg/m3	"	"		"	"	
Toluene	11	8	5	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	7	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	5	µg/m3	"	"		"	"	
Trichloroethene	31	8	8	µg/m3	"	"		"	"	

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

SV11-15V
J231560-008(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
1,2,4-Trimethylbenzene	ND	8	6	µg/m3	1	QC2306313		06/12/23	EPA 8260	
1,3,5-Trimethylbenzene	ND	8	6	µg/m3	"	"		"	"	
Vinyl chloride	ND	8	8	µg/m3	"	"		"	"	
m,p-Xylene	ND	16	11	µg/m3	"	"		"	"	
o-Xylene	ND	8	5	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	5	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	4	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	5	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	5	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	14	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Heptane (LCC)	ND	80		µg/m3	"	"		"	"	

Surrogate: Toluene-d8	*100.15 %*	*60 - 140*
Surrogate: Dibromofluoromethane	*82.96 %*	*60 - 140*
Surrogate: 4-Bromofluorobenzene	*90.72 %*	*60 - 140*

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714-449-9937 PHONE
562-646-1611 FAX

NV5 (Formerly Alta) 19700 Fairchild Rd., Suite 170 Irvine, CA 92612	Project: Mckinley Elementary School Project Number: SMSD-23-11335 Project Manager: Eric Fraske	Reported 06/20/23 16:32

SV10-5V
J231560-009(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
Benzene	5	8	3	µg/m3	1	QC2306313		06/12/23	EPA 8260	J
Bromodichloromethane	ND	8	4	µg/m3	"	"		"	"	
Bromoform	ND	8	7	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
sec-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
tert-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	8	µg/m3	"	"		"	"	
Chloroform	ND	8	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	6	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	6	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	4	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
Freon 12	ND	16	12	µg/m3	"	"		"	"	
Freon 11	ND	16	10	µg/m3	"	"		"	"	
Freon 113	ND	16	5	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	5	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	6	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	5	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
Ethylbenzene	ND	8	6	µg/m3	"	"		"	"	
Isopropylbenzene	ND	8	7	µg/m3	"	"		"	"	
4-Isopropyltoluene	395	8	5	µg/m3	"	"		"	"	
Methylene chloride	ND	8	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	5	µg/m3	"	"		"	"	
n-Propylbenzene	ND	8	5	µg/m3	"	"		"	"	
Styrene	ND	8	6	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	5	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	8	µg/m3	"	"		"	"	
Tetrachloroethene	68	8	8	µg/m3	"	"		"	"	
Toluene	198	8	5	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	7	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	5	µg/m3	"	"		"	"	
Trichloroethene	ND	8	8	µg/m3	"	"		"	"	

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

SV10-5V
J231560-009(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
1,2,4-Trimethylbenzene	ND	8	6	µg/m3	1	QC2306313		06/12/23	EPA 8260	
1,3,5-Trimethylbenzene	ND	8	6	µg/m3	"	"		"	"	
Vinyl chloride	ND	8	8	µg/m3	"	"		"	"	
m,p-Xylene	ND	16	11	µg/m3	"	"		"	"	
o-Xylene	ND	8	5	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	5	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	4	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	5	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	5	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	14	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Heptane (LCC)	ND	80		µg/m3	"	"		"	"	

Surrogate: Toluene-d8	*103.58 %*	*60 - 140*
Surrogate: Dibromofluoromethane	*80.84 %*	*60 - 140*
Surrogate: 4-Bromofluorobenzene	*85.59 %*	*60 - 140*

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NV5 (Formerly Alta) 19700 Fairchild Rd., Suite 170 Irvine, CA 92612	Project: Mckinley Elementary School Project Number: SMSD-23-11335 Project Manager: Eric Fraske	Reported 06/20/23 16:32

SV10-15V
J231560-010(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
Benzene	ND	8	3	µg/m3	1	QC2306313		06/12/23	EPA 8260	
Bromodichloromethane	ND	8	4	µg/m3	"	"		"	"	
Bromoform	ND	8	7	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
sec-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
tert-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	8	µg/m3	"	"		"	"	
Chloroform	ND	8	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	6	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	6	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	4	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
Freon 12	ND	16	12	µg/m3	"	"		"	"	
Freon 11	ND	16	10	µg/m3	"	"		"	"	
Freon 113	ND	16	5	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	5	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	6	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	5	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
Ethylbenzene	ND	8	6	µg/m3	"	"		"	"	
Isopropylbenzene	ND	8	7	µg/m3	"	"		"	"	
4-Isopropyltoluene	88	8	5	µg/m3	"	"		"	"	
Methylene chloride	ND	8	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	5	µg/m3	"	"		"	"	
n-Propylbenzene	ND	8	5	µg/m3	"	"		"	"	
Styrene	ND	8	6	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	5	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	8	µg/m3	"	"		"	"	
Tetrachloroethene	646	8	8	µg/m3	"	"		"	"	
Toluene	16	8	5	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	7	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	5	µg/m3	"	"		"	"	
Trichloroethene	ND	8	8	µg/m3	"	"		"	"	

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

SV10-15V
J231560-010(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
1,2,4-Trimethylbenzene	ND	8	6	µg/m3	1	QC2306313		06/12/23	EPA 8260	
1,3,5-Trimethylbenzene	ND	8	6	µg/m3	"	"		"	"	
Vinyl chloride	ND	8	8	µg/m3	"	"		"	"	
m,p-Xylene	ND	16	11	µg/m3	"	"		"	"	
o-Xylene	ND	8	5	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	5	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	4	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	5	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	5	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	14	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Heptane (LCC)	ND	80		µg/m3	"	"		"	"	

Surrogate: Toluene-d8	*101.95 %*	*60 - 140*
Surrogate: Dibromofluoromethane	*81.90 %*	*60 - 140*
Surrogate: 4-Bromofluorobenzene	*88.68 %*	*60 - 140*

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NV5 (Formerly Alta) 19700 Fairchild Rd., Suite 170 Irvine, CA 92612	Project: Mckinley Elementary School Project Number: SMSD-23-11335 Project Manager: Eric Fraske	Reported 06/20/23 16:32

SV8-5V
J231560-011(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
Benzene	13	8	3	µg/m3	1	QC2306313		06/12/23	EPA 8260	
Bromodichloromethane	ND	8	4	µg/m3	"	"		"	"	
Bromoform	ND	8	7	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
sec-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
tert-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	8	µg/m3	"	"		"	"	
Chloroform	ND	8	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	6	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	6	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	4	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
Freon 12	ND	16	12	µg/m3	"	"		"	"	
Freon 11	ND	16	10	µg/m3	"	"		"	"	
Freon 113	ND	16	5	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	5	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	6	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	5	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
Ethylbenzene	9	8	6	µg/m3	"	"		"	"	
Isopropylbenzene	ND	8	7	µg/m3	"	"		"	"	
4-Isopropyltoluene	2480	8	5	µg/m3	"	"		"	"	
Methylene chloride	ND	8	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	5	µg/m3	"	"		"	"	
n-Propylbenzene	ND	8	5	µg/m3	"	"		"	"	
Styrene	8	8	6	µg/m3	"	"		"	"	J
1,1,1,2-Tetrachloroethane	ND	8	5	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	8	µg/m3	"	"		"	"	
Tetrachloroethene	467	8	8	µg/m3	"	"		"	"	
Toluene	261	8	5	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	7	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	5	µg/m3	"	"		"	"	
Trichloroethene	ND	8	8	µg/m3	"	"		"	"	

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

SV8-5V
J231560-011(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
1,2,4-Trimethylbenzene	ND	8	6	µg/m3	1	QC2306313		06/12/23	EPA 8260	
1,3,5-Trimethylbenzene	ND	8	6	µg/m3	"	"		"	"	
Vinyl chloride	ND	8	8	µg/m3	"	"		"	"	
m,p-Xylene	35	16	11	µg/m3	"	"		"	"	
o-Xylene	10	8	5	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	5	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	4	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	5	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	5	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	14	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Heptane (LCC)	ND	80		µg/m3	"	"		"	"	

Surrogate: Toluene-d8	*99.92 %*	*60 - 140*
Surrogate: Dibromofluoromethane	*82.82 %*	*60 - 140*
Surrogate: 4-Bromofluorobenzene	*90.89 %*	*60 - 140*

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NV5 (Formerly Alta) 19700 Fairchild Rd., Suite 170 Irvine, CA 92612	Project: Mckinley Elementary School Project Number: SMSD-23-11335 Project Manager: Eric Fraske	Reported 06/20/23 16:32

SV8-15V
J231560-012(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
Benzene	ND	8	3	µg/m3	1	QC2306313		06/12/23	EPA 8260	
Bromodichloromethane	ND	8	4	µg/m3	"	"		"	"	
Bromoform	ND	8	7	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
sec-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
tert-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	8	µg/m3	"	"		"	"	
Chloroform	ND	8	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	6	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	6	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	4	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
Freon 12	ND	16	12	µg/m3	"	"		"	"	
Freon 11	ND	16	10	µg/m3	"	"		"	"	
Freon 113	ND	16	5	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	5	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	6	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	5	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
Ethylbenzene	ND	8	6	µg/m3	"	"		"	"	
Isopropylbenzene	ND	8	7	µg/m3	"	"		"	"	
4-Isopropyltoluene	29	8	5	µg/m3	"	"		"	"	
Methylene chloride	ND	8	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	5	µg/m3	"	"		"	"	
n-Propylbenzene	ND	8	5	µg/m3	"	"		"	"	
Styrene	ND	8	6	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	5	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	8	µg/m3	"	"		"	"	
Tetrachloroethene	2470	8	8	µg/m3	"	"		"	"	
Toluene	ND	8	5	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	7	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	5	µg/m3	"	"		"	"	
Trichloroethene	ND	8	8	µg/m3	"	"		"	"	

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

SV8-15V
J231560-012(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
1,2,4-Trimethylbenzene	ND	8	6	µg/m3	1	QC2306313		06/12/23	EPA 8260	
1,3,5-Trimethylbenzene	ND	8	6	µg/m3	"	"		"	"	
Vinyl chloride	ND	8	8	µg/m3	"	"		"	"	
m,p-Xylene	ND	16	11	µg/m3	"	"		"	"	
o-Xylene	ND	8	5	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	5	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	4	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	5	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	5	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	14	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Heptane (LCC)	ND	80		µg/m3	"	"		"	"	

Surrogate: Toluene-d8	*101.13 %*	*60 - 140*
Surrogate: Dibromofluoromethane	*81.31 %*	*60 - 140*
Surrogate: 4-Bromofluorobenzene	*89.60 %*	*60 - 140*

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714-449-9937 PHONE
562-646-1611 FAX

NV5 (Formerly Alta) 19700 Fairchild Rd., Suite 170 Irvine, CA 92612	Project: Mckinley Elementary School Project Number: SMSD-23-11335 Project Manager: Eric Fraske	Reported 06/20/23 16:32

SV8-15V REP
J231560-013(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
Benzene	ND	8	3	µg/m3	1	QC2306313		06/12/23	EPA 8260	
Bromodichloromethane	ND	8	4	µg/m3	"	"		"	"	
Bromoform	ND	8	7	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
sec-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
tert-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	8	µg/m3	"	"		"	"	
Chloroform	ND	8	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	6	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	6	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	4	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
Freon 12	ND	16	12	µg/m3	"	"		"	"	
Freon 11	ND	16	10	µg/m3	"	"		"	"	
Freon 113	ND	16	5	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	5	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	6	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	5	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
Ethylbenzene	ND	8	6	µg/m3	"	"		"	"	
Isopropylbenzene	ND	8	7	µg/m3	"	"		"	"	
4-Isopropyltoluene	17	8	5	µg/m3	"	"		"	"	
Methylene chloride	ND	8	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	5	µg/m3	"	"		"	"	
n-Propylbenzene	ND	8	5	µg/m3	"	"		"	"	
Styrene	ND	8	6	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	5	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	8	µg/m3	"	"		"	"	
Tetrachloroethene	2180	8	8	µg/m3	"	"		"	"	
Toluene	ND	8	5	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	7	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	5	µg/m3	"	"		"	"	
Trichloroethene	ND	8	8	µg/m3	"	"		"	"	

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

SV8-15V REP
J231560-013(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
1,2,4-Trimethylbenzene	ND	8	6	µg/m3	1	QC2306313		06/12/23	EPA 8260	
1,3,5-Trimethylbenzene	ND	8	6	µg/m3	"	"		"	"	
Vinyl chloride	ND	8	8	µg/m3	"	"		"	"	
m,p-Xylene	ND	16	11	µg/m3	"	"		"	"	
o-Xylene	ND	8	5	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	5	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	4	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	5	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	5	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	14	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Heptane (LCC)	ND	80		µg/m3	"	"		"	"	

Surrogate: Toluene-d8	*102.26 %*	*60 - 140*
Surrogate: Dibromofluoromethane	*81.68 %*	*60 - 140*
Surrogate: 4-Bromofluorobenzene	*89.79 %*	*60 - 140*

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NV5 (Formerly Alta) 19700 Fairchild Rd., Suite 170 Irvine, CA 92612	Project: Mckinley Elementary School Project Number: SMSD-23-11335 Project Manager: Eric Fraske	Reported 06/20/23 16:32

SV7-5V
J231560-014(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
Benzene	ND	8	3	µg/m3	1	QC2306333		06/12/23	EPA 8260	
Bromodichloromethane	ND	8	4	µg/m3	"	"		"	"	
Bromoform	ND	8	7	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
sec-Butylbenzene	6	12	4	µg/m3	"	"		"	"	J
tert-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	8	µg/m3	"	"		"	"	
Chloroform	ND	8	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	6	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	6	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	4	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
Freon 12	16	16	12	µg/m3	"	"		"	"	
Freon 11	ND	16	10	µg/m3	"	"		"	"	
Freon 113	ND	16	5	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	5	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	6	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	5	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
Ethylbenzene	12	8	6	µg/m3	"	"		"	"	
Isopropylbenzene	ND	8	7	µg/m3	"	"		"	"	
4-Isopropyltoluene	63	8	5	µg/m3	"	"		"	"	
Methylene chloride	ND	8	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	5	µg/m3	"	"		"	"	
n-Propylbenzene	ND	8	5	µg/m3	"	"		"	"	
Styrene	ND	8	6	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	5	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	8	µg/m3	"	"		"	"	
Tetrachloroethene	1100	8	8	µg/m3	"	"		"	"	
Toluene	13	8	5	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	7	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	5	µg/m3	"	"		"	"	
Trichloroethene	ND	8	8	µg/m3	"	"		"	"	

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

SV7-5V
J231560-014(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
1,2,4-Trimethylbenzene	12	8	6	µg/m3	1	QC2306333		06/12/23	EPA 8260	
1,3,5-Trimethylbenzene	9	8	6	µg/m3	"	"		"	"	
Vinyl chloride	ND	8	8	µg/m3	"	"		"	"	
m,p-Xylene	24	16	11	µg/m3	"	"		"	"	
o-Xylene	12	8	5	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	5	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	4	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	5	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	5	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	14	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Heptane (LCC)	ND	80		µg/m3	"	"		"	"	

Surrogate: Toluene-d8	*89.85 %*	*60 - 140*
Surrogate: Dibromofluoromethane	*111.73 %*	*60 - 140*
Surrogate: 4-Bromofluorobenzene	*104.58 %*	*60 - 140*

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NV5 (Formerly Alta) 19700 Fairchild Rd., Suite 170 Irvine, CA 92612	Project: Mckinley Elementary School Project Number: SMSD-23-11335 Project Manager: Eric Fraske	Reported 06/20/23 16:32

SV7-5V REP
J231560-015(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
Benzene	ND	8	3	µg/m3	1	QC2306333		06/12/23	EPA 8260	
Bromodichloromethane	ND	8	4	µg/m3	"	"		"	"	
Bromoform	ND	8	7	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
sec-Butylbenzene	7	12	4	µg/m3	"	"		"	"	J
tert-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	8	µg/m3	"	"		"	"	
Chloroform	ND	8	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	6	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	6	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	4	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
Freon 12	17	16	12	µg/m3	"	"		"	"	
Freon 11	ND	16	10	µg/m3	"	"		"	"	
Freon 113	ND	16	5	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	5	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	6	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	5	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
Ethylbenzene	13	8	6	µg/m3	"	"		"	"	
Isopropylbenzene	ND	8	7	µg/m3	"	"		"	"	
4-Isopropyltoluene	69	8	5	µg/m3	"	"		"	"	
Methylene chloride	ND	8	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	5	µg/m3	"	"		"	"	
n-Propylbenzene	ND	8	5	µg/m3	"	"		"	"	
Styrene	ND	8	6	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	5	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	8	µg/m3	"	"		"	"	
Tetrachloroethene	1530	8	8	µg/m3	"	"		"	"	
Toluene	15	8	5	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	7	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	5	µg/m3	"	"		"	"	
Trichloroethene	ND	8	8	µg/m3	"	"		"	"	

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

SV7-5V REP
J231560-015(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
1,2,4-Trimethylbenzene	12	8	6	µg/m3	1	QC2306333		06/12/23	EPA 8260	
1,3,5-Trimethylbenzene	10	8	6	µg/m3	"	"		"	"	
Vinyl chloride	ND	8	8	µg/m3	"	"		"	"	
m,p-Xylene	26	16	11	µg/m3	"	"		"	"	
o-Xylene	13	8	5	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	5	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	4	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	5	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	5	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	14	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Heptane (LCC)	ND	80		µg/m3	"	"		"	"	

Surrogate: Toluene-d8	*90.99 %*	*60 - 140*
Surrogate: Dibromofluoromethane	*109.36 %*	*60 - 140*
Surrogate: 4-Bromofluorobenzene	*101.44 %*	*60 - 140*

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

SV7-15V
J231560-016(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
Benzene	ND	8	3	µg/m3	1	QC2306333		06/12/23	EPA 8260	
Bromodichloromethane	ND	8	4	µg/m3	"	"		"	"	
Bromoform	ND	8	7	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
sec-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
tert-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	8	µg/m3	"	"		"	"	
Chloroform	ND	8	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	6	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	6	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	4	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
Freon 12	17	16	12	µg/m3	"	"		"	"	
Freon 11	ND	16	10	µg/m3	"	"		"	"	
Freon 113	ND	16	5	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	5	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	6	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	5	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
Ethylbenzene	7	8	6	µg/m3	"	"		"	"	J
Isopropylbenzene	ND	8	7	µg/m3	"	"		"	"	
4-Isopropyltoluene	8	8	5	µg/m3	"	"		"	"	
Methylene chloride	ND	8	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	5	µg/m3	"	"		"	"	
n-Propylbenzene	ND	8	5	µg/m3	"	"		"	"	
Styrene	ND	8	6	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	5	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	8	µg/m3	"	"		"	"	
Tetrachloroethene	2360	8	8	µg/m3	"	"		"	"	
Toluene	ND	8	5	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	7	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	5	µg/m3	"	"		"	"	
Trichloroethene	ND	8	8	µg/m3	"	"		"	"	

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

SV7-15V
J231560-016(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
1,2,4-Trimethylbenzene	ND	8	6	µg/m3	1	QC2306333		06/12/23	EPA 8260	
1,3,5-Trimethylbenzene	ND	8	6	µg/m3	"	"		"	"	
Vinyl chloride	ND	8	8	µg/m3	"	"		"	"	
m,p-Xylene	ND	16	11	µg/m3	"	"		"	"	
o-Xylene	7	8	5	µg/m3	"	"		"	"	J
Methyl-tert-butylether	ND	40	5	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	4	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	5	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	5	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	14	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Heptane (LCC)	ND	80		µg/m3	"	"		"	"	

Surrogate: Toluene-d8	*90.93 %*	*60 - 140*
Surrogate: Dibromofluoromethane	*108.41 %*	*60 - 140*
Surrogate: 4-Bromofluorobenzene	*101.04 %*	*60 - 140*

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714-449-9937 PHONE
562-646-1611 FAX

NV5 (Formerly Alta) 19700 Fairchild Rd., Suite 170 Irvine, CA 92612	Project: Mckinley Elementary School Project Number: SMSD-23-11335 Project Manager: Eric Fraske	Reported 06/20/23 16:32

SV6-5V
J231560-017(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
Benzene	ND	8	3	µg/m3	1	QC2306333		06/12/23	EPA 8260	
Bromodichloromethane	ND	8	4	µg/m3	"	"		"	"	
Bromoform	ND	8	7	µg/m3	"	"		"	"	
n-Butylbenzene	8	12	4	µg/m3	"	"		"	"	J
sec-Butylbenzene	7	12	4	µg/m3	"	"		"	"	J
tert-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	8	µg/m3	"	"		"	"	
Chloroform	ND	8	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	6	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	6	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	4	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
Freon 12	16	16	12	µg/m3	"	"		"	"	
Freon 11	ND	16	10	µg/m3	"	"		"	"	
Freon 113	ND	16	5	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	5	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	6	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	5	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
Ethylbenzene	16	8	6	µg/m3	"	"		"	"	
Isopropylbenzene	ND	8	7	µg/m3	"	"		"	"	
4-Isopropyltoluene	231	8	5	µg/m3	"	"		"	"	
Methylene chloride	ND	8	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	5	µg/m3	"	"		"	"	
n-Propylbenzene	ND	8	5	µg/m3	"	"		"	"	
Styrene	ND	8	6	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	5	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	8	µg/m3	"	"		"	"	
Tetrachloroethene	167	8	8	µg/m3	"	"		"	"	
Toluene	24	8	5	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	7	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	5	µg/m3	"	"		"	"	
Trichloroethene	ND	8	8	µg/m3	"	"		"	"	

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

SV6-5V
J231560-017(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
1,2,4-Trimethylbenzene	12	8	6	µg/m3	1	QC2306333		06/12/23	EPA 8260	
1,3,5-Trimethylbenzene	10	8	6	µg/m3	"	"		"	"	
Vinyl chloride	ND	8	8	µg/m3	"	"		"	"	
m,p-Xylene	32	16	11	µg/m3	"	"		"	"	
o-Xylene	16	8	5	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	5	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	4	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	5	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	5	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	14	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Heptane (LCC)	ND	80		µg/m3	"	"		"	"	

Surrogate: Toluene-d8	*89.87 %*	*60 - 140*
Surrogate: Dibromofluoromethane	*109.68 %*	*60 - 140*
Surrogate: 4-Bromofluorobenzene	*105.96 %*	*60 - 140*

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NV5 (Formerly Alta) 19700 Fairchild Rd., Suite 170 Irvine, CA 92612	Project: Mckinley Elementary School Project Number: SMSD-23-11335 Project Manager: Eric Fraske	Reported 06/20/23 16:32

SV6-15V
J231560-018(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
Benzene	ND	8	3	µg/m3	1	QC2306333		06/12/23	EPA 8260	
Bromodichloromethane	ND	8	4	µg/m3	"	"		"	"	
Bromoform	ND	8	7	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
sec-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
tert-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	8	µg/m3	"	"		"	"	
Chloroform	ND	8	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	6	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	6	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	4	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
Freon 12	ND	16	21	µg/m3	"	"		"	"	
Freon 11	ND	16	10	µg/m3	"	"		"	"	
Freon 113	ND	16	5	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	5	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	6	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	5	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
Ethylbenzene	7	8	6	µg/m3	"	"		"	"	J
Isopropylbenzene	ND	8	7	µg/m3	"	"		"	"	
4-Isopropyltoluene	ND	8	5	µg/m3	"	"		"	"	
Methylene chloride	ND	8	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	5	µg/m3	"	"		"	"	
n-Propylbenzene	ND	8	5	µg/m3	"	"		"	"	
Styrene	ND	8	6	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	5	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	8	µg/m3	"	"		"	"	
Tetrachloroethene	394	8	8	µg/m3	"	"		"	"	
Toluene	ND	8	5	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	7	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	5	µg/m3	"	"		"	"	
Trichloroethene	ND	8	8	µg/m3	"	"		"	"	

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

SV6-15V
J231560-018(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
1,2,4-Trimethylbenzene	ND	8	6	µg/m3	1	QC2306333		06/12/23	EPA 8260	
1,3,5-Trimethylbenzene	ND	8	6	µg/m3	"	"		"	"	
Vinyl chloride	ND	8	8	µg/m3	"	"		"	"	
m,p-Xylene	ND	16	11	µg/m3	"	"		"	"	
o-Xylene	7	8	5	µg/m3	"	"		"	"	J
Methyl-tert-butylether	ND	40	5	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	4	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	5	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	5	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	14	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Heptane (LCC)	ND	80		µg/m3	"	"		"	"	

Surrogate: Toluene-d8	*90.82 %*	*60 - 140*
Surrogate: Dibromofluoromethane	*107.96 %*	*60 - 140*
Surrogate: 4-Bromofluorobenzene	*103.73 %*	*60 - 140*

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NV5 (Formerly Alta) 19700 Fairchild Rd., Suite 170 Irvine, CA 92612	Project: Mckinley Elementary School Project Number: SMSD-23-11335 Project Manager: Eric Fraske	Reported 06/20/23 16:32

SV5-5V
J231560-019(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
Benzene	13	8	3	µg/m3	1	QC2306333		06/12/23	EPA 8260	
Bromodichloromethane	ND	8	4	µg/m3	"	"		"	"	
Bromoform	ND	8	7	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
sec-Butylbenzene	9	12	4	µg/m3	"	"		"	"	J
tert-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	8	µg/m3	"	"		"	"	
Chloroform	ND	8	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	6	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	6	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	4	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
Freon 12	16	16	12	µg/m3	"	"		"	"	J
Freon 11	ND	16	10	µg/m3	"	"		"	"	
Freon 113	ND	16	5	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	5	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	6	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	5	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
Ethylbenzene	38	8	6	µg/m3	"	"		"	"	
Isopropylbenzene	ND	8	7	µg/m3	"	"		"	"	
4-Isopropyltoluene	397	8	5	µg/m3	"	"		"	"	
Methylene chloride	ND	8	8	µg/m3	"	"		"	"	
Naphthalene	8	40	5	µg/m3	"	"		"	"	J
n-Propylbenzene	ND	8	5	µg/m3	"	"		"	"	
Styrene	ND	8	6	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	5	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	8	µg/m3	"	"		"	"	
Tetrachloroethene	84	8	8	µg/m3	"	"		"	"	
Toluene	102	8	5	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	7	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	5	µg/m3	"	"		"	"	
Trichloroethene	ND	8	8	µg/m3	"	"		"	"	

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

SV5-5V
J231560-019(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
1,2,4-Trimethylbenzene	24	8	6	µg/m3	1	QC2306333		06/12/23	EPA 8260	
1,3,5-Trimethylbenzene	22	8	6	µg/m3	"	"		"	"	
Vinyl chloride	ND	8	8	µg/m3	"	"		"	"	
m,p-Xylene	78	16	11	µg/m3	"	"		"	"	
o-Xylene	38	8	5	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	5	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	4	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	5	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	5	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	14	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Heptane (LCC)	ND	80		µg/m3	"	"		"	"	

Surrogate: Toluene-d8	*88.66 %*	*60 - 140*
Surrogate: Dibromofluoromethane	*112.13 %*	*60 - 140*
Surrogate: 4-Bromofluorobenzene	*110.82 %*	*60 - 140*

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NV5 (Formerly Alta) 19700 Fairchild Rd., Suite 170 Irvine, CA 92612	Project: Mckinley Elementary School Project Number: SMSD-23-11335 Project Manager: Eric Fraske	Reported 06/20/23 16:32

SV5-15V
J231560-020(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
Benzene	ND	8	3	µg/m3	1	QC2306333		06/12/23	EPA 8260	
Bromodichloromethane	ND	8	4	µg/m3	"	"		"	"	
Bromoform	ND	8	7	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
sec-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
tert-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	8	µg/m3	"	"		"	"	
Chloroform	ND	8	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	6	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	6	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	4	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
Freon 12	16	16	12	µg/m3	"	"		"	"	
Freon 11	ND	16	10	µg/m3	"	"		"	"	
Freon 113	ND	16	5	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	5	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	6	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	5	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
Ethylbenzene	7	8	6	µg/m3	"	"		"	"	J
Isopropylbenzene	ND	8	7	µg/m3	"	"		"	"	
4-Isopropyltoluene	ND	8	5	µg/m3	"	"		"	"	
Methylene chloride	ND	8	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	5	µg/m3	"	"		"	"	
n-Propylbenzene	ND	8	5	µg/m3	"	"		"	"	
Styrene	ND	8	6	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	5	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	8	µg/m3	"	"		"	"	
Tetrachloroethene	291	8	8	µg/m3	"	"		"	"	
Toluene	ND	8	5	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	7	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	5	µg/m3	"	"		"	"	
Trichloroethene	ND	8	8	µg/m3	"	"		"	"	

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

SV5-15V
J231560-020(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
1,2,4-Trimethylbenzene	ND	8	6	µg/m3	1	QC2306333		06/12/23	EPA 8260	
1,3,5-Trimethylbenzene	ND	8	6	µg/m3	"	"		"	"	
Vinyl chloride	ND	8	8	µg/m3	"	"		"	"	
m,p-Xylene	ND	16	11	µg/m3	"	"		"	"	
o-Xylene	7	8	5	µg/m3	"	"		"	"	J
Methyl-tert-butylether	ND	40	5	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	4	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	5	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	5	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	14	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Heptane (LCC)	ND	80		µg/m3	"	"		"	"	

Surrogate: Toluene-d8	*94.85 %*	*60 - 140*
Surrogate: Dibromofluoromethane	*104.05 %*	*60 - 140*
Surrogate: 4-Bromofluorobenzene	*96.94 %*	*60 - 140*

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SANTA FE SPRINGS, CA 90670
714-449-9937 PHONE
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NV5 (Formerly Alta) 19700 Fairchild Rd., Suite 170 Irvine, CA 92612	Project: Mckinley Elementary School Project Number: SMSD-23-11335 Project Manager: Eric Fraske	Reported 06/20/23 16:32

SV9-5V
J231560-021(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
Benzene	5	8	3	µg/m3	1	QC2306333		06/12/23	EPA 8260	J
Bromodichloromethane	ND	8	4	µg/m3	"	"		"	"	
Bromoform	ND	8	7	µg/m3	"	"		"	"	
n-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
sec-Butylbenzene	7	12	4	µg/m3	"	"		"	"	J
tert-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	8	µg/m3	"	"		"	"	
Chloroform	ND	8	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	6	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	6	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	4	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
Freon 12	17	16	12	µg/m3	"	"		"	"	
Freon 11	ND	16	10	µg/m3	"	"		"	"	
Freon 113	ND	16	5	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	5	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	6	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	5	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
Ethylbenzene	14	8	6	µg/m3	"	"		"	"	
Isopropylbenzene	ND	8	7	µg/m3	"	"		"	"	
4-Isopropyltoluene	239	8	5	µg/m3	"	"		"	"	
Methylene chloride	ND	8	8	µg/m3	"	"		"	"	
Naphthalene	ND	40	5	µg/m3	"	"		"	"	
n-Propylbenzene	ND	8	5	µg/m3	"	"		"	"	
Styrene	ND	8	6	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	5	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	8	µg/m3	"	"		"	"	
Tetrachloroethene	55	8	8	µg/m3	"	"		"	"	
Toluene	66	8	5	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	7	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	5	µg/m3	"	"		"	"	
Trichloroethene	ND	8	8	µg/m3	"	"		"	"	

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

SV9-5V
J231560-021(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
1,2,4-Trimethylbenzene	ND	8	6	µg/m3	1	QC2306333		06/12/23	EPA 8260	
1,3,5-Trimethylbenzene	ND	8	6	µg/m3	"	"		"	"	
Vinyl chloride	ND	8	8	µg/m3	"	"		"	"	
m,p-Xylene	30	16	11	µg/m3	"	"		"	"	
o-Xylene	14	8	5	µg/m3	"	"		"	"	
Methyl-tert-butylether	ND	40	5	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	4	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	5	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	5	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	14	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Heptane (LCC)	ND	80		µg/m3	"	"		"	"	

Surrogate: Toluene-d8	*92.96 %*	*60 - 140*
Surrogate: Dibromofluoromethane	*104.56 %*	*60 - 140*
Surrogate: 4-Bromofluorobenzene	*107.83 %*	*60 - 140*

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NV5 (Formerly Alta) 19700 Fairchild Rd., Suite 170 Irvine, CA 92612	Project: Mckinley Elementary School Project Number: SMSD-23-11335 Project Manager: Eric Fraske	Reported 06/20/23 16:32

SV9-15V
J231560-022(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
Benzene	ND	8	3	µg/m3	1	QC2306333		06/12/23	EPA 8260	
Bromodichloromethane	ND	8	4	µg/m3	"	"		"	"	
Bromoform	ND	8	7	µg/m3	"	"		"	"	
n-Butylbenzene	7	12	4	µg/m3	"	"		"	"	J
sec-Butylbenzene	7	12	4	µg/m3	"	"		"	"	J
tert-Butylbenzene	ND	12	4	µg/m3	"	"		"	"	
Carbon tetrachloride	ND	8	8	µg/m3	"	"		"	"	
Chlorobenzene	ND	8	8	µg/m3	"	"		"	"	
Chloroform	ND	8	8	µg/m3	"	"		"	"	
Dibromochloromethane	ND	8	6	µg/m3	"	"		"	"	
1,2-Dibromoethane (EDB)	ND	8	6	µg/m3	"	"		"	"	
1,2-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
1,3-Dichlorobenzene	ND	16	4	µg/m3	"	"		"	"	
1,4-Dichlorobenzene	ND	16	6	µg/m3	"	"		"	"	
Freon 12	16	16	12	µg/m3	"	"		"	"	J
Freon 11	ND	16	10	µg/m3	"	"		"	"	
Freon 113	ND	16	5	µg/m3	"	"		"	"	
1,1-Dichloroethane	ND	8	5	µg/m3	"	"		"	"	
1,2-Dichloroethane	ND	8	6	µg/m3	"	"		"	"	
1,1-Dichloroethene	ND	8	5	µg/m3	"	"		"	"	
cis-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
trans-1,2-Dichloroethene	ND	8	6	µg/m3	"	"		"	"	
Ethylbenzene	8	8	6	µg/m3	"	"		"	"	J
Isopropylbenzene	ND	8	7	µg/m3	"	"		"	"	
4-Isopropyltoluene	21	8	5	µg/m3	"	"		"	"	
Methylene chloride	ND	8	8	µg/m3	"	"		"	"	
Naphthalene	7	40	5	µg/m3	"	"		"	"	J
n-Propylbenzene	ND	8	5	µg/m3	"	"		"	"	
Styrene	ND	8	6	µg/m3	"	"		"	"	
1,1,1,2-Tetrachloroethane	ND	8	5	µg/m3	"	"		"	"	
1,1,2,2-Tetrachloroethane	ND	16	8	µg/m3	"	"		"	"	
Tetrachloroethene	254	8	8	µg/m3	"	"		"	"	
Toluene	24	8	5	µg/m3	"	"		"	"	
1,1,1-Trichloroethane	ND	8	7	µg/m3	"	"		"	"	
1,1,2-Trichloroethane	ND	8	5	µg/m3	"	"		"	"	
Trichloroethene	ND	8	8	µg/m3	"	"		"	"	

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

SV9-15V
J231560-022(Soil Gas)

Analyte	Result	Rep. Limit	Det. Limit	Units	Dil.	Batch	Prepared	Analyzed	Method	Notes
Volatile Organic Compounds by EPA 8260										
1,2,4-Trimethylbenzene	8	8	6	µg/m3	1	QC2306333		06/12/23	EPA 8260	J
1,3,5-Trimethylbenzene	ND	8	6	µg/m3	"	"		"	"	
Vinyl chloride	ND	8	8	µg/m3	"	"		"	"	
m,p-Xylene	14	16	11	µg/m3	"	"		"	"	J
o-Xylene	8	8	5	µg/m3	"	"		"	"	J
Methyl-tert-butylether	ND	40	5	µg/m3	"	"		"	"	
Ethyl-tert-butylether	ND	40	4	µg/m3	"	"		"	"	
Di-isopropylether	ND	40	5	µg/m3	"	"		"	"	
tert-amylmethylether	ND	40	5	µg/m3	"	"		"	"	
tert-Butylalcohol	ND	400	14	µg/m3	"	"		"	"	
n-Hexane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Pentane (LCC)	ND	80		µg/m3	"	"		"	"	
n-Heptane (LCC)	ND	80		µg/m3	"	"		"	"	

Surrogate: Toluene-d8	*89.88 %*	*60 - 140*
Surrogate: Dibromofluoromethane	*107.78 %*	*60 - 140*
Surrogate: 4-Bromofluorobenzene	*100.73 %*	*60 - 140*

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

Volatile Organic Compounds by EPA 8260 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	%REC Limits	Notes
Batch QC2306313 - EPA 8260										
CCV 1										
1,1,1-Trichloroethane	225.28	8	%	250		90.11	80 - 120		120	
1,1-Dichloroethene	255.48	8	%	250		102.19	80 - 120		120	
Benzene	272.90	8	%	250		109.16	80 - 120		120	
Chlorobenzene	257.99	8	%	250		103.20	80 - 120		120	
cis-1,2-Dichloroethene	245.05	8	%	250		98.02	80 - 120		120	
Ethylbenzene	262.75	8	%	250		105.10	80 - 120		120	
Tetrachloroethene	259.63	8	%	250		103.85	80 - 120		120	
Toluene	259.85	8	%	250		103.94	80 - 120		120	
Trichloroethene	227.47	8	%	250		90.99	80 - 120		120	
Vinyl chloride	271.65	8	%	250		108.66	80 - 120		120	
LCS 1										
1,1,1-Trichloroethane	57.6	8	%	50		115.15	70 - 130			
1,1-Dichloroethene	57.4	8	%	50		114.80	60 - 140			
Benzene	57.6	8	%	50		115.17	70 - 130			
Chlorobenzene	55.4	8	%	50		110.81	70 - 130			
cis-1,2-Dichloroethene	46.0	8	%	50		91.98	70 - 130			
Ethylbenzene	54.3	8	%	50		108.51	70 - 130			
Tetrachloroethene	55.0	8	%	50		109.90	70 - 130			
Toluene	55.4	8	%	50		110.70	70 - 130			
Trichloroethene	48.2	8	%	50		96.37	70 - 130			
Vinyl chloride	43.4	8	%	50		86.70	60 - 140			
Surrogate: Toluene-d8		*99.46 %*		*60 - 140*						
Surrogate: Dibromofluoromethane		*92.62 %*		*60 - 140*						
Surrogate: 4-Bromofluorobenzene		*91.61 %*		*60 - 140*						
LCSD 1										
1,1,1-Trichloroethane	56.1	8	%	50		112.18		2.61		
1,1-Dichloroethene	54.0	8	%	50		108.07		6.04		
Benzene	55.1	8	%	50		110.15		4.46		
Chlorobenzene	55.0	8	%	50		110.06		0.68		

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

Volatile Organic Compounds by EPA 8260 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	%REC Limits	Notes
Batch QC2306313 - EPA 8260										
LCSD 1										
cis-1,2-Dichloroethene	45.3	8	%	50		90.65		1.46		
Ethylbenzene	56.5	8	%	50		112.92		3.99		
Tetrachloroethene	54.9	8	%	50		109.77		0.12		
Toluene	54.4	8	%	50		108.73		1.79		
Trichloroethene	46.0	8	%	50		91.91		4.74		
Vinyl chloride	38.4	8	%	50		76.73		12.20		
Surrogate: Toluene-d8		*98.18 %*		*60 - 140*						
Surrogate: Dibromofluoromethane		*91.36 %*		*60 - 140*						
Surrogate: 4-Bromofluorobenzene		*91.30 %*		*60 - 140*						
Method Blank 1										
1,1,1,2-Tetrachloroethane	ND	8	µg/m3							
1,1,1-Trichloroethane	ND	8	µg/m3							
1,1,2,2-Tetrachloroethane	ND	16	µg/m3							
1,1,2-Trichloroethane	ND	8	µg/m3							
1,1-Dichloroethane	ND	8	µg/m3							
1,1-Dichloroethene	ND	8	µg/m3							
1,2,4-Trimethylbenzene	ND	8	µg/m3							
1,2-Dibromoethane (EDB)	ND	8	µg/m3							
1,2-Dichlorobenzene	ND	16	µg/m3							
1,2-Dichloroethane	ND	8	µg/m3							
1,3,5-Trimethylbenzene	ND	8	µg/m3							
1,3-Dichlorobenzene	ND	16	µg/m3							
1,4-Dichlorobenzene	ND	16	µg/m3							
4-Isopropyltoluene	ND	8	µg/m3							
Benzene	ND	8	µg/m3							
Bromodichloromethane	ND	8	µg/m3							
Bromoform	ND	8	µg/m3							
Carbon tetrachloride	ND	8	µg/m3							
Chlorobenzene	ND	8	µg/m3							
Chloroform	ND	8	µg/m3							
cis-1,2-Dichloroethene	ND	8	µg/m3							
Di-isopropylether	ND	40	µg/m3							
Dibromochloromethane	ND	8	µg/m3							
Ethyl-tert-butylether	ND	40	µg/m3							
Ethylbenzene	ND	8	µg/m3							

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19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

Volatile Organic Compounds by EPA 8260 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	%REC Limits	Notes
Batch QC2306313 - EPA 8260										
Method Blank 1										
Freon 11	ND	16	µg/m3							
Freon 113	ND	16	µg/m3							
Freon 12	ND	16	µg/m3							
Isopropylbenzene	ND	8	µg/m3							
m,p-Xylene	ND	16	µg/m3							
Methyl-tert-butylether	ND	40	µg/m3							
Methylene chloride	ND	8	µg/m3							
n-Butylbenzene	ND	12	µg/m3							
n-Hexane (LCC)	ND	80	µg/m3							
n-Pentane (LCC)	ND	80	µg/m3							
n-Heptane (LCC)	ND	80	µg/m3							
n-Propylbenzene	ND	8	µg/m3							
Naphthalene	ND	40	µg/m3							
o-Xylene	ND	8	µg/m3							
sec-Butylbenzene	ND	12	µg/m3							
Styrene	ND	8	µg/m3							
tert-amylmethylether	ND	40	µg/m3							
tert-Butylalcohol	ND	400	µg/m3							
tert-Butylbenzene	ND	12	µg/m3							
Tetrachloroethene	ND	8	µg/m3							
Toluene	ND	8	µg/m3							
trans-1,2-Dichloroethene	ND	8	µg/m3							
Trichloroethene	ND	8	µg/m3							
Vinyl chloride	ND	8	µg/m3							
Surrogate: Toluene-d8		*103.16 %*	*60 - 140*							
Surrogate: Dibromofluoromethane		*83.07 %*	*60 - 140*							
Surrogate: 4-Bromofluorobenzene		*89.30 %*	*60 - 140*							
Sample Blank 1										
1,1,1,2-Tetrachloroethane	ND	8	µg/m3							
1,1,1-Trichloroethane	ND	8	µg/m3							
1,1,2,2-Tetrachloroethane	ND	16	µg/m3							
1,1,2-Trichloroethane	ND	8	µg/m3							
1,1-Dichloroethane	ND	8	µg/m3							
1,1-Dichloroethene	ND	8	µg/m3							
1,2,4-Trimethylbenzene	ND	8	µg/m3							

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19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

Volatile Organic Compounds by EPA 8260 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	%REC Limits	Notes
Batch QC2306313 - EPA 8260										
Sample Blank 1										
1,2-Dibromoethane (EDB)	ND	8	µg/m3							
1,2-Dichlorobenzene	ND	16	µg/m3							
1,2-Dichloroethane	ND	8	µg/m3							
1,3,5-Trimethylbenzene	ND	8	µg/m3							
1,3-Dichlorobenzene	ND	16	µg/m3							
1,4-Dichlorobenzene	ND	16	µg/m3							
4-Isopropyltoluene	ND	8	µg/m3							
Benzene	ND	8	µg/m3							
Bromodichloromethane	ND	8	µg/m3							
Bromoform	ND	8	µg/m3							
Carbon tetrachloride	ND	8	µg/m3							
Chlorobenzene	ND	8	µg/m3							
Chloroform	ND	8	µg/m3							
cis-1,2-Dichloroethene	ND	8	µg/m3							
Di-isopropylether	ND	40	µg/m3							
Dibromochloromethane	ND	8	µg/m3							
Ethyl-tert-butylether	ND	40	µg/m3							
Ethylbenzene	ND	8	µg/m3							
Freon 11	ND	16	µg/m3							
Freon 113	ND	16	µg/m3							
Freon 12	ND	16	µg/m3							
Isopropylbenzene	ND	8	µg/m3							
m,p-Xylene	ND	16	µg/m3							
Methyl-tert-butylether	ND	40	µg/m3							
Methylene chloride	ND	8	µg/m3							
n-Butylbenzene	ND	12	µg/m3							
n-Hexane (LCC)	ND	80	µg/m3							
n-Pentane (LCC)	ND	80	µg/m3							
n-Heptane (LCC)	ND	80	µg/m3							
n-Propylbenzene	ND	8	µg/m3							
Naphthalene	ND	40	µg/m3							
o-Xylene	ND	8	µg/m3							
sec-Butylbenzene	ND	12	µg/m3							
Styrene	ND	8	µg/m3							
tert-amylmethylether	ND	40	µg/m3							
tert-Butylalcohol	ND	400	µg/m3							
tert-Butylbenzene	ND	12	µg/m3							

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Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

Volatile Organic Compounds by EPA 8260 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	%REC Limits	Notes
Batch QC2306313 - EPA 8260										
Sample Blank 1										
Tetrachloroethene	ND	8	µg/m3							
Toluene	ND	8	µg/m3							
trans-1,2-Dichloroethene	ND	8	µg/m3							
Trichloroethene	ND	8	µg/m3							
Vinyl chloride	ND	8	µg/m3							
Surrogate: Toluene-d8		*101.93 %*	*60 - 140*							
Surrogate: Dibromofluoromethane		*82.49 %*	*60 - 140*							
Surrogate: 4-Bromofluorobenzene		*88.81 %*	*60 - 140*							

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Colby Wakeman
Lab Director

11007 FOREST PLACE
SANTA FE SPRINGS, CA 90670
714-449-9937 PHONE
562-646-1611 FAX

NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

Volatile Organic Compounds by EPA 8260 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	%REC Limits	Notes
Batch QC2306333 - EPA 8260										
CCV 1										
1,1,1-Trichloroethane	251.68	8	%	250		100.67	80 - 120		120	
1,1-Dichloroethene	243.48	8	%	250		97.39	80 - 120		120	
Benzene	261.73	8	%	250		104.69	80 - 120		120	
Chlorobenzene	256.32	8	%	250		102.53	80 - 120		120	
cis-1,2-Dichloroethene	262.43	8	%	250		104.97	80 - 120		120	
Ethylbenzene	250.69	8	%	250		100.27	80 - 120		120	
Tetrachloroethene	244.88	8	%	250		97.95	80 - 120		120	
Toluene	254.01	8	%	250		101.60	80 - 120		120	
Trichloroethene	252.90	8	%	250		101.16	80 - 120		120	
Vinyl chloride	283.99	8	%	250		113.60	80 - 120		120	
LCS 1										
1,1,1-Trichloroethane	56.5	8	%	50		112.93	70 - 130			
1,1-Dichloroethene	57.8	8	%	50		115.68	60 - 140			
Benzene	58.1	8	%	50		116.14	70 - 130			
Chlorobenzene	55.4	8	%	50		110.77	70 - 130			
cis-1,2-Dichloroethene	57.6	8	%	50		115.11	70 - 130			
Ethylbenzene	51.6	8	%	50		103.18	70 - 130			
Tetrachloroethene	52.7	8	%	50		105.35	70 - 130			
Toluene	54.9	8	%	50		109.84	70 - 130			
Trichloroethene	59.5	8	%	50		119.02	70 - 130			
Vinyl chloride	60.8	8	%	50		121.54	60 - 140			
Surrogate: Toluene-d8		*90.24 %*	*60 - 140*							
Surrogate: Dibromofluoromethane		*106.75 %*	*60 - 140*							
Surrogate: 4-Bromofluorobenzene		*113.22 %*	*60 - 140*							
LCSD 1										
1,1,1-Trichloroethane	54.1	8	%	50		108.27		4.22		
1,1-Dichloroethene	55.3	8	%	50		110.63		4.47		
Benzene	55.9	8	%	50		111.78		3.83		
Chlorobenzene	54.0	8	%	50		108.08		2.46		

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Colby Wakeman
Lab Director

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

Volatile Organic Compounds by EPA 8260 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	%REC Limits	Notes
Batch QC2306333 - EPA 8260										
LCSD 1										
cis-1,2-Dichloroethene	55.3	8	%	50		110.66		3.94		
Ethylbenzene	50.2	8	%	50		100.36		2.76		
Tetrachloroethene	51.0	8	%	50		102.01		3.22		
Toluene	53.5	8	%	50		106.91		2.70		
Trichloroethene	56.0	8	%	50		111.92		6.15		
Vinyl chloride	57.3	8	%	50		114.64		5.84		
Surrogate: Toluene-d8		*90.34 %*	*60 - 140*							
Surrogate: Dibromofluoromethane		*106.12 %*	*60 - 140*							
Surrogate: 4-Bromofluorobenzene		*114.13 %*	*60 - 140*							
Method Blank 1										
1,1,1,2-Tetrachloroethane	ND	8	µg/m3							
1,1,1-Trichloroethane	ND	8	µg/m3							
1,1,2,2-Tetrachloroethane	ND	16	µg/m3							
1,1,2-Trichloroethane	ND	8	µg/m3							
1,1-Dichloroethane	ND	8	µg/m3							
1,1-Dichloroethene	ND	8	µg/m3							
1,2,4-Trimethylbenzene	ND	8	µg/m3							
1,2-Dibromoethane (EDB)	ND	8	µg/m3							
1,2-Dichlorobenzene	ND	16	µg/m3							
1,2-Dichloroethane	ND	8	µg/m3							
1,3,5-Trimethylbenzene	ND	8	µg/m3							
1,3-Dichlorobenzene	ND	16	µg/m3							
1,4-Dichlorobenzene	ND	16	µg/m3							
4-Isopropyltoluene	ND	8	µg/m3							
Benzene	ND	8	µg/m3							
Bromodichloromethane	ND	8	µg/m3							
Bromoform	ND	8	µg/m3							
Carbon tetrachloride	ND	8	µg/m3							
Chlorobenzene	ND	8	µg/m3							
Chloroform	ND	8	µg/m3							
cis-1,2-Dichloroethene	ND	8	µg/m3							
Di-isopropylether	ND	40	µg/m3							
Dibromochloromethane	ND	8	µg/m3							
Ethyl-tert-butylether	ND	40	µg/m3							
Ethylbenzene	ND	8	µg/m3							

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Lab Director

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

Volatile Organic Compounds by EPA 8260 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	%REC Limits	Notes
Batch QC2306333 - EPA 8260										
Method Blank 1										
Freon 11	ND	16	µg/m3							
Freon 113	ND	16	µg/m3							
Freon 12	ND	16	µg/m3							
Isopropylbenzene	ND	8	µg/m3							
m,p-Xylene	ND	16	µg/m3							
Methyl-tert-butylether	ND	40	µg/m3							
Methylene chloride	ND	8	µg/m3							
n-Butylbenzene	ND	12	µg/m3							
n-Hexane (LCC)	ND	80	µg/m3							
n-Pentane (LCC)	ND	80	µg/m3							
n-Heptane (LCC)	ND	80	µg/m3							
n-Propylbenzene	ND	8	µg/m3							
Naphthalene	ND	40	µg/m3							
o-Xylene	ND	8	µg/m3							
sec-Butylbenzene	ND	12	µg/m3							
Styrene	ND	8	µg/m3							
tert-amylmethylether	ND	40	µg/m3							
tert-Butylalcohol	ND	400	µg/m3							
tert-Butylbenzene	ND	12	µg/m3							
Tetrachloroethene	ND	8	µg/m3							
Toluene	ND	8	µg/m3							
trans-1,2-Dichloroethene	ND	8	µg/m3							
Trichloroethene	ND	8	µg/m3							
Vinyl chloride	ND	8	µg/m3							
Surrogate: Toluene-d8		*90.78 %*	*60 - 140*							
Surrogate: Dibromofluoromethane		*110.90 %*	*60 - 140*							
Surrogate: 4-Bromofluorobenzene		*102.27 %*	*60 - 140*							
Sample Blank 1										
1,1,1,2-Tetrachloroethane	ND	8	µg/m3							
1,1,1-Trichloroethane	ND	8	µg/m3							
1,1,2,2-Tetrachloroethane	ND	16	µg/m3							
1,1,2-Trichloroethane	ND	8	µg/m3							
1,1-Dichloroethane	ND	8	µg/m3							
1,1-Dichloroethene	ND	8	µg/m3							
1,2,4-Trimethylbenzene	ND	8	µg/m3							

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

Volatile Organic Compounds by EPA 8260 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	%REC Limits	Notes
Batch QC2306333 - EPA 8260										
Sample Blank 1										
1,2-Dibromoethane (EDB)	ND	8	µg/m3							
1,2-Dichlorobenzene	ND	16	µg/m3							
1,2-Dichloroethane	ND	8	µg/m3							
1,3,5-Trimethylbenzene	ND	8	µg/m3							
1,3-Dichlorobenzene	ND	16	µg/m3							
1,4-Dichlorobenzene	ND	16	µg/m3							
4-Isopropyltoluene	ND	8	µg/m3							
Benzene	ND	8	µg/m3							
Bromodichloromethane	ND	8	µg/m3							
Bromoform	ND	8	µg/m3							
Carbon tetrachloride	ND	8	µg/m3							
Chlorobenzene	ND	8	µg/m3							
Chloroform	ND	8	µg/m3							
cis-1,2-Dichloroethene	ND	8	µg/m3							
Di-isopropylether	ND	40	µg/m3							
Dibromochloromethane	ND	8	µg/m3							
Ethyl-tert-butylether	ND	40	µg/m3							
Ethylbenzene	ND	8	µg/m3							
Freon 11	ND	16	µg/m3							
Freon 113	ND	16	µg/m3							
Freon 12	ND	16	µg/m3							
Isopropylbenzene	ND	8	µg/m3							
m,p-Xylene	ND	16	µg/m3							
Methyl-tert-butylether	ND	40	µg/m3							
Methylene chloride	ND	8	µg/m3							
n-Butylbenzene	ND	12	µg/m3							
n-Hexane (LCC)	ND	80	µg/m3							
n-Pentane (LCC)	ND	80	µg/m3							
n-Heptane (LCC)	ND	80	µg/m3							
n-Propylbenzene	ND	8	µg/m3							
Naphthalene	ND	40	µg/m3							
o-Xylene	ND	8	µg/m3							
sec-Butylbenzene	ND	12	µg/m3							
Styrene	ND	8	µg/m3							
tert-amylmethylether	ND	40	µg/m3							
tert-Butylalcohol	ND	400	µg/m3							
tert-Butylbenzene	ND	12	µg/m3							

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

Volatile Organic Compounds by EPA 8260 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	%REC Limits	Notes
Batch QC2306333 - EPA 8260										
Sample Blank 1										
Tetrachloroethene	ND	8	µg/m3							
Toluene	ND	8	µg/m3							
trans-1,2-Dichloroethene	ND	8	µg/m3							
Trichloroethene	ND	8	µg/m3							
Vinyl chloride	ND	8	µg/m3							
Surrogate: Toluene-d8		*89.39 %*	*60 - 140*							
Surrogate: Dibromofluoromethane		*113.14 %*	*60 - 140*							
Surrogate: 4-Bromofluorobenzene		*103.83 %*	*60 - 140*							

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NV5 (Formerly Alta)	Project: Mckinley Elementary School	
19700 Fairchild Rd., Suite 170	Project Number: SMSD-23-11335	Reported
Irvine, CA 92612	Project Manager: Eric Fraske	06/20/23 16:32

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
E	Estimated Concentration; concentration exceeds calibration range.
LCC	Leak Check Compound
MDL	Compound Reported to Method Detection Limit
1	Recovery outside of acceptable limits. LCS/LCSD recoveries and %RSD were within QC limits, therefore data was accepted.
SMSR	Sample matrix prevented adequate surrogate recovery.
J	Value less then PQL but greater than MDL.

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www.jonesenv.com

Air Chain-of-Custody Record

Lab Use Only
Jones Project # J231560
Page 1 of 3

Client: NVS
Client Address: 3777 Long Beach Blvd, Long Beach, CA
Project Name: McKinley Elementary School
Project Address: 2401 Santa Monica Blvd, Santa Monica, CA
Report To: Eric Fraske
Email/Phone:
Sampler: AMU

Date: 6-10-23
Client Project #: SMSD-23-11335

Purge Rate: 100-200 cc/min
Shut In Test: (Y) / N

Turn Around Requested
- ☐ Immediate Attention - 200%
- ☐ Rush 24 Hours - 100%
- ☐ Rush 48 Hours - 50%
- ☐ Rush 72 Hours - 25%
- ☐ Rush 96 Hours - 10%
- ☒ Normal - No Surcharge

Summa Cannister Size: ☒ 1L ☐ 6L

Tracer
- ☒ n-pentane
- ☒ n-hexane
- ☒ n-heptane
- ☐ Helium
- ☐ 1,1-DFA
- ☐ _____

Report Options
EDD ____
EDF* - 10% Surcharge ____
*Global ID _____

Gasoline Range Organics: ☐ Yes ☐ No

Units Requested: ☒ ug/m3 ☐ ug/L ☐ ppmV

Analysis Requested

Sample ID	Date Collected	Purge Number	Purge Volume	Laboratory Sample ID	Canister ID	Cannister Start Pressure	Cannister End Pressure	Flow Rate (cc/min)	Sampling Start Time	Sampling End Time	~~TO-15~~ methane Reading	8260B (MDL)	Magnehelic Reading (in/H_2O)	Number of Containers
SV4-5V	6-10-23	3	1200	J231560-001	01762	-30	-5	200	1152	1158	0.0	X	<2	1
SV4-15V	6-10-23	3	1420	J231560-002	01789	-24	-5	200	1152	1156	0.0	X	<2	1
SV13-5V	6-10-23	3	1260	J231560-003	01767	-35	-20	200	1210	1218	0.0	X	<2	1
SV13-15V	6-10-23	3	1420	J231560-004	01821	-30	-5	200	1210	1215	0.0	X	<2	1
SV12-5V	6-10-23	3	1260	J231560-005	01593	-30	-10	200	1227	1235	0.0	X	40	1
SV12-15V	6-10-23	3	1420	J231560-006	01747	-30	-5	200	1227	1232	0.0	X	<2	1
SV11-5V	6-10-23	3	1260	J231560-007	01801	-26	-5	200	1246	1252	0.0	X	<2	1
SV11-15V	6-10-23	3	1420	J231560-008	1636	-30	-5	200	1247	1252	0.0	X	<2	1
SV10-5V	6-10-23	3	1260	J231560-009	01790	-30	-15	200	1304	1311	-	X	80	1
SV10-15V	6-10-23	3	1420	J231560-010	01772	-30	-5	200	1304	1311	0.0	X	<2	1

Relinquished By (Signature):	Date: 6-10-23	Recieved By (Signature):	Date: 6-10-23
Company: NVS	Time: 13:42	Company: JEL	Time:
Relinquished By (Signature):	Date:	Recieved By Laboratory (Signature):	Date:
Company	Time:	Company	Time:

The delivery of samples and the signature on this Chain of Custody form constitutes authorization to perform the analyses specificied above under the Terms and Conditions set forth

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Air Chain-of-Custody Record

Lab Use Only
Jones Project #: J231560
Page 2 of 3

Client: NVS
Client Address: 3777 Long Beach Blvd. Long Beach, CA
Project Name: McKinley Elementary
Project Address: 2401 Santa Monica Blvd, Santa Monica, CA
Report To: Eric Fraste
Email/Phone:
Sampler: AMO

Date: 6-10-23
Client Project #: SMSD-23-11335

Purge Rate: 100-200 cc/min
Shut In Test: (Y) / N

Turn Around Requested
- ☐ Immediate Attention - 200%
- ☐ Rush 24 Hours - 100%
- ☐ Rush 48 Hours - 50%
- ☐ Rush 72 Hours - 25%
- ☐ Rush 96 Hours - 10%
- ☑ Normal - No Surcharge

Summa Canister Size: ☑ 1L ☐ 6L

Tracer
- ☒ n-pentane
- ☒ n-hexane
- ☒ n-heptane
- ☐ Helium
- ☐ 1,1-DFA
- ☐ _____

Report Options
EDD ____
EDF* - 10% Surcharge ____
*Global ID _____

Gasoline Range Organics: ☐ Yes ☐ No

Units Requested: ☒ ug/m3 ☐ ug/L ☐ ppmV

Analysis Requested

Sample ID	Date Collected	Purge Number	Purge Volume	Laboratory Sample ID	Canister ID	Canister Start Pressure	Canister End Pressure	Flow Rate (cc/min)	Sampling Start Time	Sampling End Time	~~TO-15~~ Methane Reading	8260B (mg/L)	Magnehelic Reading (in/H2O)	Number of Containers
SV8-5V	6-10-23	3	1260	J231560-011	01800 ~~01794~~	-30	-5	200	1028	1035	0.0	x	20	1
SV8-15V	6-10-23	3	1420	J231560-012	01794	-30	-5	200	1024	1029	0.0	x	<2	1
SV8-15V REP	6-10-23	-	-	J231560-013	01780	-30	-5	200	1030	1035	0.0	x	<2	1
SV7-5V	6-10-23	3	1260	J231560-014	01732	-28	-5	200	1054	1059	0.0	x	<2	1
SV7-5V REP	6-10-23	-	-	J231560-015	01755	-29	-5	200	1100	1105	0.0	x	<2	1
SV7-15V	6-10-23	3	1420	J231560-016	01802	-30	-5	200	1055	1100	0.0	x	<2	1
SV6-5V	6-10-23	3	1260	J231560-017	01520	-30	-5	200	1117	1123	0.0	x	<2	1
SV6-15V	6-10-23	3	1420	J231560-018	B2421	-30	-4	200	1118	1126	0.0	x	<2	1
SV5-5V	6-10-23	3	1260	J231560-019	01770	-30	-5	200	1134	1140	0.0	x	<2	1
SV5-15V	6-10-23	3	1420	J231560-020	01512	-30	-5	200	1133	1138	0.0	x	<2	1

Relinquished By (Signature):	Date: 6/10/23	Recieved By (Signature):	Date: 6-10-23
Company: NVS	Time: 13:42	Company: JEV	Time:
Relinquished By (Signature):	Date:	Recieved By Laboratory (Signature):	Date:
Company:	Time:	Company:	Time:

The delivery of samples and the signature on this Chain of Custody form constitutes authorization to perform the analyses specificied above under the Terms and Conditions set forth

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Air Chain-of-Custody Record

Lab Use Only
Jones Project # J231560
Page 3 of 3

Client: NVS
Client Address: 3777 Long Beach Blvd. Long Beach, CA
Project Name: McKinley Elementary School
Project Address: 2401 Santa Monica Blvd Santa Monica, CA
Report To: Eric Frasche
Email/Phone:
Sampler: AMO

Date: 6-10-23
Client Project #: SMSD-23-11335

Purge Rate: 100-200 cc/min
Shut In Test: (Y) / N

Turn Around Requested
- ☐ Immediate Attention - 200%
- ☐ Rush 24 Hours - 100%
- ☐ Rush 48 Hours - 50%
- ☐ Rush 72 Hours - 25%
- ☐ Rush 96 Hours - 10%
- ☒ Normal - No Surcharge

Summa Canister Size: ☒ 1L ☐ 6L

Tracer
- ☒ n-pentane
- ☒ n-hexane
- ☒ n-heptane
- ☐ Helium
- ☐ 1,1-DFA
- ☐ _____

Report Options
EDD ____
EDF* - 10% Surcharge ____
*Global ID _____

Gasoline Range Organics: ☐ Yes ☒ No

Units Requested: ☒ ug/m3 ☐ ug/L ☐ ppmV

Analysis Requested

Sample ID	Date Collected	Purge Number	Purge Volume	Laboratory Sample ID	Canister ID	Cannister Start Pressure	Cannister End Pressure	Flow Rate (cc/min)	Sampling Start Time	Sampling End Time	~~TO-15~~ mercury reading	8260B (mg/L)	Magnehelic Reading (in/H_2O)	Number of Containers
SV9-5V	6-10-23	3	1260	J231560-021	01515	-20	-5	200	1329	1335	0.0	X	40	1
SV9-15V	6-10-23	3	1420	J231560-022	01523	-28	-5	200	1323	1328	0.0	X	22	1

Relinquished By (Signature): [signature] Date: 6/10/23 Time: 13:42
Company: NVS

Recieved By (Signature): [signature] Date: 6-10-23 Time:
Company: JEL

Relinquished By (Signature): Date: Time:

Recieved By Laboratory (Signature): Date: Time:
Company:

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APPENDIX C

Waste Manifest

NO. 770679

NON-HAZARDOUS WASTE DATA FORM

BESI # 355709

GENERATOR

Generator's Name and Mailing Address
SANTA MONICA-MALIBU UNIFIED SCHOOL DISTRICT
FACILITIES IMPROVEMENTS PROJECTS
2828 FOURTH STREET
SANTA MONICA, CA 90405

Generator's Site Address (if different than mailing address)
MCKINLEY ELEMENTARY SCHOOL
2401 SANTA MONICA BLVD.
SANTA MONICA, CA 90404

Generator's Phone: 310-399-5865

Container type removed from site:
XX ☐ Drums ☐ Vacuum Truck ☐ Roll-off Truck ☐ Dump Truck
☐ Other _____
Quantity 001 DM

Container type transported to receiving facility:
☐ Drums ☐ Vacuum Truck ☐ Roll-off Truck ☐ Dump Truck
☐ Other _____
Quantity _____ Volume _____

WASTE DESCRIPTION NON-HAZARDOUS SOLID

GENERATING PROCESS ENVIRONMENTAL SAMPLING

COMPONENTS OF WASTE	PPM	%	COMPONENTS OF WASTE	PPM	%
1. Soil		90%	3.		
2. PPE		0-10%	4.		

Waste Profile 070128043-17880

PROPERTIES: pH _____ ☐ SOLID ☐ LIQUID ☐ SLUDGE ☐ SLURRY ☐ OTHER _____

HANDLING INSTRUCTIONS: WEAR ALL APPROPRIATE PERSONAL PROTECTIVE CLOTHING.

Generator Printed/Typed Name: Eric Fitzgerald for SMMUSD
Signature: [signature]
Month 6 Day 15 Year 23

The Generator certifies that the waste as described is 100% non-hazardous

TRANSPORTER

Transporter 1 Company Name: BELSHIRE
Phone#: 949-460-5200

Transporter 1 Printed/Typed Name: Chris Maciac
Signature: [signature]
Month 6 Day 15 Year 23

Transporter Acknowledgment of Receipt of Materials

Transporter 2 Company Name:
Phone#:

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

Transporter Acknowledgment of Receipt of Materials

RECEIVING FACILITY

Designated Facility Name and Site Address
U.S. ECOLOGY, NEVADA OPERATIONS
HIGHWAY 95, 11 MILES S. OF BEATTY
BEATTY, NV 89003

Phone#: 775-553-2203

Printed/Typed Name:
Signature:
Month Day Year

Designated Facility Owner or Operator: Certification of receipt of materials covered by this data form.

APPENDIX D

Vapor Intrusion Risk Evaluation

ENVIRO-TOX services, inc.

Technical Memorandum

Date: July 10, 2023

To: Mr. Eric Fraske
Senior Engineer II
NV5
3777 Long Beach Blvd., Annex Building
Long Beach, California 90807

From: Heriberto Robles, Ph.D., D.A.B.T.

Subject: ***Vapor Intrusion Risk Evaluation***
McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, California

At the request of NV5, Enviro-Tox Services Inc. (Enviro-Tox) conducted a Vapor Intrusion Risk Evaluation (VIRE) for the McKinley Elementary School property located at 2401 Santa Monica Boulevard in Santa Monica, California (the Site). The purpose of the VIRE was to assess whether the presence of volatile organic compounds (VOCs) detected in soil gas under the Site could pose a potential health risk or hazard to onsite receptors at the school site.

Background

An environmental investigation conducted at the Site by NV5 (2023) revealed the presence of VOCs in soil gas at the Site. The most likely source of the VOCs identified in soil gas appears to be an unknown off-site source located to the northeast of the Site. The soil gas analytical data collected by NV5 (2023) are summarized in Tables 1 and 2. This VIRE used soil gas data collected from depths of 5 and 15 feet below ground surface (bgs). Soil gas data has not been collected from deeper depths at the time of this evaluation.

The approach used in this screening evaluation was based on United States Environmental Protection Agency (USEPA) and California Department of Toxic Substances Control (DTSC) guidance for conducting human health risk assessments. This evaluation has incorporated conservative (health-protective) assumptions in evaluating potential exposures, so that potential health impacts from chemical exposures could be evaluated and not underestimated.

For the purpose of this risk evaluation and in accordance with DTSC's Preliminary Endangerment Assessment (PEA) Guidance Manual (2015), the potential risks are calculated based on a hypothetical residential land-use scenario, regardless of the current and future use and zoning for the site.

It is conceivable that VOCs detected in soil gas under the Site may escape to the surface. Thus, the chemical volatilization and eventual escape into ambient air is considered to be a potential exposure pathway for future onsite receptors. Vapor intrusion occurs when VOCs from contaminated soil gas migrate upwards toward the ground surface and into overlying buildings through gaps and cracks in foundation slabs. The route VOCs take from a subsurface source to the air inside a building is referred to as the vapor intrusion pathway.

Vapor Intrusion Risk Evaluation Methodology

Risk characterization involves estimating the magnitude of the potential adverse health effects that could occur due to chronic, long-term exposure to chemicals identified in soil gas at the Site. The risk characterization is based on the results of the dose-response (toxicity) and exposure assessment.

It is known that chemicals may migrate through environmental media from their source to a point where human receptors may be exposed. Therefore, it was necessary to determine if the detected VOCs – given their residual concentrations, locations, soil physical characteristics, weather conditions, etc. – could potentially migrate up to the surface (where human receptors may be exposed).

Screening-level emission estimation methods were used to predict potential indoor and outdoor air chemical concentrations that may result from the flux of chemical vapors potentially released from soil gas sources detected under the Site. The estimated flux and indoor or outdoor air concentrations were then used to evaluate potential health risks that may result from exposures that could occur at the Site.

California DTSC guidance recommends that multiple lines of evidence be used when evaluating the potential risk and hazards posed by vapor intrusion. DTSC recommends that the indoor air chemical concentrations that can result from vapor intrusion be estimated using the following equation:

$$AF = \frac{C_{indoor}}{C_{soil\ gas}}$$

Where:

AF	=	Attenuation factor (unitless)
C_{indoor}	=	Indoor air concentration (micrograms per cubic meter [ug/m^3])
$C_{soil\ gas}$	=	Soil gas concentration (ug/m^3)

Using the above equation, the indoor air chemical concentration can be estimated by multiplying the known soil gas concentration by the default attenuation factor (AF). In this VIRE maximum detected soil gas concentrations were used as representative of prevailing soil gas concentrations under the Site.

In accordance with DTSC (2011) guidance, the default AF for future residential sites (0.001) was used in this VIRE along with the detected subsurface concentrations. The default AF of 0.001 was used to evaluate volatilization and vapor intrusion for all sampling depths evaluated in this VIRE. The DTSC default AF reflects reasonably protective assumptions for conditions in California for the contamination of indoor air due to vapor intrusion (DTSC, 2011). However, DTSC (2023) also recommends that risk assessments evaluate vapor intrusion using the USEPA default AF of 0.03 (USEPA, 2015).

The AF of 0.03 was developed by the USEPA for the evaluation of sub-slab soil gas data (https://www.epa.gov/vaporintrusion/visl-users-guide). The AF of 0.03 assumes the source of contamination is located directly under the floor slab of the building. However, soils have the capacity to reduce vapor flow in the subsurface. The vapor flow mitigating capacity of soils is directly proportional to the depth of the soil layer that separates the building from the source of VOCs. Specifically, the soil's combined physical, chemical and/or lithological properties act to reduce or limit the migration of VOCs through the soil's pore spaces (Little, Daisey, and Nazaroff, 1992). The natural

ability of soils to reduce vapor migration is not taken into consideration when the AF of 0.03 is assumed.

The model assumes that the concentrations in indoor air are proportional to the flux throughout the soil column, and that a gas infiltrating into the building through the foundation floor is uniformly and instantaneously mixed within the air space above the lowest occupied floor of the building. Because this model ignores a number of possible mitigating factors, it is likely that it over-predicts the chemical flux to indoor air. However, because of its simplicity, this approach provides a simple method to estimate the likely maximum rate at which chemicals would be transported to the surface soils and into a building.

The indoor air chemical concentrations estimated to result from the volatilization of VOCs could be considered to represent a "worst-case" estimate. In the calculations, it was assumed that single chemical compounds are volatilizing, traveling alone through the vadose zone and escaping to ambient air. In reality, all chemicals detected at the Site are competing with each other for available soil-pore space. Chemical volatilization and migration is limited by the vapor saturation in the vadose zone. Indoor air VOC concentrations estimated using the AFs of 0.03 and 0.001 for VOCs detected at depth of 5 feet bgs are presented in Tables 3 and 4, respectively. Indoor air VOC concentrations estimated using the AFs of 0.03 and 0.001 for VOCs detected at depth of 15 feet bgs are presented in Tables 5 and 6, respectively.

Toxicity Values

The toxicity assessment characterizes the relationship between the magnitude of exposure to a contaminant of potential concern (COPC) and the nature and magnitude of adverse health effects that may result from such exposure. For the purposes of calculating exposure criteria to be used in risk assessments, adverse health effects are classified into two broad categories: carcinogens and non-carcinogens. Toxicity values/exposure criteria are generally developed based on the threshold approach for non-carcinogenic effects and the non-threshold approach for carcinogenic effects. Toxicity values may be based on epidemiological studies, short-term human studies, and sub-chronic or chronic animal data.

A reference concentration (RfC) is an exposure concentration in air that is not expected to cause adverse health effects over a lifetime of daily exposure in the most sensitive population. All RfCs used in this evaluation to estimate non-carcinogenic chronic health hazards are presented in Table 7.

Health risks for exposures to carcinogens are defined in terms of probabilities. The probabilities quantify the likelihood of a carcinogenic response in an individual that receives a given dose of a particular compound. These probabilities are calculated based on the potential exposure concentration and the inhalation unit risk (IUR) for a chemical.

The IUR, which is expressed in units of inverse micrograms per cubic meter $(ug/m^3)^{-1}$, is the 95 percent upper confidence limit of the arithmetic mean (95UCL) of the probability of carcinogenic response per unit daily exposure to a given chemical concentration over a lifetime. The IUR multiplied by the lifetime exposure concentration of the chemical provides an estimate of the 95UCL of the theoretical cancer risk for the specific chemical. The IURs used in this evaluation to estimate carcinogenic dose-assessment risks are presented in Table 7.

In this assessment, chronic toxicity criteria were selected in accordance with the DTSC Regulation "Toxicity Criteria for Human Health Risk Assessment" (effective September 2018) (https://dtsc.ca.gov/LawsRegsPolicies/Regs/Toxicity-Criteria-for-Human-Health-Risk-Assessment). Toxicity information was obtained from the DTSC Human and Ecological Risk Office (HERO) Human Health Risk Assessment (HHRA) Note 10, Toxicity Criteria (DTSC, 2019). All toxicity values used in this evaluation are summarized in Table 7.

Risk Characterization

This section discusses the methods used to quantify the exposure concentration (EC) for hypothetical onsite residential receptors. The estimated ECs for each VOC were used to estimate the potential for carcinogenic health risks and non-carcinogenic adverse health effects. The potential inhalation exposures were calculated using the following equation (USEPA, 2009):

$$EC = \frac{CA \bullet ET \bullet EF \bullet ED}{AT}$$

Where:

EC	=	Exposure concentration, ug/m^3
CA	=	Chemical concentration in air, ug/m^3
ET	=	Exposure time, hours/day
EF	=	Exposure frequency, days/year
ED	=	Exposure duration, years
AT	=	Averaging time, hours (used the equivalent of 70 years for carcinogens and same value as ED for non-carcinogens).

Inhalation intake factors were combined with estimated indoor air chemical concentrations (CA) to obtain the exposure concentration for hypothetical onsite residents. Exposure parameters used to characterize hypothetical onsite residents are presented in Table 8. School staff and students were not directly evaluated since their exposure would be lower than those assumed for adult and child residential receptors (i.e., the exposure duration, frequency and time would be lower than a full-time residential receptor).

Non-Carcinogenic Health Hazard Evaluation

The evaluation of non-carcinogenic health hazards began with a calculation of the hazard quotient or HQ for each chemical. The HQ is defined as the ratio of the exposure concentration (EC) to the reference concentration (RfC). The HQ can be expressed according to the following equation:

$$HQ = \frac{EC}{RfC}$$

Where:

HQ	=	Hazard quotient, unitless
EC	=	Exposure concentration, ug/m^3
RfC	=	Reference concentration, ug/m^3

The estimated HQs are compared to an acceptable hazard level. Implicit in the HQ is the assumption of a threshold level of exposure below which no adverse effects are expected to occur. For example, if the HQ exceeds unity (because site-specific exposure exceeds the RfC), then the potential for non-cancer adverse effects may exist. In general, the greater the value above 1.0, the greater the potential hazard. In contrast, HQs of less than 1.0 indicate that no adverse health effects are expected to occur from exposure to chemicals at the site.

The HQs estimated for the hypothetical onsite residential receptors are:

- 2 when using an AF of 0.03 and maximum detected concentrations at 5 feet bgs (Table 9).
- 0.07 when using an AF of 0.001 and maximum detected concentrations at a depth of 5 feet bgs (Table 10).
- 3 when using an AF of 0.03 and maximum detected concentrations at a depth of 15 feet bgs (Table 11).
- 0.1 when using an AF of 0.001 and maximum detected concentrations at a depth of 15 feet bgs (Table 12).

Only the HQs estimated using an AF of 0.03 exceed the benchmark value of 1. The "risk drivers" for the exceedance were tetrachloroethene (PCE) and trichloroethene (TCE; Tables 9 and 11).

Cancer Risk Estimates

Cancer risks were estimated as the incremental probability of an individual developing cancer over a lifetime due to exposure to a potential carcinogen (i.e., incremental or excess individual lifetime cancer risk) (USEPA, 1989). Cancer risks were calculated in accordance with DTSC (2015) and USEPA (1989) guidelines.

$$Risk = EC \bullet IUR$$

Where:

Risk	=	Upper bound incremental lifetime carcinogenic risk, unitless
EC	=	Exposure concentration, ug/m^3
IUR	=	Inhalation unit risk, $(ug/m^3)^{-1}$

The excess cancer risks were compared to the risk level considered acceptable by federal and state regulatory agencies. The target cancer risk level identified by the DTSC in the PEA Guidance Manual is one in one million (1.0E-06). However, the USEPA has established acceptable incremental cancer risk levels to be within the risk range of 1 in 10,000 (1.0E-04) and 1.0E-06; risks greater than 1.0E-04 are generally considered unacceptable.

The cancer risks estimated for hypothetical onsite residential receptors are:

- 1E-04 when using an AF of 0.03 and maximum detected concentrations at a depth of 5 feet bgs (Table 13).
- 4E-06 when using an AF of 0.001 and maximum detected concentrations at a depth of 5 feet bgs (Table 14).

- 2E-04 when using an AF of 0.03 and maximum detected concentrations at a depth of 15 feet bgs (Table 15).
- 6E-06 when using an AF of 0.001 and maximum detected concentrations at a depth of 15 feet bgs (Table 16).

All estimated cancer risks exceed the acceptable cancer risk point of departure of 1E-06. The "risk drivers" for VOCs detected at a depth of 5 feet and using an AF of 0.03 were benzene, ethylbenzene, naphthalene and PCE (Table 13). PCE was the only "risk driver" when using an AF of 0.001 (Tables 14 and 16). The "risk drivers" identified in soil gas sampled at a depth of 15 feet bgs and using an AF of 0.03 were naphthalene, PCE and trichloroethene (TCE; Table 15).

Summary and Conclusions

According to the results of the Risk Evaluation, the cancer risks and HQs estimated using an AF of 0.03 and the cancer risks estimated using an AF of 0.001 exceed the values considered acceptable by the DTSC. Based on the results of this VIRE, Enviro-Tox makes the following recommendations:

- Future buildings should be protected by adequate vapor intrusion mitigation systems such as a vapor barrier and subsurface depressurization systems.
- Proposed classrooms should be designed so that sufficient ventilation is provided to reduce indoor air accumulation of VOCs. Standard ventilation for commercial units established by the California Occupational Safety and Health Administration (Cal-OSHA) should be sufficient to mitigate vapors down to acceptable levels.

Uncertainty Analysis

It should be noted that the VIRE was based on conservative (health-protective) assumptions, estimates, models, and parameters. Therefore, the results are not absolute estimates of health risks at the Site but are health-protective estimates. Because exposure point concentrations were derived from fate and transport modeling, conservative assumptions and methodology were necessarily employed to eliminate the possibility of underestimating risks. This practice, although commonly used in the risk assessment process to eliminate the possibility of underestimating risk, necessarily introduces a significant level of conservatism in the conclusions derived from the assessment. Examples of some of the conservatism in this assessment include:

- The AF of 0.03 was developed by the USEPA for residential sites where the source of contamination is located directly under the affected building. For the Site, the source of VOCs appears to be an unknown off-site source located to the northeast of the Site.
- Risk assessment guidance issued by the USEPA and DTSC require the evaluation of risks assuming hypothetical onsite residents will be exposed to vapor emissions 24 hours/day, seven days per week, 350 days per year for up to 26 years. Future students and school staff at the site are likely to be at the school site for no more than 8 hours per day, 5 days per week for up to 6 or 10 years.
- Toxicity values used in risk assessments present overestimates of the potential toxicity of chemicals to humans. Assumptions used to develop toxicity values include the addition of

safety factors to account for uncertainties associated with extrapolating high doses to low doses and to account for uncertainties associated with the use of laboratory animal studies to assess potential toxicity to human receptors.

Limitations

The conclusions and recommendations presented in this report are professional opinions based solely upon the data described in this report. They are intended exclusively for the purpose outlined herein and the property's location and project indicated. The scope of services performed in execution of this investigation may not be appropriate to satisfy the needs of users other than NV5. Any use or reuse of this document or the findings, conclusions, or recommendations presented herein is at the sole risk of said user.

Given that the scope of services for this investigation was limited, and that conditions may vary between the points explored, it is possible that currently unrecognized subsurface contamination might be present at the subject property. Should site use or conditions change, the information and conclusions in this report may no longer apply. Opinions relating to environmental and public health conditions are based on limited data and actual conditions may vary from those encountered at the times and locations where data were obtained. No express or implied representation or warranty is included or intended in this report except that the work was performed within the limits prescribed by the Client with the customary thoroughness and competence of professionals working in the same area on similar projects.

Attachments

Table 1. Soil Gas Analytical Results for Samples Collected at a Depth of 5 Feet

Table 2. Soil Gas Analytical Results for Samples Collected at a Depth of 15 Feet

Table 3. Indoor Air Exposure Point Concentrations Estimated Using a Default Attenuation Factor of 0.03 and Maximum Concentrations Detected at a Depth of 5 Feet

Table 4. Indoor Air Exposure Point Concentrations Estimated Using a Default Attenuation Factor of 0.001 and Maximum Concentrations Detected at a Depth of 5 Feet

Table 5. Indoor Air Exposure Point Concentrations Estimated Using a Default Attenuation Factor of 0.03 and Maximum Concentrations Detected at a Depth of 15 Feet

Table 6. Indoor Air Exposure Point Concentrations Estimated Using a Default Attenuation Factor of 0.001 and Maximum Concentrations Detected at a Depth of 15 Feet

Table 7. Toxicity Criteria for Chemicals of Potential Concern

Table 8. Exposure Parameters for Onsite Receptors

Table 9. Health Hazards from Inhalation of Indoor Air Estimated Using a Default Attenuation Factor of 0.03 and Maximum Concentrations Detected at a Depth of 5 Feet

Table 10. Health Hazards from Inhalation of Indoor Air Estimated Using a Default Attenuation Factor of 0.001 and Maximum Concentrations Detected at a Depth of 5 Feet

Table 11. Health Hazards from Inhalation of Indoor Air Estimated Using a Default Attenuation Factor of 0.03 and Maximum Concentrations Detected at a Depth of 15 Feet

Table 12. Health Hazards from Inhalation of Indoor Air Estimated Using a Default Attenuation Factor of 0.001 and Maximum Concentrations Detected at a Depth of 15 Feet

Table 13. Cancer Risks from Inhalation of Indoor Air Estimated Using a Default Attenuation Factor of 0.03 and Maximum Concentrations Detected at a Depth of 5 Feet

Table 14. Cancer Risks from Inhalation of Indoor Air Estimated Using a Default Attenuation Factor of 0.001 and Maximum Concentrations Detected at a Depth of 5 Feet

Table 15. Cancer Risks from Inhalation of Indoor Air Estimated Using a Default Attenuation Factor of 0.03 and Maximum Concentrations Detected at a Depth of 15 Feet

Table 16. Cancer Risks from Inhalation of Indoor Air Estimated Using a Default Attenuation Factor of 0.001 and Maximum Concentrations Detected at a Depth of 15 Feet

References

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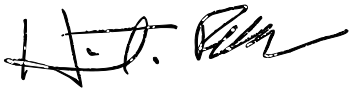
This Vapor Intrusion Risk Evaluation was prepared by:

Enviro-Tox Services, Inc.



Heriberto Robles, Ph. D., D.A.B.T.
Principal Toxicologist

TABLES

Table 1
Soil Gas Analytical Results for
Samples Collected at a Depth of 5 Feet
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

Sample ID	Sample Depth (Feet Below Ground Surface)	Volatile Organic Compounds (ug/m^3)																	
		1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Isopropyltoluene	Benzene	Ethylbenzene	Freon 12	Isopropyl benzene	m,p-Xylene	Methylene Chloride	Naphthalene	n-Butylbenzene	n-Propylbenzene	o-Xylene	sec-Butylbenzene	Styrene	Tetrachloroethene	Toluene	Trichloroethene
SV4-5V	5	**226**	**96**	**232**	**25**	**111**	ND (<12)	**27**	**461**	ND (<8)	ND (<5)	ND (<4)	**66**	**103**	ND (<4)	ND (<6)	**489**	**290**	ND (<8)
SV5-5V	5	**24**	**22**	**397**	**13**	**38**	**16**	ND (<7)	**78**	ND (<8)	**8**	ND (<4)	ND (<5)	**38**	**9**	ND (<6)	**84**	**102**	ND (<8)
SV6-5V	5	**12**	**10**	**231**	ND (<3)	**16**	**16**	ND (<7)	**32**	ND (<8)	ND (<5)	**8**	ND (<5)	**16**	**7**	ND (<6)	**167**	**24**	ND (<8)
SV7-5V	5	**12**	**9**	**63**	ND (<3)	**12**	**16**	ND (<7)	**24**	ND (<8)	ND (<5)	ND (<4)	ND (<5)	**12**	**6**	ND (<6)	**1,100**	**13**	ND (<8)
SV7-5V REP	5	**12**	**10**	**69**	ND (<3)	**13**	**17**	ND (<7)	**26**	ND (<8)	ND (<5)	ND (<4)	ND (<5)	**13**	**7**	ND (<6)	**1,530**	**15**	ND (<8)
SV8-5V	5	ND (<6)	ND (<6)	**2,480**	**13**	**9**	ND (<12)	ND (<7)	**35**	ND (<8)	ND (<5)	ND (<4)	ND (<5)	**10**	ND (<4)	**8.0**	**467**	**261**	ND (<8)
SV9-5V	5	ND (<6)	ND (<6)	**239**	**5.0**	**14**	**17**	ND (<7)	**30**	ND (<8)	ND (<5)	ND (<4)	ND (<5)	**14**	**7**	ND (<6)	**55**	**66**	ND (<8)
SV10-5V	5	ND (<6)	ND (<6)	**395**	**5.0**	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	**68**	**198**	ND (<8)
SV11-5V	5	ND (<6)	ND (<6)	**366**	**6.0**	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	**54**	**231**	ND (<8)
SV12-5V	5	ND (<6)	ND (<6)	**15**	ND (<3)	ND (<6)	ND (<12)	ND (<7)	**16**	**12**	**14**	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	ND (<8)	**93**	ND (<8)
SV13-5V	5	**15**	ND (<6)	**301**	**14**	**49**	ND (<12)	ND (<7)	**201**	ND (<8)	ND (<5)	ND (<4)	ND (<5)	**69**	ND (<4)	ND (<6)	**222**	**153**	ND (<8)
	Max. Concentration	**226**	**96**	**2480**	**25**	**111**	**17**	**27**	**461**	**12**	**14**	**8**	**66**	**103**	**9**	**8**	**1530**	**290**	**0**

Notes:
ug/m^3 = micrograms per cubic meter
NA = Not applicable or not available
ND = Not detected above the indicated reporting limit

Table 2
Soil Gas Analytical Results for
Samples Collected at a Depth of 15 Feet
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

Sample ID	Sample Depth (Feet Below Ground Surface)	Volatile Organic Compounds (ug/m^3)																	
		1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Isopropyltoluene	Benzene	Ethylbenzene	Freon 12	Isopropyl benzene	m,p-Xylene	Methylene Chloride	Naphthalene	n-Butylbenzene	n-Propylbenzene	o-Xylene	sec-Butylbenzene	Styrene	Tetrachloroethene	Toluene	Trichloroethene
SV4-15V	15	ND (<6)	ND (<6)	ND (<5)	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	**701**	ND (<5)	ND (<8)
SV5-15V	15	ND (<6)	ND (<6)	ND (<5)	ND (<3)	**7.0**	**16**	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	**7.0**	ND (<4)	ND (<6)	**291**	ND (<5)	ND (<8)
SV6-15V	15	ND (<6)	ND (<6)	ND (<5)	ND (<3)	**7.0**	ND (<21)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	**7.0**	ND (<4)	ND (<6)	**394**	ND (<5)	ND (<8)
SV7-15V	15	ND (<6)	ND (<6)	**8**	ND (<3)	**7.0**	**17**	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	**7.0**	ND (<4)	ND (<6)	**2,360**	ND (<5)	ND (<8)
SV8-15V	15	ND (<6)	ND (<6)	**29**	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	**2,470**	ND (<5)	ND (<8)
SV8-15V REP	15	ND (<6)	ND (<6)	**17**	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	**2,180**	ND (<5)	ND (<8)
SV9-15V	15	**8.0**	ND (<6)	**21**	ND (<3)	**8.0**	**16**	ND (<7)	**14**	ND (<8)	**7**	**7**	ND (<5)	**8.0**	**7**	ND (<6)	**254**	**24**	ND (<8)
SV10-15V	15	ND (<6)	ND (<6)	**88**	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	**646**	**16**	ND (<8)
SV11-15V	15	ND (<6)	ND (<6)	ND (<5)	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	**14**	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	**926**	**11**	**31**
SV12-15V	15	ND (<6)	ND (<6)	**29**	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	**82**	**14**	**98**
SV13-15V	15	ND (<6)	ND (<6)	ND (<5)	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	**2,600**	**10**	ND (<8)
	Max. Concentration	**8.0**	**0**	**88**	**0**	**8.0**	**17**	**0**	**14**	**0**	**14**	**7**	**0**	**8.0**	**7**	**0**	**2600**	**24**	**98**

Notes:
ug/m^3 = micrograms per cubic meter
NA = Not applicable or not available
ND = Not detected above the indicated reporting limit

Table 3
Indoor Air Exposure Point Concentrations
Estimated Using a Default Attenuation Factor of 0.03 and
Maximum Concentrations Detected at a Depth of 5 Feet
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

Chemical of Potential Concern (COPC)	**CAS Number**	**Maximum Detected Soil Gas Concentration (ug/m^3)**	**Estimated Indoor Chemical Air Concentration (ug/m^3)**
1,2,4-Trimethylbenzene	95636	226	6.78E+00
1,3,5-Trimethylbenzene	108678	96	2.88E+00
Benzene	71432	25	7.50E-01
Butylbenzenes	104518	83	2.49E+00
Cumenes	98828	2507	7.52E+01
Ethylbenzene	100414	111	3.33E+00
Freons	75694	17	5.10E-01
Methylene Chloride	75092	12	3.60E-01
Naphthalene	91203	14	4.20E-01
Styrene	100425	8	2.40E-01
Tetrachloroethene	127184	1530	4.59E+01
Toluene	108883	290	8.70E+00
Trichloroethene	79016	0	0.00E+00
Xylenes, total	95476	564	1.69E+01

Notes:
Attenuation factor (unitless) = 0.03
ug/m3 = micrograms per cubic meter
NA = Not applicable or not available
Cumenes = Isopropylbenzene + 4-Isopropyltoluene
Freons = Freon 12
Butylbenzenes = n-Butylbenzene + sec-Butylbenzene + n-Propylbenzene
Xylenes, total = Xylene-o + Xylenes-m,p

Table 4
Indoor Air Exposure Point Concentrations
Estimated Using a Default Attenuation Factor of 0.001 and
Maximum Concentrations Detected at a Depth of 5 Feet
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

Chemical of Potential Concern (COPC)	**CAS Number**	**Maximum Detected Soil Gas Concentration ($\mu g/m^3$)**	**Estimated Indoor Chemical Air Concentration (ug/m^3)**
1,2,4-Trimethylbenzene	95636	226	2.26E-01
1,3,5-Trimethylbenzene	108678	96	9.60E-02
Benzene	71432	25	2.50E-02
Butylbenzenes	104518	83	8.30E-02
Cumenes	98828	2507	2.51E+00
Ethylbenzene	100414	111	1.11E-01
Freons	75694	17	1.70E-02
Methylene Chloride	75092	12	1.20E-02
Naphthalene	91203	14	1.40E-02
Styrene	100425	8	8.00E-03
Tetrachloroethene	127184	1530	1.53E+00
Toluene	108883	290	2.90E-01
Trichloroethene	79016	0	0.00E+00
Xylenes, total	95476	564	5.64E-01

Notes:
Attenuation factor (unitless) = 0.001
µg/m3 = micrograms per cubic meter
NA = Not applicable or not available
Cumenes = Isopropylbenzene + 4-Isopropyltoluene
Freons = Freon 12
Butylbenzenes = n-Butylbenzene + sec-Butylbenzene + n-Propylbenzene
Xylenes, total = Xylene-o + Xylenes-m,p

Table 5
Indoor Air Exposure Point Concentrations
Estimated Using a Default Attenuation Factor of 0.03 and
Maximum Concentrations Detected at a Depth of 15 Feet
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

Chemical of Potential Concern (COPC)	**CAS Number**	**Maximum Detected Soil Gas Concentration ($\mu g/m^3$)**	**Estimated Indoor Chemical Air Concentration (ug/m^3)**
1,2,4-Trimethylbenzene	95636	8	2.40E-01
1,3,5-Trimethylbenzene	108678	0	0.00E+00
Benzene	71432	0	0.00E+00
Butylbenzenes	104518	14	4.20E-01
Cumenes	98828	88	2.64E+00
Ethylbenzene	100414	8	2.40E-01
Freons	75694	17	5.10E-01
Methylene Chloride	75092	0	0.00E+00
Naphthalene	91203	14	4.20E-01
Styrene	100425	0	0.00E+00
Tetrachloroethene	127184	2600	7.80E+01
Toluene	108883	24	7.20E-01
Trichloroethene	79016	98	2.94E+00
Xylenes, total	95476	22	6.60E-01

Notes:
Attenuation factor (unitless) = 0.03
µg/m3 = micrograms per cubic meter
NA = Not applicable or not available
Cumenes = Isopropylbenzene + 4-Isopropyltoluene
Freons = Freon 12
Butylbenzenes = n-Butylbenzene + sec-Butylbenzene + n-Propylbenzene
Xylenes, total = Xylene-o + Xylenes-m,p

Table 6
Indoor Air Exposure Point Concentrations
Estimated Using a Default Attenuation Factor of 0.001 and
Maximum Concentrations Detected at a Depth of 15 Feet
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

Chemical of Potential Concern (COPC)	**CAS Number**	**Maximum Detected Soil Gas Concentration ($\mu g/m^3$)**	**Estimated Indoor Chemical Air Concentration (ug/m^3)**
1,2,4-Trimethylbenzene	95636	8	8.00E-03
1,3,5-Trimethylbenzene	108678	0	0.00E+00
Benzene	71432	0	0.00E+00
Butylbenzenes	104518	14	1.40E-02
Cumenes	98828	88	8.80E-02
Ethylbenzene	100414	8	8.00E-03
Freons	75694	17	1.70E-02
Methylene Chloride	75092	0	0.00E+00
Naphthalene	91203	14	1.40E-02
Styrene	100425	0	0.00E+00
Tetrachloroethene	127184	2600	2.60E+00
Toluene	108883	24	2.40E-02
Trichloroethene	79016	98	9.80E-02
Xylenes, total	95476	22	2.20E-02

Notes:
Attenuation factor (unitless) = 0.001
µg/m3 = micrograms per cubic meter
NA = Not applicable or not available
Cumenes = Isopropylbenzene + 4-Isopropyltoluene
Freons = Freon 12
Butylbenzenes = n-Butylbenzene + sec-Butylbenzene + n-Propylbenzene
Xylenes, total = Xylene-o + Xylenes-m,p

Table 7
Toxicity Criteria for Chemicals of Potential Concern
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

Chemical	**Chronic Inhalation Reference Concentration (RfC) (ug/m^3)**	**Inhalation Unit Risk (ug/m^3)$^{-1}$**
VOCs		
1,2,4-Trimethylbenzene	6.0E+01	NA
1,3,5-Trimethylbenzene	6.0E+01	NA
Benzene	3.0E+00	2.9E-05
Butylbenzenes	2.0E+02	NA
Cumenes	4.0E+02	NA
Ethylbenzene	1.0E+03	2.5E-06
Freons	1.2E+03	NA
Methylene Chloride	4.0E+02	1.0E-06
Naphthalene	3.0E+00	3.4E-05
Styrene	9.0E+02	NA
Tetrachloroethene	4.0E+01	6.1E-06
Toluene	3.0E+02	NA
Trichloroethene	2.0E+00	4.1E-06
Xylenes, total	1.0E+02	NA

Notes:
Source = Cal/EPA HHRA Note No. 10, 2019
NA = Not applicable or not available
µg/m3 = micrograms per cubic meter

Table 8
Exposure Parameters for Onsite Receptors
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

Exposure/Site Specific Parameters	Units	Exposure Parameters		
		Adult Resident	Child Resident	Source
Chemical Concentration in Air (CA)	--	--	--	chemical-specific
Exposure Frequency (EF)	days/year	350	350	DTSC 2019
Exposure Duration (ED)	years	20	6	DTSC 2019
Exposure Time (ET)	hr/day	24	24	Default
Averaging Time for Noncarcinogens (AT_n)	hours	175,200	52,560	USEPA 2009
Averaging Time for Carcinogens (AT_c)	hours	613,200	613,200	USEPA 2009

Table 9
Health Hazards from Inhalation of Indoor Air
Estimated Using a Default Attenuation Factor of 0.03 and
Maximum Concentrations Detected at a Depth of 5 Feet
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

COPC	Indoor Air Conc. (ug/m^3)	Inhalation Reference Dose (ug/m^3)	Residential Exposure Scenario		
			Average Exposure Conc_nc (ug/m^3)		Hazard Quotient (Unitless)
			Adult Res.	Child Res.	Child Res.
VOCs					
1,2,4-Trimethylbenzene	6.8E+00	6.0E+01	6.5E+00	6.5E+00	1.1E-01
1,3,5-Trimethylbenzene	2.9E+00	6.0E+01	2.8E+00	2.8E+00	4.6E-02
Benzene	7.5E-01	3.0E+00	7.2E-01	7.2E-01	2.4E-01
Butylbenzenes	2.5E+00	2.0E+02	2.4E+00	2.4E+00	1.2E-02
Cumenes	7.5E+01	4.0E+02	7.2E+01	7.2E+01	1.8E-01
Ethylbenzene	3.3E+00	1.0E+03	3.2E+00	3.2E+00	3.2E-03
Freons	5.1E-01	1.2E+03	4.9E-01	4.9E-01	4.1E-04
Methylene Chloride	3.6E-01	4.0E+02	3.5E-01	3.5E-01	8.6E-04
Naphthalene	4.2E-01	3.0E+00	4.0E-01	4.0E-01	1.3E-01
Styrene	2.4E-01	9.0E+02	2.3E-01	2.3E-01	2.6E-04
Tetrachloroethene	4.6E+01	4.0E+01	4.4E+01	4.4E+01	1.1E+00
Toluene	8.7E+00	3.0E+02	8.3E+00	8.3E+00	2.8E-02
Trichloroethene	0.0E+00	2.0E+00	0.0E+00	0.0E+00	0.0E+00
Xylenes, total	1.7E+01	1.0E+02	1.6E+01	1.6E+01	1.6E-01
Total Hazard Index					**2.E+00**

Notes:
ug/m^3 = Micrograms per cubic meter

Table 10
Health Hazards from Inhalation of Indoor Air
Estimated Using a Default Attenuation Factor of 0.001
Maximum Concentrations Detected at a Depth of 5 Feet
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

COPC	Indoor Air Conc. (ug/m^3)	Inhalation Reference Dose (ug/m^3)	Residential Exposure Scenario		
			Average Exposure Conc_nc (ug/m^3)		Hazard Quotient (Unitless)
			Adult Res.	Child Res.	Child Res.
VOCs					
1,2,4-Trimethylbenzene	2.3E-01	6.0E+01	2.2E-01	2.2E-01	3.6E-03
1,3,5-Trimethylbenzene	9.6E-02	6.0E+01	9.2E-02	9.2E-02	1.5E-03
Benzene	2.5E-02	3.0E+00	2.4E-02	2.4E-02	8.0E-03
Butylbenzenes	8.3E-02	2.0E+02	8.0E-02	8.0E-02	4.0E-04
Cumenes	2.5E+00	4.0E+02	2.4E+00	2.4E+00	6.0E-03
Ethylbenzene	1.1E-01	1.0E+03	1.1E-01	1.1E-01	1.1E-04
Freons	1.7E-02	1.2E+03	1.6E-02	1.6E-02	1.4E-05
Methylene Chloride	1.2E-02	4.0E+02	1.2E-02	1.2E-02	2.9E-05
Naphthalene	1.4E-02	3.0E+00	1.3E-02	1.3E-02	4.5E-03
Styrene	8.0E-03	9.0E+02	7.7E-03	7.7E-03	8.5E-06
Tetrachloroethene	1.5E+00	4.0E+01	1.5E+00	1.5E+00	3.7E-02
Toluene	2.9E-01	3.0E+02	2.8E-01	2.8E-01	9.3E-04
Trichloroethene	0.0E+00	2.0E+00	0.0E+00	0.0E+00	0.0E+00
Xylenes, total	5.6E-01	1.0E+02	5.4E-01	5.4E-01	5.4E-03
Total Hazard Index					**7.E-02**

Notes:
ug/m^3 = Micrograms per cubic meter

Table 11
Health Hazards from Inhalation of Indoor Air
Estimated Using a Default Attenuation Factor of 0.03 and
Maximum Concentrations Detected at 15 Feet
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

COPC	Indoor Air Conc. (ug/m^3)	Inhalation Reference Dose (ug/m^3)	Residential Exposure Scenario		
			Average Exposure Conc_nc (ug/m^3)		Hazard Quotient (Unitless)
			Adult Res.	Child Res.	Child Res.
VOCs					
1,2,4-Trimethylbenzene	2.4E-01	6.0E+01	2.3E-01	2.3E-01	3.8E-03
1,3,5-Trimethylbenzene	0.0E+00	6.0E+01	0.0E+00	0.0E+00	0.0E+00
Benzene	0.0E+00	3.0E+00	0.0E+00	0.0E+00	0.0E+00
Butylbenzenes	4.2E-01	2.0E+02	4.0E-01	4.0E-01	2.0E-03
Cumenes	2.6E+00	4.0E+02	2.5E+00	2.5E+00	6.3E-03
Ethylbenzene	2.4E-01	1.0E+03	2.3E-01	2.3E-01	2.3E-04
Freons	5.1E-01	1.2E+03	4.9E-01	4.9E-01	4.1E-04
Methylene Chloride	0.0E+00	4.0E+02	0.0E+00	0.0E+00	0.0E+00
Naphthalene	4.2E-01	3.0E+00	4.0E-01	4.0E-01	1.3E-01
Styrene	0.0E+00	9.0E+02	0.0E+00	0.0E+00	0.0E+00
Tetrachloroethene	7.8E+01	4.0E+01	7.5E+01	7.5E+01	1.9E+00
Toluene	7.2E-01	3.0E+02	6.9E-01	6.9E-01	2.3E-03
Trichloroethene	2.9E+00	2.0E+00	2.8E+00	2.8E+00	1.4E+00
Xylenes, total	6.6E-01	1.0E+02	6.3E-01	6.3E-01	6.3E-03
Total Hazard Index					**3.E+00**

Notes:
ug/m^3 = Micrograms per cubic meter

Table 12
Health Hazards from Inhalation of Indoor Air
Estimated Using a Default Attenuation Factor of 0.001
Maximum Concentrations Detected at a Depth of 15 Feet
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

COPC	Indoor Air Conc. (ug/m^3)	Inhalation Reference Dose (ug/m^3)	Residential Exposure Scenario		
			Average Exposure Conc_nc (ug/m^3)		Hazard Quotient (Unitless)
			Adult Res.	Child Res.	Child Res.
VOCs					
1,2,4-Trimethylbenzene	8.0E-03	6.0E+01	7.7E-03	7.7E-03	1.3E-04
1,3,5-Trimethylbenzene	0.0E+00	6.0E+01	0.0E+00	0.0E+00	0.0E+00
Benzene	0.0E+00	3.0E+00	0.0E+00	0.0E+00	0.0E+00
Butylbenzenes	1.4E-02	2.0E+02	1.3E-02	1.3E-02	6.7E-05
Cumenes	8.8E-02	4.0E+02	8.4E-02	8.4E-02	2.1E-04
Ethylbenzene	8.0E-03	1.0E+03	7.7E-03	7.7E-03	7.7E-06
Freons	1.7E-02	1.2E+03	1.6E-02	1.6E-02	1.4E-05
Methylene Chloride	0.0E+00	4.0E+02	0.0E+00	0.0E+00	0.0E+00
Naphthalene	1.4E-02	3.0E+00	1.3E-02	1.3E-02	4.5E-03
Styrene	0.0E+00	9.0E+02	0.0E+00	0.0E+00	0.0E+00
Tetrachloroethene	2.6E+00	4.0E+01	2.5E+00	2.5E+00	6.2E-02
Toluene	2.4E-02	3.0E+02	2.3E-02	2.3E-02	7.7E-05
Trichloroethene	9.8E-02	2.0E+00	9.4E-02	9.4E-02	4.7E-02
Xylenes, total	2.2E-02	1.0E+02	2.1E-02	2.1E-02	2.1E-04
Total Hazard Index					**1.E-01**

Notes:
ug/m^3 = Micrograms per cubic meter

Table 13
Cancer Risks from Inhalation of Indoor Air
Estimated Using a Default Attenuation Factor of 0.03 and
Maximum Concentrations Detected at a Depth of 5 Feet
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

COPC	Indoor Air Conc. (ug/m^3)	Inhalation Slope Factor $(ug/m^3)^{-1}$	Residential Exposure Scenario		
			Lifetime Exposure Conc_c (ug/m^3)		Cancer Risk (unitless)
			Adult Resident	Child Resident	Adult & Child
VOCs					
1,2,4-Trimethylbenzene	6.8E+00	NA	1.9E+00	5.6E-01	NA
1,3,5-Trimethylbenzene	2.9E+00	NA	7.9E-01	2.4E-01	NA
Benzene	7.5E-01	2.9E-05	2.1E-01	6.2E-02	8.E-06
Butylbenzenes	2.5E+00	NA	6.8E-01	2.0E-01	NA
Cumenes	7.5E+01	NA	2.1E+01	6.2E+00	NA
Ethylbenzene	3.3E+00	2.5E-06	9.1E-01	2.7E-01	3.E-06
Freons	5.1E-01	NA	1.4E-01	4.2E-02	NA
Methylene Chloride	3.6E-01	1.0E-06	9.9E-02	3.0E-02	1.E-07
Naphthalene	4.2E-01	3.4E-05	1.2E-01	3.5E-02	5.E-06
Styrene	2.4E-01	NA	6.6E-02	2.0E-02	NA
Tetrachloroethene	4.6E+01	6.1E-06	1.3E+01	3.8E+00	1.E-04
Toluene	8.7E+00	NA	2.4E+00	7.2E-01	NA
Trichloroethene	0.0E+00	4.1E-06	0.0E+00	0.0E+00	0.E+00
Xylenes, total	1.7E+01	NA	4.6E+00	1.4E+00	NA
Total Cancer Risk					**1.E-04**

Notes:
ug/m^3 = Micrograms per cubic meter
NA = Not applicable or not available

Table 14
Cancer Risks from Inhalation of Indoor Air
Estimated Using a Default Attenuation Factor of 0.001 and
Maximum Concentrations Detected at a Depth of 5 Feet
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

COPC	Indoor Air Conc. (ug/m^3)	Inhalation Slope Factor $(ug/m^3)^{-1}$	Residential Exposure Scenario		
			Lifetime Exposure Conc_c (ug/m^3)		Cancer Risk (unitless)
			Adult Resident	Child Resident	Adult & Child
VOCs					
1,2,4-Trimethylbenzene	2.3E-01	NA	6.2E-02	1.9E-02	NA
1,3,5-Trimethylbenzene	9.6E-02	NA	2.6E-02	7.9E-03	NA
Benzene	2.5E-02	2.9E-05	6.8E-03	2.1E-03	3.E-07
Butylbenzenes	8.3E-02	NA	2.3E-02	6.8E-03	NA
Cumenes	2.5E+00	NA	6.9E-01	2.1E-01	NA
Ethylbenzene	1.1E-01	2.5E-06	3.0E-02	9.1E-03	1.E-07
Freons	1.7E-02	NA	4.7E-03	1.4E-03	NA
Methylene Chloride	1.2E-02	1.0E-06	3.3E-03	9.9E-04	4.E-09
Naphthalene	1.4E-02	3.4E-05	3.8E-03	1.2E-03	2.E-07
Styrene	8.0E-03	NA	2.2E-03	6.6E-04	NA
Tetrachloroethene	1.5E+00	6.1E-06	4.2E-01	1.3E-01	3.E-06
Toluene	2.9E-01	NA	7.9E-02	2.4E-02	NA
Trichloroethene	0.0E+00	4.1E-06	0.0E+00	0.0E+00	0.E+00
Xylenes, total	5.6E-01	NA	1.5E-01	4.6E-02	NA
Total Cancer Risk					**4.E-06**

Notes:
ug/m^3 = Micrograms per cubic meter
NA = Not applicable or not available

Table 15
Cancer Risks from Inhalation of Indoor Air
Estimated Using a Default Attenuation Factor of 0.03 and
Maximum Concentrations Detected at a Depth of 15 Feet
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

COPC	Indoor Air Conc. (ug/m^3)	Inhalation Slope Factor $(ug/m^3)^{-1}$	Residential Exposure Scenario		
			Lifetime Exposure Conc_c (ug/m^3)		Cancer Risk (unitless)
			Adult Resident	Child Resident	Adult & Child
VOCs					
1,2,4-Trimethylbenzene	2.4E-01	NA	6.6E-02	2.0E-02	NA
1,3,5-Trimethylbenzene	0.0E+00	NA	0.0E+00	0.0E+00	NA
Benzene	0.0E+00	2.9E-05	0.0E+00	0.0E+00	0.E+00
Butylbenzenes	4.2E-01	NA	1.2E-01	3.5E-02	NA
Cumenes	2.6E+00	NA	7.2E-01	2.2E-01	NA
Ethylbenzene	2.4E-01	2.5E-06	6.6E-02	2.0E-02	2.E-07
Freons	5.1E-01	NA	1.4E-01	4.2E-02	NA
Methylene Chloride	0.0E+00	1.0E-06	0.0E+00	0.0E+00	0.E+00
Naphthalene	4.2E-01	3.4E-05	1.2E-01	3.5E-02	5.E-06
Styrene	0.0E+00	NA	0.0E+00	0.0E+00	NA
Tetrachloroethene	7.8E+01	6.1E-06	2.1E+01	6.4E+00	2.E-04
Toluene	7.2E-01	NA	2.0E-01	5.9E-02	NA
Trichloroethene	2.9E+00	4.1E-06	8.1E-01	2.4E-01	4.E-06
Xylenes, total	6.6E-01	NA	1.8E-01	5.4E-02	NA
Total Cancer Risk					**2.E-04**

Notes:
ug/m^3 = Micrograms per cubic meter
NA = Not applicable or not available

Table 16
Cancer Risks from Inhalation of Indoor Air
Estimated Using a Default Attenuation Factor of 0.001 and
Maximum Concentrations Detected at a Depth of 15 Feet
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

COPC	Indoor Air Conc. (ug/m^3)	Inhalation Slope Factor $(ug/m^3)^{-1}$	Residential Exposure Scenario		
			Lifetime Exposure Conc_c (ug/m^3)		Cancer Risk (unitless)
			Adult Resident	Child Resident	Adult & Child
VOCs					
1,2,4-Trimethylbenzene	8.0E-03	NA	2.2E-03	6.6E-04	NA
1,3,5-Trimethylbenzene	0.0E+00	NA	0.0E+00	0.0E+00	NA
Benzene	0.0E+00	2.9E-05	0.0E+00	0.0E+00	0.E+00
Butylbenzenes	1.4E-02	NA	3.8E-03	1.2E-03	NA
Cumenes	8.8E-02	NA	2.4E-02	7.2E-03	NA
Ethylbenzene	8.0E-03	2.5E-06	2.2E-03	6.6E-04	7.E-09
Freons	1.7E-02	NA	4.7E-03	1.4E-03	NA
Methylene Chloride	0.0E+00	1.0E-06	0.0E+00	0.0E+00	0.E+00
Naphthalene	1.4E-02	3.4E-05	3.8E-03	1.2E-03	2.E-07
Styrene	0.0E+00	NA	0.0E+00	0.0E+00	NA
Tetrachloroethene	2.6E+00	6.1E-06	7.1E-01	2.1E-01	6.E-06
Toluene	2.4E-02	NA	6.6E-03	2.0E-03	NA
Trichloroethene	9.8E-02	4.1E-06	2.7E-02	8.1E-03	1.E-07
Xylenes, total	2.2E-02	NA	6.0E-03	1.8E-03	NA
Total Cancer Risk					**6.E-06**

Notes:
ug/m^3 = Micrograms per cubic meter
NA = Not applicable or not available

INDOOR AIR SAMPLING REPORT

McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, California 90404

Prepared for:

Santa Monica-Malibu Unified School District
2828 4th Street
Santa Monica, California 90405

Project Number: SMSD-23-11646
August 16, 2023

Alta Environmental LP, an NV5 Company
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PROFESSIONAL CERTIFICATION

We appreciate the opportunity to provide our services to you. If you have any questions, please contact us at (562) 544-3910.

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TABLE OF CONTENTS

1. EXECUTIVE SUMMARY 1

2. BACKGROUND 2
   2.1 Site Location and Description 2
   2.2 Previous Investigations 2

3. INDOOR AIR SAMPLING 4
   3.1 Pre-Sampling Activities 4
      3.1.1 Health and Safety Plan 4
      3.1.2 Pre-Sampling Building Screening 5
   3.2 Sample Collection and Analysis 5
      3.2.1 Sample Collection 5
      3.2.2 Sample Analysis 5

4. INVESTIGATION RESULTS 6
   4.1 Laboratory Analytical Results 6
      4.1.1 VOCs in Air 6
      4.1.2 QA/QC 8

5. INDOOR AIR QUALITY ASSESSMENT 8
   5.1 IAQA Methodology 8
   5.2 IAQA Results 9

6. CONCLUSIONS AND RECOMMENDATIONS 9

7. WARRANTY 11
   7.1 Warranty 11
   7.2 Use by Third Parties 11

8. REFERENCES 12
   8.1 References 12

TABLE OF CONTENTS

Tables

Table 1 Air Sampling Laboratory Analysis Summary

Figures

Figure 1 Site Location Map
Figure 2 Site Vicinity Map
Figure 3 Air Sample Locations
Figure 4 Building A Sample Location
Figure 5 Building B Sample Locations
Figure 5A Building B Basement Sample Locations
Figure 6 Building C Sample Locations
Figure 6A Building C Basement Sample Locations
Figure 7 Building D Sample Locations

Appendices

Appendix A Building Screening Forms
Appendix B Air Sampling Field Logs and Photographs
Appendix C Laboratory Report
Appendix D IAQ Assessment

1. EXECUTIVE SUMMARY

Alta Environmental LP, an NV5 Company (NV5) has prepared this Indoor Air Sampling Report for the McKinley Elementary School, located at 2401 Santa Monica Boulevard in Santa Monica, California (herein identified as the "Site"). The assessment was completed for the Santa Monica-Malibu Unified School District (SMMUSD) in accordance with NV5 proposal number SMSD-23-11646 dated July 7, 2023.

Previous environmental assessments conducted in the parking lot portion of Site, adjacent to Chelsea Avenue, identified the presence of several volatile organic compounds (VOCs) in soil vapor at concentrations that exceeded California published health-risk screening levels[1]. The VOCs identified above risk screening levels included solvents (tetrachloroethylene [PCE] and trichloroethylene [TCE]) and petroleum related constituents (benzene, ethylbenzene, and naphthalene),

As a proactive measure, air quality sampling was conducted throughout the entire Site to assess the indoor air quality of the existing campus structures with respect to potential vapor intrusion from VOC impacted soil vapor.

During this assessment, concentrations of multiple VOCs were detected in air samples collected at both interior and exterior locations throughout the campus. However, only concentrations of chloroform (six interior air samples), benzene (all interior and exterior air samples), 1,2-dichloroethane (one interior air sample), 1,2-dibromoethane (three interior air samples), ethylbenzene (one interior air sample), and naphthalene (all interior and exterior air samples) exceeded respective regulatory screening levels.

Concentrations of chloroform, benzene, 1,2-dichloroethane, ethylbenzene, and naphthalene were detected in all indoor and all outdoor air samples. Therefore, it is likely that the concentrations detected in interior air samples can be primarily attributed to regional air quality issues rather than vapor intrusion from the soil vapor beneath the Site. Concentrations of PCE and TCE were also detected in all indoor and outdoor air samples; however, none of the detected concentrations exceeded their respective health risk screening levels.

Statistical analysis of the air sampling data indicated there is no significant difference between the indoor and outdoor air quality. These results indicate that vapor intrusion is either not occurring at the Site or, if occurring, it is occurring at a very slow rate and at a rate that does not negatively affect the indoor air quality.

Based on the results of the air sampling, it was concluded that there is no significant difference between the indoor air quality and outdoor air quality at the Site, and that indoor air quality at the Site is acceptable for continued operation as a school. Nevertheless, in the preschool building, nearest to the off-site dry cleaner facility, in abundance of caution, adjustments have been made to the ventilation system to reduce the potential for vapor intrusion exposure.

Additionally, The Santa Monica Malibu Unified School District has engaged with the Santa Monica Fire Department (SMFD) and the California Department of Toxic Substance Controls (DTSC) to review the sampling reports, pursue the source of the VOC impacts, and to provide guidance moving forward.

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[1] Screening levels provide conservative standards against which chemicals detected in soil vapor and indoor air can be compared to determine preliminary exposure risk and the need for closer evaluation.

2. BACKGROUND

2.1 Site Location and Description

McKinley Elementary School is an approximately 6.50-acre rectangular shaped elementary school property located at 2401 Santa Monica Boulevard in the City of Santa Monica (Figure 1), with approximately 450 students, serving transitional kindergarten through fifth grades. The current campus has four educational buildings and 11 portable buildings, as well as play yards and sports fields, parking lots, programmed and unprogrammed open space. Vehicular access is from Chelsea Avenue, with student drop-off/pick-up occurring on-site. The school campus is bounded by Santa Monica Boulevard and commercial uses to the southeast, Arizona Avenue and multi-family residential uses to the northwest, and mixed multi-family and commercial uses to the northeast across Chelsea Avenue and to the southwest across 23rd Court (Figure 2). A dry cleaner facility is located off-site across Chelsea Avenue adjacent to the eastern corner of the campus.

2.2 Previous Investigations

Previous environmental investigations conducted at the Site are listed below.

Phase I Environmental Site Assessment Report – McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. Prepared by NV5. April 19, 2022.

For this assessment, the boundaries of the Site were defined as a portion of the paved parking lot and playground area along Chelsea Avenue. According to historical resources reviewed during the Phase I, the larger school campus in which the Site is located was first developed for use as a school around 1925. Multiple other classroom structures were subsequently constructed throughout the campus, but the Site has historically only been developed with playground areas and paved parking lots.

This assessment identified the following evidence of recognized environmental conditions (RECs) in connection with the Site.

- *Regulatory database records and historical records indicate that a drycleaner has operated at the northeast adjoining property located at 2441 Santa Monica Boulevard from at least 1991 to present day. Records indicate that dry-cleaning equipment that utilized perchloroethylene (PCE, a chlorinated solvent) was used at this facility. While evidence of violations, leaks, spills, or releases were not identified, based on the proximity of this facility to the Site and the inherent environmental risk associated with dry-cleaning facilities, these listings are considered to represent a REC.*
- *Based on the age of historical and current structures on the Site, arsenic, lead-based paint, asbestos, pesticides, and polychlorinated biphenyls (PCBs) in caulking may have been historically used at the Site. As a result, there is a potential for these compounds to be present in the shallow soils onsite.*

NV5 recommended conducting a limited Phase II ESA to determine if dry-cleaning operations on the northeastern adjoining property had negatively impacted the Site. Additionally, NV5 recommended a limited Phase II subsurface investigation be conducted in areas of proposed soil disturbance to evaluate shallow soil conditions with respect to lead, arsenic, PCBs, and pesticides.

Environmental Site Investigation Report – McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. Prepared by NV5. April 27, 2023.

This assessment included the collection and analysis of soil samples from twelve locations for lead, arsenic, PCBs, and pesticides and the collection of soil vapor samples from three soil vapor probe locations on the eastern portion of the Site (which for this assessment was defined as a portion of the paved parking lot and playground area along Chelsea Avenue).

The results of the laboratory analysis identified trace concentrations of PCBs and pesticides in samples collected at two locations; however, all detected concentrations were well below applicable health risk screening levels. Lead was detected in all collected soil samples; however, none of the detected concentrations exceeded the residential risk screening level for lead in soil. Arsenic was detected at four locations at concentrations that exceeded the State of California Department of Toxic Substances Control (DTSC) upper-bound arsenic screening level for Southern California soils of 12 milligrams per kilogram (mg/kg). Based on these findings, NV5 recommended that additional step-out sampling be conducted to determine the extent of arsenic impacted soils above health risk screening levels and that once delineated, the impacted soil should be excavated and removed from the Site for disposal. NV5 conducted additional step-out soil sampling on July 25 and 26, 2023 to delineate the extent of arsenic impacted soils at the Site. A report detailing the additional step-out investigation findings will be submitted under separate cover once all laboratory data is received.

Concentrations of multiple VOCs in excess of risk screening levels were identified in soil vapor samples collected from both the 5-foot and 15-foot depth probes at all three soil vapor sample locations (SV1 through SV3). Concentrations of PCE tended to increase with depth and proximity to the existing adjoining upgradient dry-cleaner property. Conversely, concentrations of petroleum hydrocarbon (benzene, toluene, ethylbenzene, etc.) related constituents decreased with depth and proximity to the adjoining dry-cleaner.

Historical resources indicated that the original structures at the campus were constructed in the 1920's on vacant land that was reported to have been used for the cultivation of beans. No historical or current uses of chlorinated solvents or petroleum products at the McKinley school campus were identified during the Phase I ESA, thereby indicating the source of the VOC impacts to be from an unknown off-site source. As the off-site source(s) and extent of soil vapor impacts are currently unknown, NV5 recommended that additional soil vapor assessment be conducted at the Site to further evaluate the potential risk of vapor intrusion to proposed structures and to assess if mitigation measures would be warranted.

Soil Vapor Investigation Report – McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. Prepared by NV5. July 19, 2023.

This assessment was conducted in the parking lot portion of the campus along Chelsea Avenue. During the assessment, soil and soil vapor samples were collected from ten locations throughout the parking lot and analyzed for VOCs to further assess the VOC impacted soil vapor identified during the April 2023 investigation.

Laboratory analysis of the collected soil samples identified low concentrations of several VOCs (2-Butanone, acetone, benzene, tert-Butyl Alcohol [TBA], and PCE). However, all detected concentrations of VOCs in soil were below the established health screening levels.

Concentrations of multiple VOCs were detected in soil vapor samples collected throughout the Site. However, only the concentrations of benzene, ethylbenzene, naphthalene, and PCE at 5 feet bgs and PCE, TCE, and naphthalene at 15 feet bgs exceeded the applicable compound specific health screening levels.

A Vapor Intrusion Risk Evaluation (VIRE) using the collected soil vapor data was conducted by a board-certified Toxicologist. The results of the VIRE indicated that the calculated potential non-carcinogenic and carcinogenic health risks associated with the reported VOC concentrations in soil vapor beneath the investigation area exceeded acceptable regulatory limits. Design and installation of a vapor intrusion mitigation system (VIMS) along with adequate ventilation was recommended for future structures built at the Site to mitigate the findings of the VIRE.

The results of the laboratory analysis of the soil and soil vapor samples collected during this assessment did not indicate evidence of an on-site release of VOCs. Concentrations of VOCs in soil vapor, specifically PCE, tend to generally decrease from east to west across the Site and appear to originate from an off-site unknown source. No evidence for the past use of chlorinated solvents (PCE and TCE) or petroleum hydrocarbons (benzene, ethylbenzene, and naphthalene) at the school was identified during the previous Phase I ESA (NV5, 2022). However, the Phase I did identify the presence of nearby off-site dry cleaning and automotive repair businesses along Santa Monica Boulevard.

The results of this and prior assessments were subsequently communicated to the Santa Monica Fire Department and the Department of Toxic Substances Control (DTSC) in order to initiate an off-site investigation to determine the source of the VOC impacts.

As the off-site source and extent of the impacted soil vapor is unknown, a preliminary indoor air quality evaluation was recommended along with further assessment of the entire McKinley campus to determine the magnitude and extent of VOC impacts. The results of the preliminary air quality evaluation are presented in the following sections of this report.

3. INDOOR AIR SAMPLING

Sampling was completed in accordance with the DTSC's Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (2011) and Final Draft Supplemental Guidance: Screening and Evaluating Vapor Intrusion (2023).

3.1 Pre-Sampling Activities

3.1.1 Health and Safety Plan

Prior to conducting field work for the project, NV5 prepared a site-specific Health and Safety Plan (HASP) that was implemented per California Occupational Safety and Health Administration (OSHA) California Code of Regulations (CCR) Title 8, Section 5192 requirements. The HASP presented an overview of the scope of work and discussions of potential job hazards that could be encountered during the investigation. All field personnel were required to review and sign the HASP before beginning any fieldwork.

Daily tailgate meetings were held with NV5 personnel and subcontractors at the beginning of each day during the investigation. The plan of the day, potential safety hazards, and site-specific safety procedures were discussed during the tailgate meetings.

All NV5 personnel conducting field work onsite have received the OSHA Hazardous Waste Operations training in accordance with 29 CFR 1910.120 and CCR Title 8, Section 5192. The investigation work was completed with no reportable injuries or illnesses.

3.1.2 Pre-Sampling Building Screening

On July 6, 2023 the Site structures were screened for potential VOC sources utilizing an organic vapor photoionization detector (PID). A DTSC Building Survey Form was completed for each of the Site buildings (Appendix A). Potential VOC sources near air sampling locations were documented (i.e., upwind chemical uses on-site or from neighboring facilities, such as fuel tanks, combustion sources, chemical storage areas, etc.).

Since materials (cleaning products, paints, glues, hand sanitizers, etc.) stored at the Site that contain VOCs can bias the results of the sampling, NV5 requested that any VOC containing materials (where identified) be removed from the buildings. District staff removed the identified materials from rooms where samples would be collected at least 72 hours prior to commencement of the indoor air sampling to limit potential bias.

Additionally, to ensure collection of representative sampling data during this assessment, building HVAC Systems were kept on and operational at settings that would be typically used during building occupancy. Doors and windows were also kept closed and remained closed during sampling.

3.2 Sample Collection and Analysis

Indoor and outdoor (ambient) air samples were conducted at the Site on July 13, 2023. Air sampling activities were performed by properly trained NV5 staff under the supervision of Eric Fraske, a State of California registered Professional Engineer (PE). Sampling was conducted between the hours of 7 AM and 3PM to be representative of conditions during normal daily occupancy.

3.2.1 Sample Collection

The indoor and outdoor air sampling included the collection of 20 primary indoor air samples and four exterior air samples. The locations of each sample are depicted in Figures 3 through 7. All interior air samples were collected approximately three to five feet off the ground and the outdoor samples were collected approximately six feet off the ground at each location. Additionally, one duplicate interior air sample was collected for quality assurance and quality control (QA/QC) purposes.

All samples were collected in six-liter Summa canisters equipped with a dedicated vacuum gauge and an 8-hour flow regulator. All Summa canisters, flow regulators, and pressure gauges were batch certified as clean to the laboratory's method reporting limit prior to use. Field sampling logs and photographs are presented in Appendix B.

3.2.2 Sample Analysis

Following completion of sampling, the canisters were closed and transported under chain-of-custody protocols to Air Technology Laboratories, Inc. (a State of California Certified Environmental Laboratory) in City of Industry, California for analysis.

All samples were analyzed for VOCs by United States Environmental Protection Agency (EPA) Method TO-15 SIM. Laboratory analytical reports and chain-of-custody documentation for the air samples are presented in Appendix C.

4. INVESTIGATION RESULTS

4.1 Laboratory Analytical Results

A tabulated summary of the VOCs detected in the air samples is presented on Table 1.

Laboratory results where analyte concentrations were not detected above the laboratory method detection limit (MDL) are identified as “ND” along with the corresponding MDL. Analytical concentrations detected above the MDL, but below the laboratory reporting limit (RL) are considered estimated values and are reported with a “J-flag” identifier (J).

The analytical results were compared to appropriate regulatory agency published screening levels developed for residential land use scenarios. Concentrations of VOCs in air were compared to the EPA Region 9 Regional Screening Levels (RSLs) for residential land use (EPA, November 2022) and to the DTSC Human Health Risk Assessment (HHRA) Note Number 3, DTSC-modified Screening Levels (DTSC-SLs) for residential land use (DTSC, May 2022), where applicable.

4.1.1 VOCs in Air

- Concentrations of multiple VOCs were identified in indoor and outdoor air samples. The detected VOCs included:
    - Dichlorodifluoromethane (12): 1.6 to 2.1 micrograms per cubic meter ($\mu g/m^3$)
    - Chloromethane: 0.89 to 1.3 $\mu g/m^3$
    - Vinyl Chloride: 0.0072J to 0.0075J $\mu g/m^3$
    - Chloroethane: 0.035 to 0.13 $\mu g/m^3$
    - Trichlorofluoromethane (11): 0.78 to 1.1 $\mu g/m^3$
    - 1,1,2-Cl 1,2,2-F ethane (113): 0.36 to 0.45 $\mu g/m^3$
    - 1,1-Dichloroethene: 0.0025J to 0.0046J $\mu g/m^3$
    - Methylene Chloride: 0.028 to 0.042 $\mu g/m^3$
    - t-1,2-Dichloroethene: 0.0029J $\mu g/m^3$ to 0.0081J $\mu g/m^3$
    - c-1,2-Dichloroethene: 0.0039J $\mu g/m^3$
    - Chloroform: 0.095 to 0.21 $\mu g/m^3$
    - 1,1,1-Trichloroethane: 0.0065J to 0.48 $\mu g/m^3$
    - Carbon Tetrachloride: 0.44 to 0.47 $\mu g/m^3$
    - Benzene: 0.23 to 1.2 $\mu g/m^3$
    - 1,2-Dichloroethane: 0.044 to 0.29 $\mu g/m^3$
    - Trichloroethene (TCE): 0.023J to 0.17 $\mu g/m^3$

- 1,2-Dichloropropane: 0.01J to 0.062 µg/m^3
- Bromodichloromethane: 0.0073J to 0.1 µg/m^3
- Toluene: 0.28 to 3 µg/m^3
- t-1,3-Dichloropropene: 0.0059J to 0.077 µg/m^3
- Tetrachloroethene (PCE): 0.016J to 0.15 µg/m^3
- 1,2-Dibromoethane: 0.0020J to 0.016J µg/m^3
- Ethylbenzene: 0.12 to 2.0 µg/m^3
- p,&m-Xylene: 0.39 to 7.7 µg/m^3
- o-Xylene: 0.016 to 1.9 µg/m^3
- Styrene: 0.041J to 0.48 µg/m^3
- Naphthalene: 0.09 to 1.1 µg/m^3

- Only concentrations of chloroform (six interior air samples), benzene (all interior and exterior air samples), 1,2-dichloroethane (one interior air sample), 1,2-dibromoethane (three interior air samples), ethylbenzene (one interior air sample), and naphthalene (all interior and exterior air samples) exceeded respective regulatory screening levels.
- Chloroform was detected in all outdoor air samples (0.1 to 0.11 µg/m^3) and all indoor air samples (0.095 to 0.21 µg/m^3). Detected concentrations of chloroform (0.14 to 0.21 µg/m^3) above the RSL (0.12 µg/m^3) were identified at six interior locations. The highest concentration was detected in sample IA17, collected in the Building C STEM Lab. There is no DTSC-SL established for chloroform.
- Benzene was detected in all outdoor air samples (0.26 to 0.34 µg/m^3) and all indoor air samples (0.23 to 1.2 µg/m^3). All concentrations of benzene exceeded its DTSC-SL (0.097 µg/m^3). Only the concentrations of benzene (0.56 and 1.2 µg/m^3) detected in sample IA6 (Portable Classroom Building B2) and IA14 (Building C room 102) exceeded the RSL (0.36 µg/m^3).
- 1,2-dichloroethane was detected in all outdoor air samples (0.049 to 0.051 µg/m^3) and all indoor air samples (0.044 to 0.29 µg/m^3). Only the concentration of 1,2-dichloroethane (0.29 µg/m^3) detected in sample IA6 (Portable Classroom Building B2) exceeded the RSL (0.11 µg/m^3). There is no DTSC-SL established for 1,2-dichloroethane.
- 1,2-dibromoethane was not detected in any outdoor air sample and was detected in 8 of the 21 indoor air samples (0.0020J to 0.016J µg/m^3). Only the concentrations of 1,2-dichloroethane (0.0048J, 0.016J, and 0.0050J µg/m^3) detected in samples IA4 (Modular Building Room B10), IA6 (Portable Classroom Building B2), and IA10 (collected in the Building C Room 107) exceeded the RSL and DTSC-SL (0.0047 µg/m^3).
- Ethylbenzene was detected in all outdoor air samples (0.12 to 0.19 µg/m^3) and all indoor air samples (0.12 to 2.0 µg/m^3). Only the concentration of ethylbenzene (2.0 µg/m^3) detected in sample IA17 (Building C STEM Lab) exceeded the RSL (1.1 µg/m^3). There is no DTSC-SL established for ethylbenzene.

- Naphthalene was detected in all outdoor air samples (0.09 to 1.1 µg/m^3) and all indoor air samples (0.12 to 0.53 µg/m^3). All concentrations of naphthalene exceeded its RSL (0.083 µg/m^3). There is no DTSC-SL established for naphthalene.

The previous soil vapor investigation identified five VOCs that were detected above regulatory risk screening levels. These five compounds (PCE, TCE, ethylbenzene, benzene, and naphthalene) were considered "risk drivers" and were used as indicator chemicals to assess the potential vapor intrusion into onsite buildings. While concentrations of ethylene, benzene, and naphthalene were detected above indoor air risk screening levels, no concentrations of PCE or TCE were detected in any of the indoor or outdoor samples at concentrations that exceeded their respective RSL or DSTC-SL.

- PCE was detected in all outdoor air samples (0.016J to 0.019J µg/m^3) and all indoor air samples (0.017J to 0.15 µg/m^3). The highest concentration (0.15 µg/m^3) was detected in samples IA3 and IA3 DUP(collected in Building D Room 71). The RSL for PCE is 11 µg/m^3 and the DTSC-SL is 0.46 µg/m^3.
- TCE was detected in all outdoor air samples (0.07 to 0.098 µg/m^3) and all indoor air samples (0.023J to 0.17 µg/m^3). The highest concentration (0.17 µg/m^3) was detected in IA11 (collected in Building B Room 207). The RSL for TCE is 0.48 µg/m^3. There is no DTSC-SL for TCE; however, the DTSC has established an Accelerated Response Action Level for TCE in residential air of 2.0 µg/m^3.

4.1.2 QA/QC

- The samples were received by the laboratory in good condition and properly preserved. Laboratory analysis was conducted within the applicable laboratory method holding times.
- The concentrations of VOCs in the duplicate air sample (IA3 DUP) were similar to concentrations of VOCs detected in the corresponding primary sample (IA3).

5. INDOOR AIR QUALITY ASSESSMENT

NV5 engaged a board-certified toxicologist (Enviro-Tox) to conduct an Indoor Air Quality Assessment (IAQA) to assess if the VOCs detected in indoor air could be the result of vapor intrusion or if the VOCs can be attributed to other "background" sources (on-site chemical use or exterior regional air quality issues).

5.1 IAQA Methodology

The primary objective of the IAQA was to determine whether subsurface VOCs were entering the indoor environment. According to the new Cal-EPA (2023) vapor intrusion guidance, indoor air sampling results should be interpreted considering Multiple Lines of Evidence (MLE). At a minimum, the vapor intrusion investigation should consider the following four MLE related to soil vapor and indoor air analytical results:

1. Selection of Chemicals of Potential Concern
2. Comparison of Constituent Ratios
3. Attenuation Factor Comparison
4. Comparison of Indoor and Outdoor Air Quality Results

The process followed by Enviro-Tox is presented in the IAQA (Appendix D).

5.2 IAQA Results

All chemicals detected in soil vapor, indoor air and outdoor air are known to be widely used as fuel components and solvents in many consumer and domestic products. Thus, it is possible that these chemicals were released to indoor air from the use of consumer products, fuels, lubricants, sealers, solvents and cleaning articles, and/or construction materials.

The objective of the indoor air sampling was to determine if vapor intrusion is occurring at the school site. According to Cal-EPA (2023) guidance, if vapor intrusion is occurring, (1) soil vapor and indoor air data would have similar characteristics indicating a link between soil vapor and indoor air; (2) soil vapor VOC chemical composition, make up and distribution would be similar to the composition, make up and distribution of VOCs detected in indoor air; and (3) subsurface-derived VOCs would be found in indoor air at concentrations higher than outdoor air concentrations.

As further detailed in the IAQA, comparison of soil vapor data (IAQA Table 1) to indoor air data (IAQA Table 2) shows that the make up, composition and distribution of VOCs in soil gas is different from that of indoor air, indicating that at the time of the sampling, there was no link between VOCs in soil vapor and those found in indoor air.

In an effort to determine if there is a significant difference in the indoor and outdoor VOC concentrations, Enviro-Tox conducted a statistical comparison of indoor and outdoor VOC concentrations. According to the statistical analyses, there is no significant difference between the indoor and outdoor air quality data for the five “risk drivers.” These results indicate that vapor intrusion is either not occurring at the Site or, if occurring, it is occurring at a very slow rate and at a rate that does not negatively affect the indoor air quality.

Enviro-Tox stated that based on their evaluation it can be concluded that VOCs detected in indoor air at the school site likely originated from “background” sources such as consumer products, construction materials and outdoor air. It can also be concluded that, while some VOCs detected in soil gas may also contribute to VOCs detected in indoor air, the contribution from soil gas is likely minimal and insignificant when compared to the contribution made by “background” sources.

6. CONCLUSIONS AND RECOMMENDATIONS

This investigation was conducted for the purpose of assessing the indoor air quality at the McKinley Elementary School with respect to VOCs previously identified in soil vapor at the campus. The following are NV5’s conclusions for this investigation based on the reported laboratory results and the IAQA findings.

- Concentrations of multiple VOCs were detected in air samples collected at both interior and exterior locations throughout the campus. However, only concentrations of chloroform (six interior air samples), benzene (all interior and exterior air samples), 1,2-dichloroethane (one interior air sample), 1,2-dibromoethane (three interior air samples), ethylbenzene (one interior air sample), and naphthalene (all interior and exterior air samples) exceeded respective regulatory screening levels. While concentrations of PCE and TCE were detected in all indoor and outdoor air samples, none of the detected concentrations exceeded their respective health risk screening levels.

- Concentrations of chloroform, benzene, 1,2-dichloroethane, ethylbenzene, and naphthalene were detected in all indoor and all outdoor air samples. Therefore, it is likely that the concentrations detected in interior air samples can be primarily attributed to regional air quality issues.
- 1,2-dibromoethane was not detected in any exterior air samples and in only 8 of the 21 collected indoor air samples. Furthermore, 1,2-dibromoethane was not detected in any of the soil vapor samples collected at the Site during the 2023 Soil Vapor Investigation (NV5, 2023). 1,2-dibromoethane has historically been used as a pesticide and fumigant. Based on the lack of detection of this compound in exterior air and soil vapor samples, and its limited detection throughout the campus, it appears likely that the presence of this compound in indoor air may be the result of off-gassing from a consumer product versus subsurface vapor intrusion.
- The results of the IAQA indicated that according to the statistical analyses, there is no significant difference between the indoor and outdoor air quality data. These results indicate that vapor intrusion is either not occurring at the Site or, if occurring, it is occurring at a very slow rate and at a rate that does not negatively affect the indoor air quality. Based on the IAQA findings, it can be concluded that VOCs detected in indoor air at the Site likely originated from “background” sources such as consumer products, construction materials and outdoor air. It can also be concluded that, while some VOCs detected in soil vapor may also contribute to VOCs detected in indoor air, the contribution from soil vapor is likely minimal and insignificant when compared to the contribution made by “background” sources.

It should be noted that air sampling data is temporal in nature and will fluctuate based on such factors as ventilation, temperature, barometric pressure, and other external factors. Therefore, the results presented in this assessment are representative only of conditions on the day of sampling. It is recommended that the indoor air sampling be repeated on a regular basis until the soil vapor impact beneath the Site has been defined and remediated by the responsible party to concentrations below established regulatory screening limits. To account for seasonal fluctuations, the next sampling event should be conducted in the late fall or winter. NV5 and the District are currently working with the DTSC to conduct further assessment of the entire school property.

While the potential impact of subsurface vapors to the indoor air at the Site was considered negligible, the potential for vapor intrusion remains until impacted soil vapors beneath the Site are successfully remediated by the responsible party. It was noted that concentrations of PCE detected in indoor air samples from Building D, which is located closest to the adjoining dry-cleaner and the previously detected soil vapor impact, were approximately one order of magnitude greater than concentrations detected in indoor air samples collected throughout the rest of the campus. While the detected concentrations of PCE were all below residential indoor air screening levels, the elevated concentrations may represent evidence of a complete vapor intrusion pathway. As a proactive mitigation measure, it is recommended that the HVAC systems in all buildings at the Site be evaluated and operated/modified to ensure that buildings are maintained under positive air pressure. Other mitigation efforts will be recommended and implemented as necessary as a preventative measure to reduce the potential for vapor intrusion into the school buildings.

7. WARRANTY

7.1 Warranty

NV5 warrants that the findings and conclusions reported herein were conducted in general accordance with standard industry practices. The conclusions presented in the report are based solely on the services described herein and not on scientific tasks or procedures beyond the scope of agreed upon services.

This investigation report has been developed to provide the client with information regarding apparent indications of recognized environmental conditions relating to the Site. It is necessarily limited to the conditions observed and to the information available at the time of the work. The assessment and conclusions presented herein were based upon the subjective evaluation of limited data and may not represent all conditions at the subject site as they reflect the information gathered from specific locations. NV5 warrants that the findings and conclusions contained herein have been promulgated in accordance with generally accepted environmental investigation methodology and only for the site described in this report. The findings set forth in this report are strictly limited to the date of the evaluation.

The scope of the soil vapor investigation was developed specifically to meet the client's stated objectives and the data that was developed may not be suitable for use to satisfy other objectives. Any limitations on the data to meet the client's stated objectives are described in the report.

Due to the limited nature of the work, there is a possibility that there may exist conditions which could not be identified within the scope of the assessment, or which were not apparent at the time of report preparation. It is also possible that the testing methods employed at the time of the report may later be superseded by other methods. The description, type, and composition of what are commonly referred to as "hazardous materials or conditions" can also change over time. NV5 does not accept responsibility for changes in the state of the art, nor for changes in the scope of various lists of hazardous materials or conditions. NV5 believes that the findings and conclusions provided in this report are reasonable. However, no other warranties are implied or expressed.

Analytical results contained in this report are limited to the corresponding sampling location, depth, sampled material, selected range of analyses and laboratory reporting limits. Additional chemical constituents not searched for during the current study may be present in soil, soil vapor and/or groundwater at the site.

The location and concentration of contaminants can vary over time due to seasonal water table fluctuations, past disposal practices, the passage of time and other factors.

7.2 Use by Third Parties

This report was prepared pursuant to the contract NV5 has with the Santa Monica-Malibu Unified School District. That contractual relationship included an exchange of information about the subject site that was unique and between NV5 and its client and serves as the basis upon which this report was prepared. Because of the importance of the communication between NV5 and its client, reliance, or any use of this report by anyone other than the Santa Monica-Malibu Unified School District, for whom it was prepared, is prohibited and therefore not foreseeable to NV5.

Reliance on or use of the information contained herein by any such third party without explicit authorization in the report does not make said third party a third-party beneficiary to NV5's contract with the Santa

Monica-Malibu Unified School District. Any such unauthorized reliance on or use of this report, including any of its information or conclusions, will be at the third party's risk. For the same reasons, no warranties, or representations, expressed or implied in this report, are made to any such third party.

8. REFERENCES

8.1 References

Phase I Environmental Site Assessment Report – McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. Prepared by NV5. April 19, 2022.

Environmental Site Investigation Report – McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. Prepared by NV5. April 27, 2023.

Soil Vapor Investigation Report – McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. Prepared by NV5. July 19, 2023.

Department of Toxic Substance Control California Environmental Protection Agency – Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance). October 2011.

Department of Toxic Substance Control Human and Ecological Risk Office - Human Health Risk Assessment Note Number 5, Health-based Indoor Air Screening Criteria for Trichloroethylene (TCE). August 2014.

Department of Toxic Substance Control Human and Ecological Risk Office - Human Health Risk Assessment Note Number 3, DTSC-modified Screening Levels. Revised May 2022.

Department of Toxic Substances Control and California State Water Resources Control Board - Supplemental Guidance: Screening and Evaluating Vapor Intrusion – Final Draft. February 2023.

United States Environmental Protection Agency Region IX Regional Screening Level (RSLs) Summary Table. November 2022.

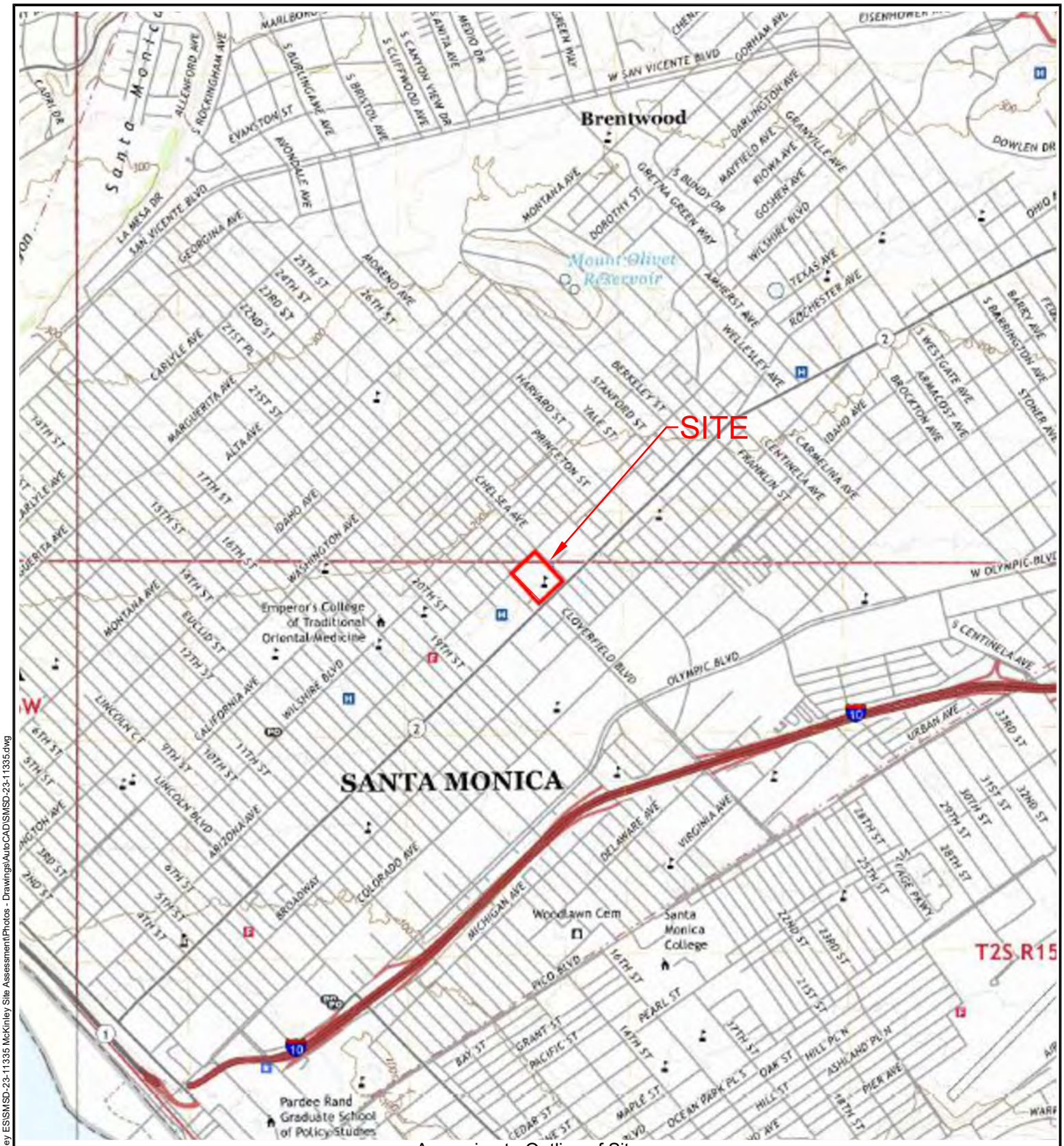
TABLES

Table 1: Air Sampling Laboratory Analysis Summary
McKinley Elementary School
2401 Santa Monica Boulevard, Santa Monica, California

Analyte	CAS Number	Sample Date	Sample ID		OA1	OA2	OA3	OA4	IA1	IA2	IA3	IA3 DUP	IA4	IA5	IA6	IA7	IA8	IA9	IA10	IA11	IA12	IA13	IA14	IA15	IA16	IA17	IA18	IA19	IA20
			Sample Location		Chelsea Parking Lot	Main Playground	South-Western Lawn	South-Eastern Playground	Building D Room 71D	Building D Room 70	Building D Room 71	Building D Room 71	Modular Building Room B10	Portable Classroom Building B7	Portable Classroom Building B2	Building A Cafeteria	Building B Basement	Building B Room 109	Building B Room 107	Building B Room 207	Building C Admin Office	Building C Library	Building C Room 102	Building C Room 105	Building C Auditorium	Building C STEM Lab	Building C Basement	Building C Room 202	Building C Boys Bathroom
			Screening Level																										
			RSL	DTSC-SL																									
Dichlorodifluoromethane (12)	75-71-8	7/13/2023	100	NE	2	1.6	2.1	2	2.1	2.1	2.1	2.1	2	1.9	1.9	2	2	2	2	2	2	1.9	2	2	2	2	2	2	2
Chloromethane	74-87-3	7/13/2023	94	NE	1	0.89	1.1	1.1	1.1	1.3	1.2	1.1	1.2	1.1	1.1	1.1	1	1.2	1.1	1.1	1.1	1	1	1.1	1.1	1.1	1	1.2	1.1
Vinyl Chloride	75-01-4	7/13/2023	0.17	0.0095	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	0.0072J	0.0075J	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)
Chloroethane	75-00-3	7/13/2023	4200	NE	0.035	0.052	0.085	0.088	0.11	0.13	0.11	0.099	0.05	0.048	0.088	0.065	0.041	0.052	0.042	0.043	0.1	0.067	0.052	0.074	0.063	0.068	0.059	0.078	ND (<0.0080)
Trichlorofluoromethane (11)	75-69-4	7/13/2023	NL	1300	1	0.78	1.1	1	1	1.1	1.1	1	0.99	0.96	0.96	0.98	1	0.98	1	0.99	0.99	0.97	0.99	1	1	1	1	0.98	1
1,1,2-Cl 1,2,2-F ethane (113)	76-13-1	7/13/2023	5200	NE	0.44	0.36	0.45	0.43	0.43	0.45	0.45	0.44	0.44	0.43	0.43	0.43	0.44	0.44	0.45	0.44	0.44	0.43	0.43	0.44	0.44	0.44	0.44	0.43	0.44
1,1-Dichloroethene	75-35-4	7/13/2023	210	73	0.0030J	ND (<0.0025)	ND (<0.0025)	0.0031J	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	0.0025J	0.0029J	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	0.0046J	0.0032J	0.0029J	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)
Methylene Chloride	75-09-2	7/13/2023	100	1	0.29	0.31	0.32	0.3	0.32	0.31	0.31	0.31	0.42	0.3	0.29	0.29	0.28	0.34	0.36	0.35	0.32	0.28	0.33	0.31	0.28	0.3	0.29	0.31	0.28
t-1,2-Dichloroethene	156-60-5	7/13/2023	42	83	0.0039J	ND (<0.0029)	0.0040J	0.0038J	0.0038J	ND (<0.0029)	0.0041J	ND (<0.0029)	0.0039J	0.0029J	0.0081J	ND (<0.0029)	0.0037J	ND (<0.0029)	0.0045J	0.0031J	ND (<0.0029)	0.0036J	0.0056J	0.0041J	0.0047J	ND (<0.0029)	ND (<0.0029)	0.0029J	ND (<0.0029)
1,1-Dichloroethane	75-34-3	7/13/2023	1.8	1.8	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)
c-1,2-Dichloroethene	156-59-2	7/13/2023	42	8.3	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	0.0039J	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)
Chloroform	67-66-3	7/13/2023	0.12	NE	0.11	0.1	0.11	0.1	0.12	0.1	0.11	0.12	0.1	0.18	0.12	0.11	0.11	0.18	0.17	0.11	0.12	0.11	0.15	0.14	0.1	0.21	0.12	0.11	0.095
1,1,1-Trichloroethane	71-55-6	7/13/2023	5200	1000	0.0065J	0.0074J	0.0076J	0.0088J	0.0085J	0.0089J	0.0079J	0.0072J	0.0069J	0.0070J	0.0093J	0.0074J	0.0085J	0.076	0.48	0.21	0.025J	0.0075J	0.064	0.067	0.022J	0.015J	0.0075J	0.057	0.0066J
Carbon Tetrachloride	56-23-5	7/13/2023	0.47	0.47	0.45	0.44	0.46	0.45	0.45	0.47	0.46	0.46	0.45	0.44	0.44	0.44	0.46	0.45	0.45	0.45	0.45	0.44	0.44	0.45	0.45	0.44	0.45	0.45	0.45
Benzene	71-43-2	7/13/2023	0.36	0.097	0.26	0.32	0.34	0.33	0.29	0.3	0.32	0.31	0.23	0.28	0.56	0.29	0.27	0.27	0.29	0.32	0.29	0.3	1.2	0.33	0.29	0.29	0.28	0.31	0.26
1,2-Dichloroethane	107-06-2	7/13/2023	0.11	NE	0.05	0.049	0.049	0.051	0.097	0.067	0.073	0.073	0.048	0.055	0.29	0.049	0.076	0.066	0.054	0.05	0.078	0.047	0.067	0.064	0.046	0.063	0.065	0.055	0.044
Trichloroethene	79-01-6	7/13/2023	0.48	2*	0.07	0.091	0.098	0.079	0.067	0.066	0.09	0.087	0.03	0.085	0.041	0.084	0.075	0.023J	0.043	0.17	0.078	0.059	0.071	0.09	0.069	0.059	0.048	0.095	0.047
1,2-Dichloropropane	78-87-5	7/13/2023	0.76	NE	0.016J	0.010J	0.013J	0.011J	0.021J	0.011J	0.013J	0.017J	0.014J	0.014J	0.062	0.011J	0.014J	0.020J	0.019J	0.014J	0.016J	ND (<0.0098)	0.018J	0.038J	0.015J	0.021J	0.013J	0.012J	ND (<0.0098)
Bromodichloromethane	75-27-4	7/13/2023	0.076	0.076	ND (<0.0071)	ND (<0.0071)	ND (<0.0071)	ND (<0.0071)	0.012J	0.011J	ND (<0.0071)	0.0093J	0.0094J	0.1	0.013J	0.014J	0.0073J	0.0080J	ND (<0.0071)	0.0081J	ND (<0.0071)	0.0094J	0.015J	ND (<0.0071)	0.011J	ND (<0.0071)	0.011J	0.023J	0.0099J
Toluene	108-88-3	7/13/2023	5200	310	0.52	0.28	0.68	0.66	1	0.99	1	0.99	0.69	0.74	1.6	0.59	0.6	2.1	1.8	0.94	0.86	0.7	3	0.91	0.6	0.87	1.5	0.79	0.5
t-1,3-Dichloropropene	10061-02-6	7/13/2023	0.7	NE	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	0.0077J	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	0.019J	0.0059J	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	0.077	ND (<0.0059)
1,1,2-Trichloroethane	79-00-5	7/13/2023	0.18	NE	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)
Tetrachloroethene	127-18-4	7/13/2023	11	0.46	0.017J	0.016J	0.016J	0.019J	0.12	0.1	0.15	0.15	0.018J	0.024J	0.031J	0.018J	0.019J	0.022J	0.020J	0.023J	0.028J	0.055J	0.035J	0.034J	0.017J	0.019J	0.018J	0.021J	0.028J
1,2-Dibromoethane	106-93-4	7/13/2023	0.0047	0.0047	ND (<0.0017)	ND (<0.0017)	ND (<0.0017)	ND (<0.0017)	0.0030J	0.0045J	ND (<0.0017)	ND (<0.0017)	0.0048J	0.0023J	0.016J	ND (<0.0017)	ND (<0.0017)	ND (<0.0017)	0.0050J	ND (<0.0017)	0.0046J	ND (<0.0017)	ND (<0.0017)	ND (<0.0017)	ND (<0.0017)	ND (<0.0017)	0.0020J	ND (<0.0017)	ND (<0.0017)
Ethylbenzene	100-41-4	7/13/2023	1.1	NE	0.12	0.19	0.15	0.14	0.2	0.19	0.19	0.2	0.23	0.3	0.25	0.17	0.16	0.26	0.32	0.19	0.21	0.14	0.35	0.33	0.14	2	0.24	0.21	0.12
p,&m-Xylene	--	7/13/2023	100	NE	0.4	0.71	0.49	0.46	0.63	0.62	0.65	0.64	0.76	0.6	0.6	0.57	0.53	0.78	1	0.62	0.55	0.44	1.1	1	0.44	7.7	0.83	0.58	0.39
o-Xylene	95-47-6	7/13/2023	100	NE	0.16	0.24	0.18	0.18	0.3	0.28	0.3	0.3	0.28	0.22	0.25	0.21	0.23	0.31	0.38	0.22	0.21	0.16	0.38	0.37	0.16	1.9	0.26	0.25	0.16
Styrene	100-42-5	7/13/2023	1000	940	0.048J	0.054J	0.041J	0.16	0.18	0.18	0.24	0.16	0.17	0.38	0.48	0.066J	0.23	0.37	0.3	0.16	0.16	0.2	0.26	0.16	0.098	0.44	0.21	0.31	0.054J
1,1,2,2-Tetrachloroethane	79-34-5	7/13/2023	0.048	0.048	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)
Naphthalene	91-20-3	7/13/2023	0.083	NE	0.14	0.09	0.14	1.1	0.33	0.36	0.36	0.35	0.15	0.23	0.39	0.27	0.19	0.53	0.37	0.24	0.17	0.24	0.28	0.21	0.24	0.2	0.16	0.22	0.12

Notes:
All concentrations are reported in micrograms per cubic meter (µg/m3)
Concentrations highlighted in yellow exceeded a regulatory screening level
RSL: United States Environmental Protection Agency Region IX - Regional Screening Level for Residential Air (May 2023)
DTSC-SL: California Department of Toxic Substances Control Modified Screening Levels for Residential Air (June 2020 - Revised May 2022)
NE: Not Established
ND: Not detected above reported laboratory method detection limit (ND < MDL)
J: Reported concentration is below laboratory reporting limit but below the laboratory method detection limit
* DTSC-SL for TCE is the residential Accelerated Response Action Level for Residential Land use as described in the DTSC Hero Note 5 (August 2014)

FIGURES



Approximate Outline of Site

FIGURE 1: Site Location Map

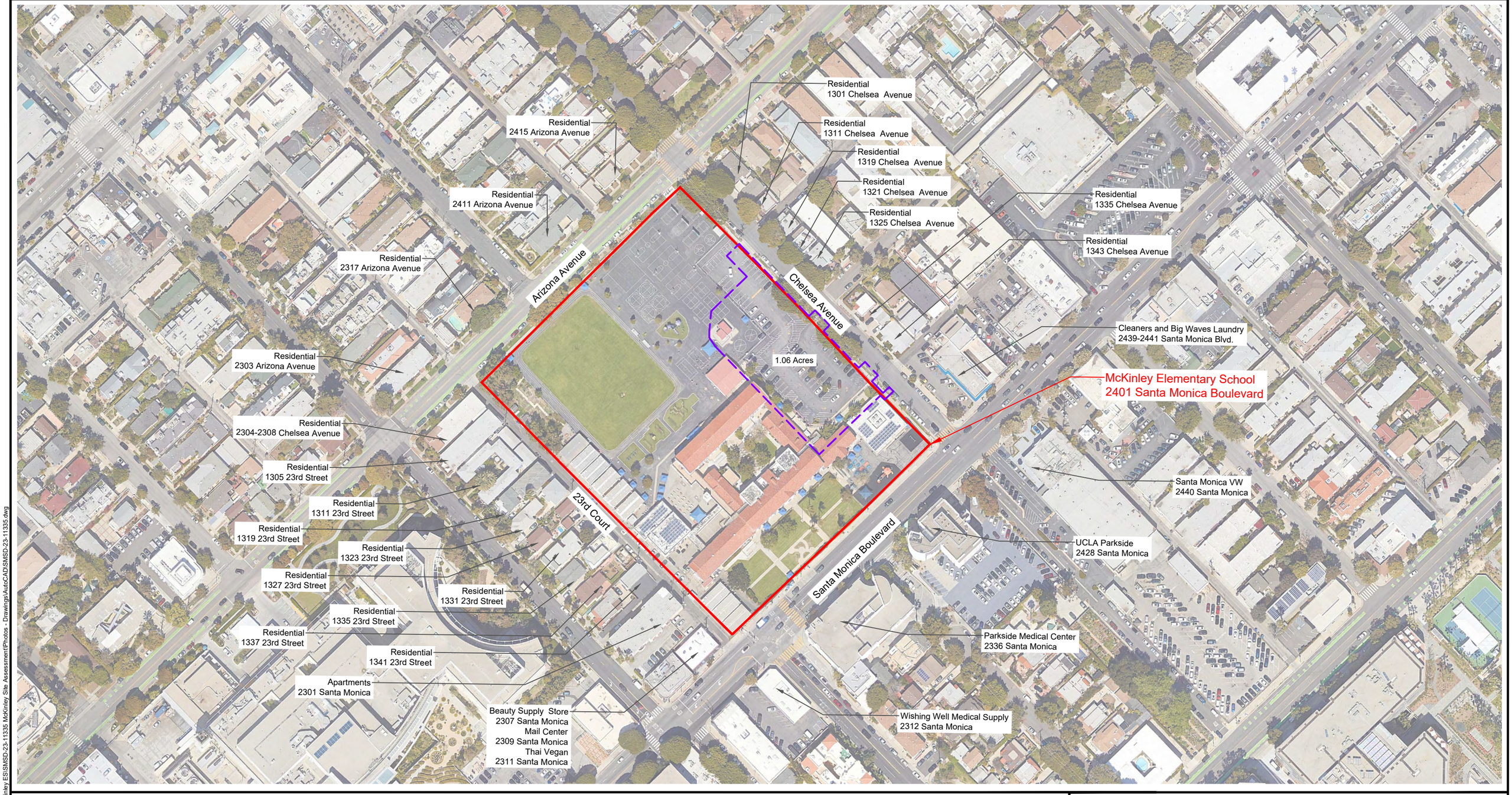
CLIENT: Santa Monica-Malibu Unified School District	SITE LOCATION: 2401 Santa Monica Boulevard Santa Monica, California 90404
PROJECT #: SMSD-23-11646	

NV5 ALTA ENVIRONMENTAL

3777 Long Beach Blvd., Annex Bldg.
Long Beach, CA 90807
(562) 495-5777 www.altaenviron.com

DRAWN: ED	APPROVED: EF	NORTH
SCALE: None	DATE: 7/10/2023	

W:\Clients N-S\Santa Monica-Malibu USD (SMSD)\McKinley ES\SMSD-23-11335 McKinley Site Assessment\Photos - Drawings\AutoCAD\SMSD-23-11335.dwg



LEGEND:

Approximate Site Boundary

Approximate Extents of Earthwork

APPX. SCALE:
1" = 150'
0 150' 1"

NORTH

FIGURE 2: Site Vicinity Map

CLIENT: Santa Monica Malibu Unified School District	DRAWN: AHL	APPROVED: EF
	SCALE: NTS	DATE: JULY 2023
SITE LOCATION: McKinley Elementary School 2401 Santa Monica Boulevard Santa Monica, California 90404	ALTA ENVIRONMENTAL	
PROJECT #: SMSD-23-11646	3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	

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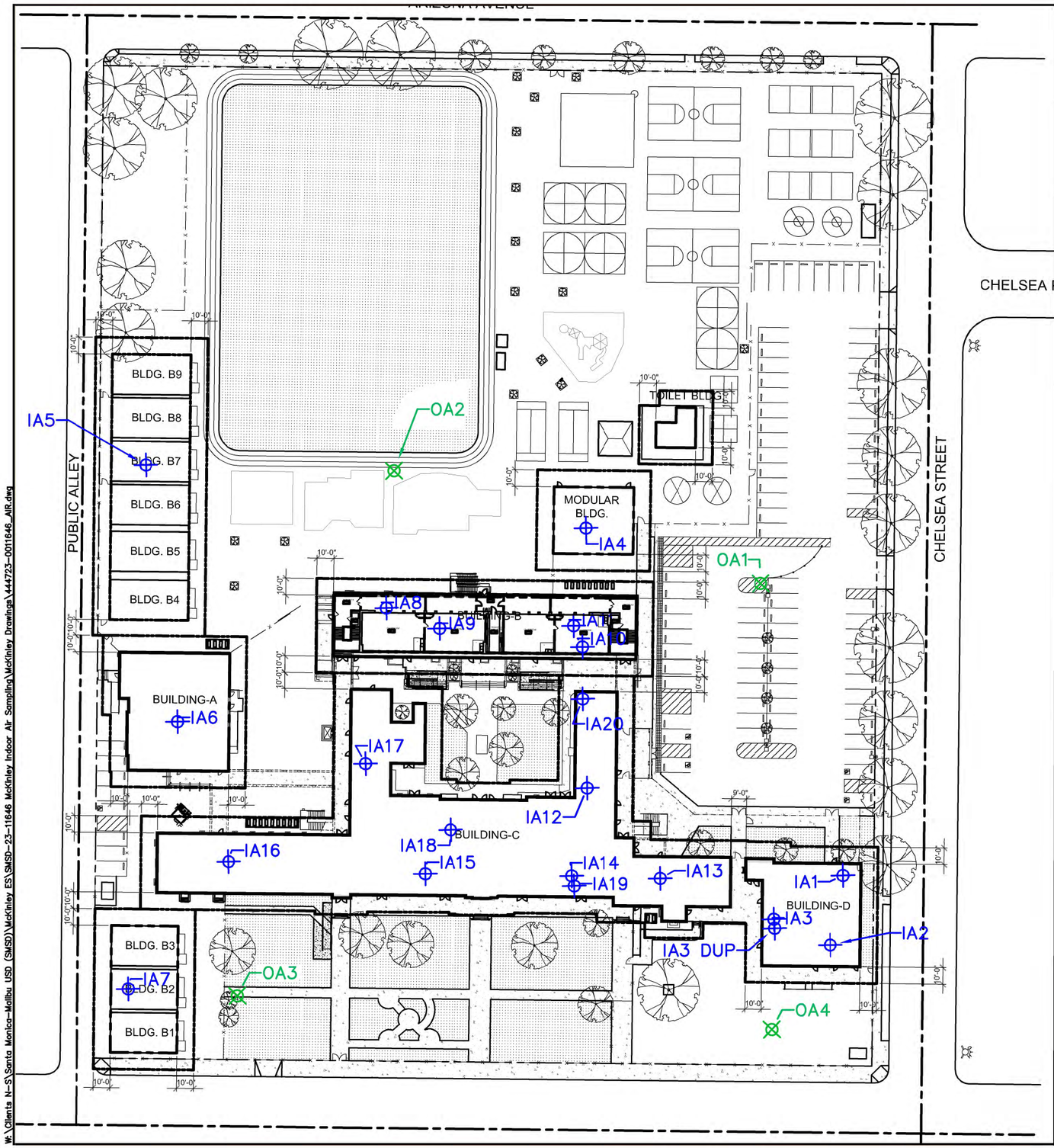


LEGEND:

IA20 Indoor Air Sample

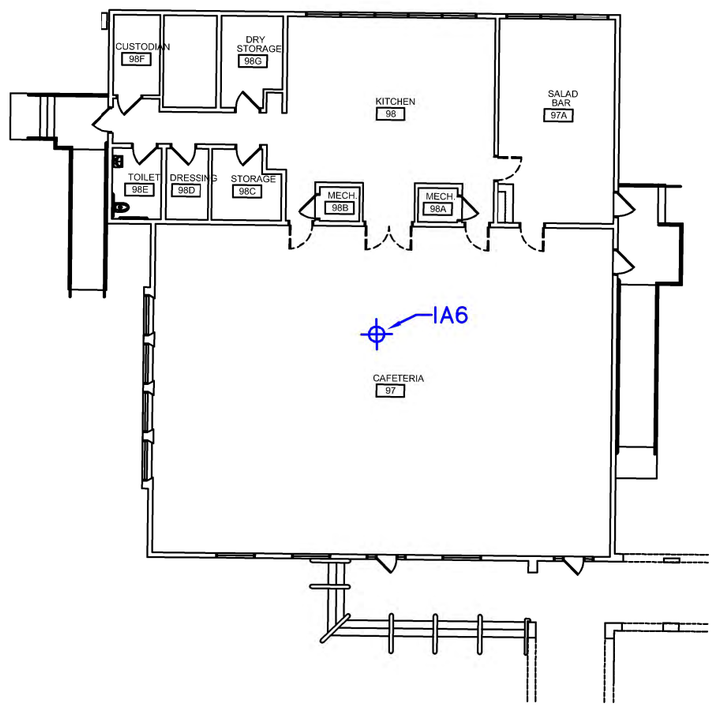
OA4 Outdoor Air Sample

APPX. SCALE:
1" = 70'
0 1" 70'

FIGURE 3: General Air Sample Locations

CLIENT: Santa Monica Malibu Unified School District	DRAWN: RB	APPROVED: EF
	NOT TO SCALE	DATE JULY 2023
SITE LOCATION: McKinley Elementary School 2401 Santa Monica Boulevard Santa Monica, California 90404	NV5 ALTA ENVIRONMENTAL 3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	
PROJECT #: SMSD-23-11646		

W:\Clients N-S\Santa Monica-Malibu USD (SMSD)\McKinley ES\SMSD-23-11646 McKinley Indoor Air Sampling\McKinley Drawings\444723-0011646_AIR.dwg



Building A Floor Plan

NOT TO SCALE
Approx. 1"=20'

LEGEND:

IA20 Indoor Air Sample

OA4 Outdoor Air Sample

KEY PLAN

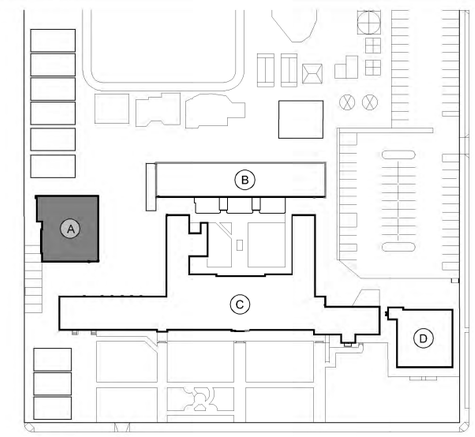
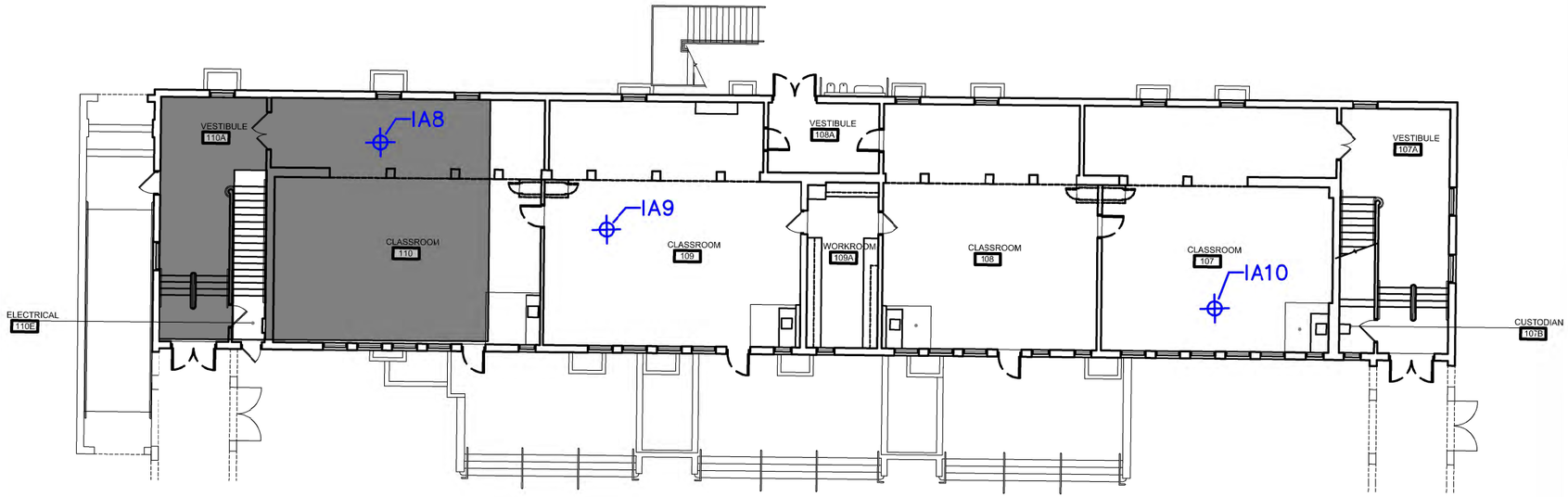


FIGURE 4: Building A Sample Location

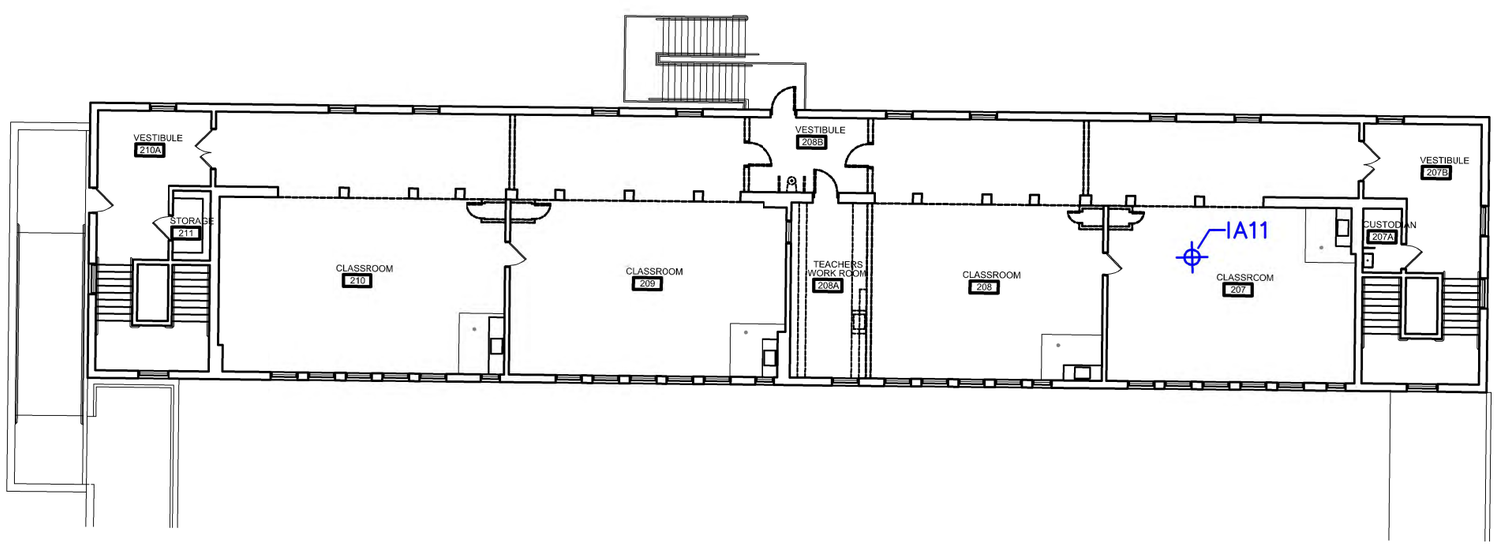
CLIENT: Santa Monica Malibu Unified School District	DRAWN: RB	APPROVED: EF
	NOT TO SCALE	DATE JULY 2023
SITE LOCATION: McKinley Elementary School 2401 Santa Monica Boulevard Santa Monica, California 90404	NV5 ALTA ENVIRONMENTAL 3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	
PROJECT #: SMSD-23-11646		

W:\Clients N-S\Santa Monica-Malibu USD (SMSD)\McKinley ES\SMSD-23-11646 McKinley Indoor Air Sampling\McKinley Drawings\444723-0011646_AIR.dwg



BULDING B FIRST FLOOR

NOT TO SCALE
Approx. 1"=20'



BULDING B SECOND FLOOR

NOT TO SCALE
Approx. 1"=20'

LEGEND:

IA20 Indoor Air Sample

Approximate Basement Location

KEY PLAN

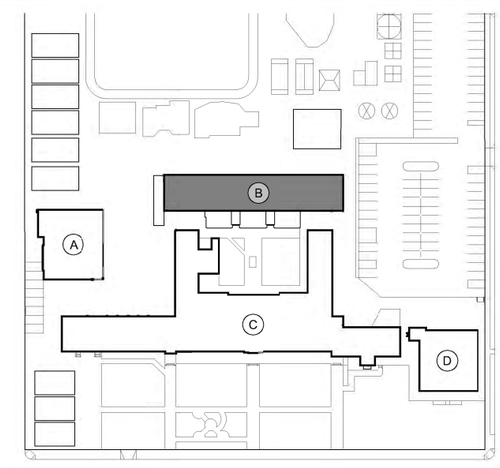
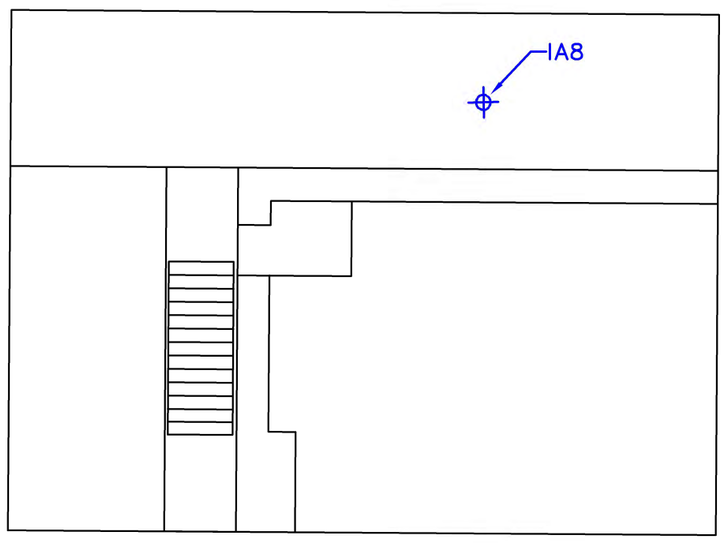


FIGURE 5: Building B Sample Locations

CLIENT: Santa Monica Malibu Unified School District	DRAWN: RB	APPROVED: EF
	NOT TO SCALE	DATE JULY 2023
SITE LOCATION: McKinley Elementary School 2401 Santa Monica Boulevard Santa Monica, California 90404	NV5 ALTA ENVIRONMENTAL 3777 Long Beach Blvd. Annex Bldg. Lorg Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	
PROJECT #: SMSD-23-11646		

W:\Clients N-S\Santa Monica-Malibu USD (SMSD)\McKinley ES\SMSD-23-11646 McKinley Indoor Air Sampling\McKinley Drawings\444723-0011646_AIR.dwg



BASEMENT B

NOT TO SCALE
Approx. 1"=20'

LEGEND:

IA20 Indoor Air Sample

KEY PLAN

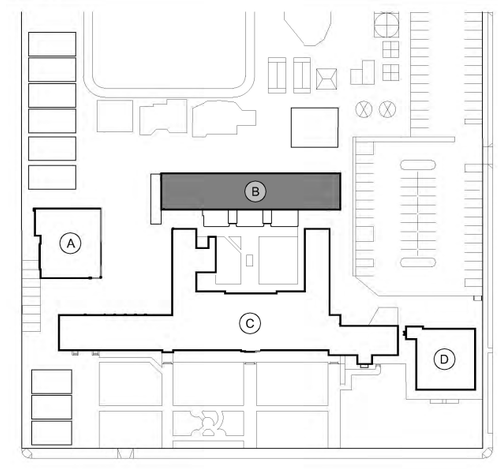
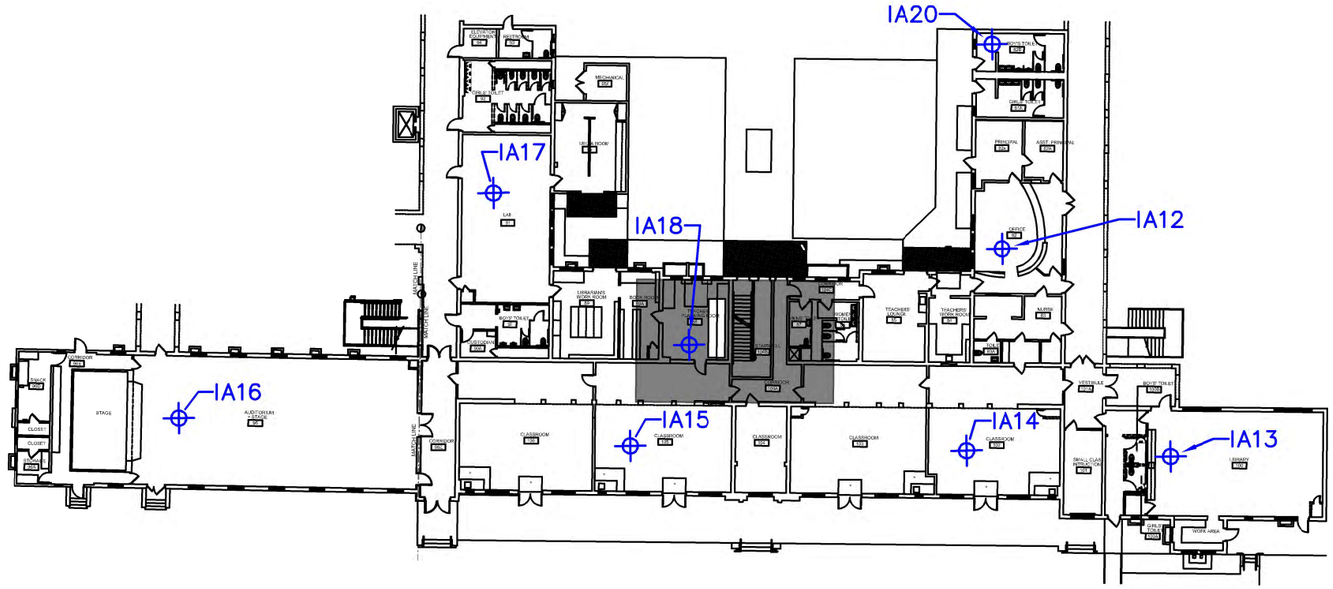


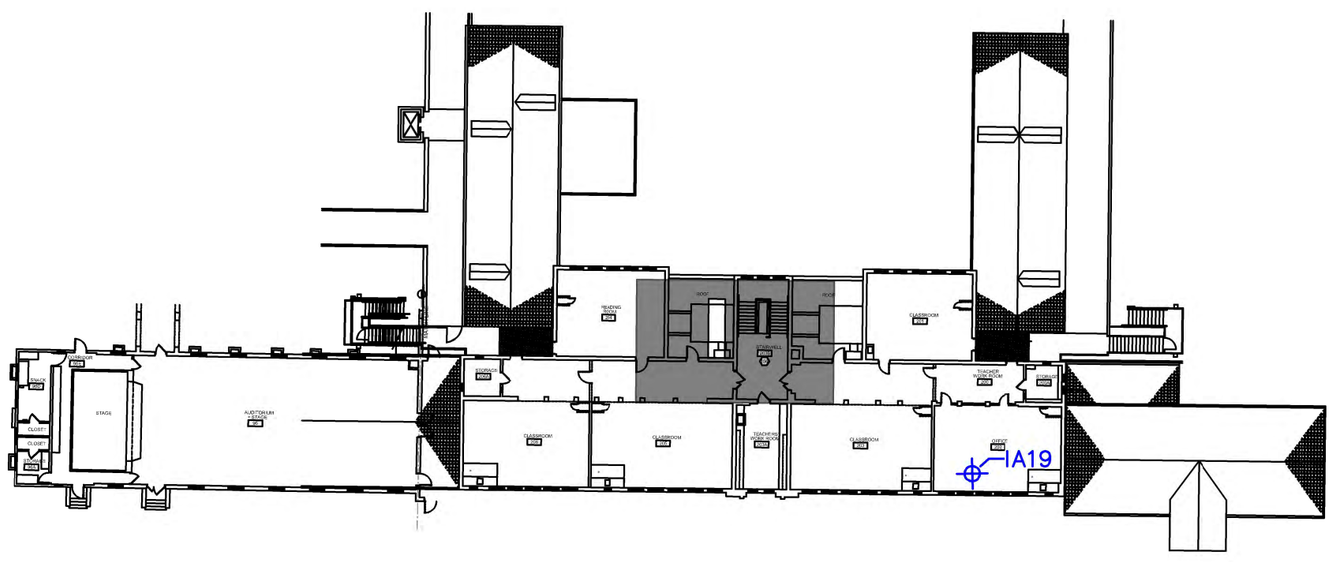
FIGURE 5A: Building B Basement Locations

CLIENT: Santa Monica Malibu Unified School District	DRAWN: RB	APPROVED: EF
	NOT TO SCALE	DATE JULY 2023
SITE LOCATION: McKinley Elementary School 2401 Santa Monica Boulevard Santa Monica, California 90404	NV5 ALTA ENVIRONMENTAL 3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	
PROJECT #: SMSD-23-11646		

W:\Clients N-S\Santa Monica-Malibu USD (SMSD)\McKinley ES\SMSD-23-11646 McKinley Indoor Air Sampling\McKinley Drawings\44723-0011646_AIR.dwg



BULDING C FIRST FLOOR



BULDING C SECOND FLOOR

LEGEND:

IA20 Indoor Air Sample

Approximate Basement Location

KEY PLAN

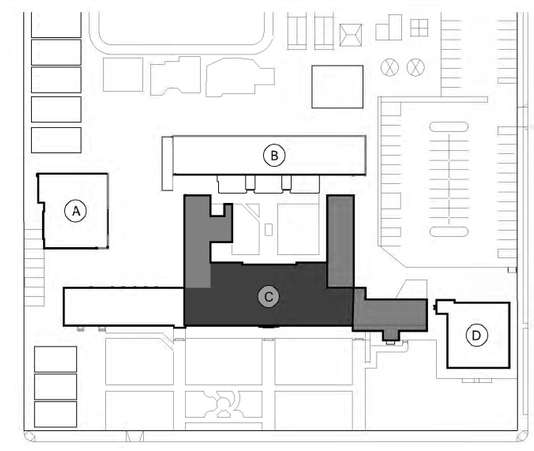
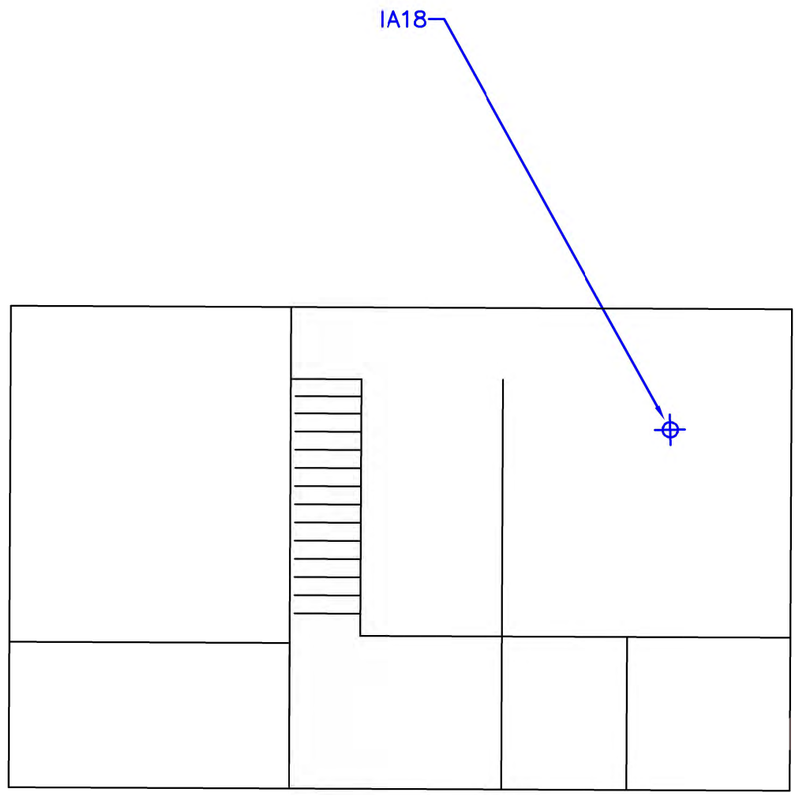


FIGURE 6: Building C Sample Locations

CLIENT: Santa Monica Malibu Unified School District	DRAWN: RB	APPROVED: EF
	NOT TO SCALE	DATE JULY 2023
SITE LOCATION: McKinley Elementary School 2401 Santa Monica Boulevard Santa Monica, California 90404	NV5 ALTA ENVIRONMENTAL 3777 Long Beach Blvd. Annex Bldg. Lorg Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	
PROJECT #: SMSD-23-11646		

W:\Clients N-S\Santa Monica-Malibu USD (SMSD)\McKinley ES\SMSD-23-11646 McKinley Indoor Air Sampling\McKinley Drawings\444723-0011646_AIR.dwg



BASEMENT C

NOT TO SCALE
Approx. 1"=10'

LEGEND:

IA20 Indoor Air Sample

KEY PLAN

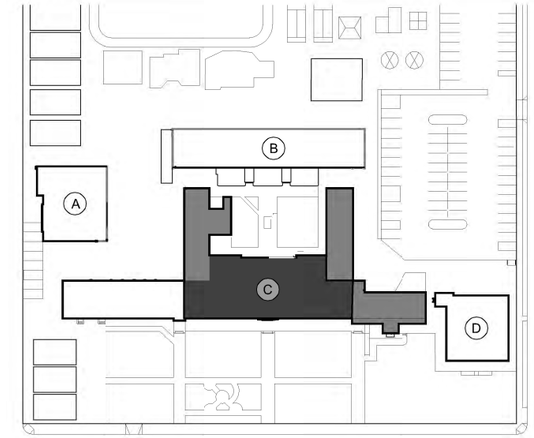
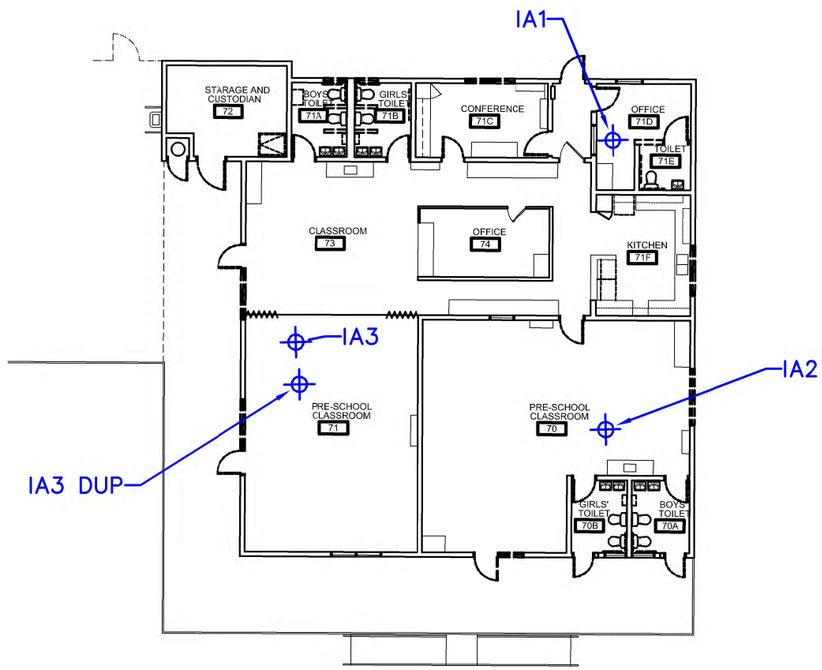


FIGURE 6A: Building C Basement Location

CLIENT: Santa Monica Malibu Unified School District	DRAWN: RB	APPROVED: EF
	NOT TO SCALE	DATE JULY 2023
SITE LOCATION: McKinley Elementary School 2401 Santa Monica Boulevard Santa Monica, California 90404	NV5 ALTA ENVIRONMENTAL 3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	
PROJECT #: SMSD-23-11646		

W:\Clients N-S\Santa Monica-Malibu USD (SMSD)\McKinley ES\SMSD-23-11646 McKinley Indoor Air Sampling\McKinley Drawings\44723-0011646_AIR.dwg



BULDING D

NOT TO SCALE
Approx. 1"=20'

LEGEND:

IA20 Indoor Air Sample

KEY PLAN

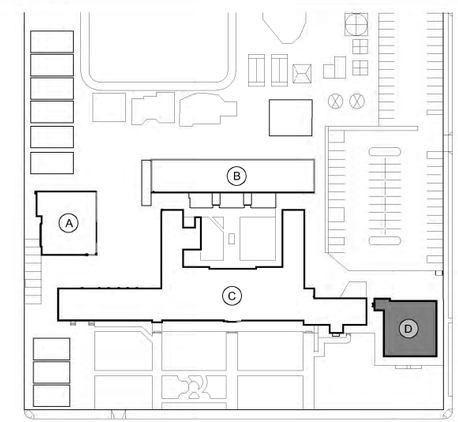


FIGURE 7: Building D Sample Locations

CLIENT: Santa Monica Malibu Unified School District	DRAWN: RB	APPROVED: EF
	NOT TO SCALE	DATE JULY 2023
SITE LOCATION: McKinley Elementary School 2401 Santa Monica Boulevard Santa Monica, California 90404	ALTA ENVIRONMENTAL 3777 Long Beach Blvd. Annex Bldg. Lorg Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	
PROJECT #: SMSD-23-11646		

W:\Clients N-S\Santa Monica-Malibu USD (SMSD)\McKinley ES\SMSD-23-11646 McKinley Indoor Air Sampling\McKinley Drawings\44723-0011646_AIR.dwg

APPENDIX A

Building Screening Forms

Indoor Air Source Screen Form

This form should be used while conducting field screening (Step 3B.3, Supplemental Vapor Intrusion Guidance). An Indoor Source Screen Survey of indoor air will help identify potential sources of vapor forming chemicals (VFCs) and/or potential subsurface vapor entry points. Common screening tools, such as, Photoionization Detector (PID), Gas Chromatography-Photoionization Detector (GC-PID), Gas Chromatography-Mass Spectrometry (GC-MS), or Gas Chromatography-Electron Capture Detector (GC-ECD), should be used to detect the presence of VFCs in the air.

Use this form to document the room/area and location where the measurement was recorded during the Indoor Air Source Screen Survey, the field instrument type used, and the instrument reading and units. If a consumer product is identified and surrounding air tested, the location and the volatile ingredients of the product should be noted. (If the item(s) may be contributing VFCs to the indoor air, the items should be removed in advance of indoor air sampling.) This survey should be used to support the development of a conceptual understanding of how vapor intrusion may be occurring at the building and used in selecting sample locations for evaluating spatial distribution of VFCs in indoor air.

Site Information	Input
Building Address or Building ID:	2401 Santa Monica Blvd, Santa Monica, California
Site/Facility Name:	McKinley Elementary School
Screening Event Date:	6-Jul-23
Screening Event Time:	8AM to 11AM
Event Weather Conditions:	Clear, 65-68 F, Light Winds (3 mph) from Southwest
Name of Person(s) Sampling:	Eric Fraske and Ruta Bandziulis
Company Conducting Sampling:	NV5
Field Instrument Type[1]:	PID - ppbRAE 3000_V22
Instrument Calibration Date:	7/5/2023
Analyte Name:	Isobutylene 10 PPM

1 - Photoionization Detector (PID), Gas Chromatography-Photoionization Detector (GC-PID), Gas Chromatography-Mass Spectrometry (GC-MS), Gas Chromatography-Electron Capture Detector (GC-ECD), etc.

Indoor Air Source Screen Form

Sample Room/Area	Sample Location	Sample ID	Instrument Reading	Units	Volatile Ingredients in Consumer Products Identified Near Sample
- 82 OFFICE	-		0.028	PPM	Hand sanitizer
- C83 NURSE	-		0.035		HAND SANITIZER (HS)
- C83A CLOSET	-		0.352		HAND SANITIZER, ANTISEPTIC
- C83B	-		0.079		HAND SOAP, AERO DISINFECT DEODOR,
- C83C RR	-		0.062		(HS), 7307 DISINFECTANT
- C82A ASST. PRIN.	-		0.065		(HS)
- C82A PRINCIPLE	-		0.075		~~(HS)~~
- C102	- NORTH		0.083		(HS)
- C102	-		0.088		(HS) SANITIZER SPRAY
- C102	- SINK CABINET		0.076		
- C101A	-		0.198		
- C101	- RR		0.120		Hand soap
- ~~C100~~ BR Hall	-		0.184		NEW HALL
- C100 [LIBRARY]	- EAST		0.177		
- " "	- WEST		0.183		NEW CARPET, FURNITURE
- C100B	- BOYS RR		0.174		RAISED FOUNDATON
- C100A	- GIRLS RR		0.168		RAISED FOUNATION
- OFFICE 100	-		0.146		RECIRCULATING VENT
- C103	- MAIN		0.144		WASHABLE PAINT,
- " "	- SINK		0.172		(HS) disinfectant
- " "	- NORTH		0.161		
- C85 T. LOUNGE	-		0.152		(HS) CLOROX WIPES
- " "	- SINK		0.153		
- C84	-		0.146		(HS) OFFICE SUPPLY
- C86	-		0.156		Hand soap (HS)
- C87	-		0.157		
- " "	- FLOOR DRAIN		0.159		Roof vent
- C104C	-		0.168		
- C104A	-		0.168		
- C104 storage	-		0.314		Paint, rubber cement, shaw, 4.
- C105	-		0.199		

Comments:

Indoor Air Source Screen Form

Sample Room/Area	Sample Location	Sample ID	Instrument Reading	Units	Volatile Ingredients in Consumer Products Identified Near Sample
- A97	- MAIN		0.197		
- A98	- Kitch		0.201		
- A98A	- Mech		0.209		
- A97A	- Salad		0.255		(HS)
- A98B	- Mech		0.233		
- A98C	-		0.480		
- A98G	- NO ACCESS				
- A98D	-		0.255		
- A98E	-		0.236		
- A98F	-		0.241		(HS) spray cleaner
- MOP	-		0.239		mop cleaner [730] [245]
-	-				
-	-				
-	-				
-	-				
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-	-				
-	-				
-	-				

Comments: A → SLAB ON GRADE

Indoor Air Source Screen Form

Sample Room/Area	Sample Location	Sample ID	Instrument Reading	Units	Volatile Ingredients in Consumer Products Identified Near Sample
- B SPRINKLER RM	- EAST		0.200		carpet cleaner
-	- SINK		0.204		
- B107A	-		0.279		
- B107	- NORTH		0.239		
- B107	- MAIN		0.247		[243]
- B107	- SINK		0.242		
- B108	- MAIN		0.248		
- "	- SINK		0.245		[243] (HS) CLOROX
- "	- NORTH		0.247		
- B109A	- SINK		0.271		Kitchen cleaner [262]
- " "	-		0.270		
- B 109	- MAIN		0.278		clorox, disinfect [HS]
- "	- SINK		0.284		
- "	- NORTH		0.283		
- B108A	-		0.257		
- B110	- MAIN		0.275		
- "	- SINK		0.271		[243] (HS)
- "	- NORTH		0.273		
- B110A	-		0.251		
- BBasement	-		0.222		
- BB111	-		0.197		
- BB111	- Crawl		0.200		
- BB112	- PTA		0.230		(HS)
- BB110	-		0.205		
- B210A	-		0.227		
- B211	-		0.331		
- BHall	- ~~SOU~~ ~~WE~~ West		0.220		
- B210	-		0.204		Smells sweet (HS)
- B209	-		0.198		(HS)
- "	- SINK		0.197		(HS)
- B208	-		0.195		(HS)

Comments: B208 SINK 0.198

Raised Foundation

Main Ceiling (11.5 ft)

NORTH Ceiling (8.0 ft)

Indoor Air Source Screen Form

Sample Room/Area	Sample Location	Sample ID	Instrument Reading	Units	Volatile Ingredients in Consumer Products Identified Near Sample
- B207	- MAIN		0.204		
- "	- SINK		0.209		(HS) [243]
- BHALL	- EAST		0.198		
- B207B	-		0.199		
- B207A	-		0.200		SOAP (HS)
- "	- SINK		0.200		
- B10	- Modular BLDG		0.205		(HS)
- "	- SINK		0.205		
- B11	-		0.174		(HS)
- "	- SINK		0.170		
- PLAYGROUND RR	- BOYS		0.168		
- "	- GIRLS		0.174		
-	- DRAIN GIRLS		0.170		
- B9	-		0.326		(HS) PAINT
- " "	- SINK		0.350		Bleach
- "	- Paint STORAGE		0.358		
- B8	- MAIN		0.335		(HS)
- " "	- SINK		0.351		Tempura paint [730]
- B7	- MAIN		0.299		(HS)
- "	- SINK		0.333		clorox wipes, bleac 243
- "	- Bathroom		0.321		Soap
- B6	- MAIN		0.313		(HS) soap [742][243]
- "	- SINK		0.344		crayons, smells sweet
- B5	- MAIN		0.314		(HS)
- "	- SINK		0.327		Dish soap [743]
- B4	- MAIN		0.308		(HS)
-	- SINK	NOT ACCESSIBLE			[243]
- B3	- MAIN		0.227		
-	- SINK		0.255		(HS) [730][743]
- B2	- MAIN		0.276		[764][243]
-	- SINK		0.282		

Comments: BUNGALOWS ON WESTSIDE RAISED FOUND
Bungalows near B → SLAB ON GRADE

AMBIENT 12:25 0.190 near Bungalows & A BLDG

B2 Bathroom 0.278
B1 MAIN 0.304 (HS)
SINK 0.311 Soap (HS)

Shed 0.181

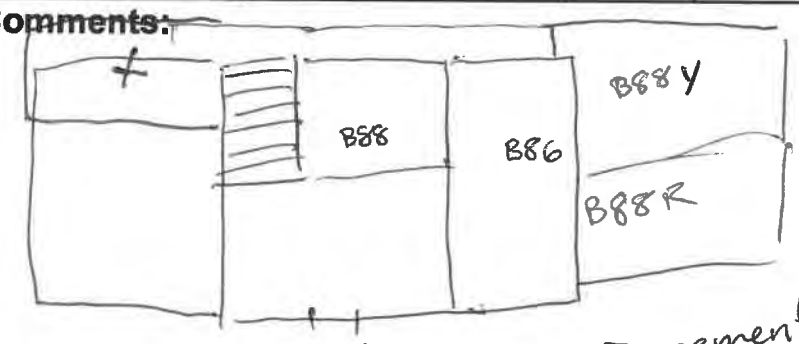
AMBIENT SW CORNER – 12:49pm 0.180
FLAMMABLE UNIT → PROPANE CANS 0.160
AMBIENT SE CORNER → 12:55 EXTERIOR D → 0.145

NE CORNER: 12:58
0.134
Breezy W

Indoor Air Source Screen Form

Sample Room/Area	Sample Location	Sample ID	Instrument Reading	Units	Volatile Ingredients in Consumer Products Identified Near Sample
- C Basement	- MAIN	0.185			
- C B88	-	0.161			incinerator
-	- CRAWI	0.157			
- CB86	-	0.156			Server
- CB8B X	-	0.168			
- CB88 Y	-	0.155			
- CB88 Y	- SUMP	0.145			
- CB88 R	-	0.150			
- CB89	-	0.182			
- C203B	-	0.194			
- C203A WORK ROOM	-	0.246			(HS) SPLIT VENT
- C203	- MAIN	0.183			cleaning [243]
- C203	- SINK	0.196			Disinfectant wipes
- C203A	- SINK	0.243			[243]
- Hallway	- EAST	0.201			
- C202	-	0.177			
- C202	- SINK	0.170			[243]
- C200A	-	0.191			
- C201	-	0.184			(HS)
- C201	- SINK	0.189			[243]
- Hallway	- WEST	0.197			
- C205	-	0.182			[243] LYSOL
- C205	- SINK	0.200			
- C204	-	0.183			(HS) PURPLE
- C206	-	0.181			
- C206	- SINK	0.179			Newish Carpet (2yr)
- C206A	-	0.197			
- ELEVATOR	- NO ACCESS				
-	-				
-	-				
-	-				

Comments:



Basement not to scale

crawl (poly) Bags of Lyme

Indoor Air Source Screen Form

Sample Room/Area	Sample Location	Sample ID	Instrument Reading	Units	Volatile Ingredients in Consumer Products Identified Near Sample
- C105	- SINK		0.204		cleaning supply, HS
- C105	- NORTH		0.191		
- C88 PLAN ROOM	-		0.224		(HS) simple green, purple
- C106	- NORTH		0.208		
- C106	- MAIN		0.194		
- C106	- SINK		0.192		
- C96Z	- CORRIDOR		0.198		(HS)
- AUDITORIUM C96	-		0.192		(HS)
- Stage	-		0.192		
- C96E	- NORTH		0.187		
- C96E	- SOUTH		0.181		
- C96D	- ROOM		0.184		
- C96D	- SINK		0.196		
- C96D	- CLOSET		0.185		
- C96A	-		0.250		
- " "	-		0.247		Clorox wipes
- C90	- RR		0.187		
- C90	- FLOOR vent		0.151		
- C90A	- closet		0.265		CLEANING, DESCALER, BASEBOARD DE SOLVE
- C91 (science)	-		0.223		NEW CEILING, FLOOR, CASEWORK, etc white Board adhesi
- C89	-		0.260		
- C91	- SINK		0.263		
- C91	- SINK		0.257		
- C91	- Freshair intake		0.274		
- C92	-		0.205		
- C92	- FLOOR DRAIN		0.212		(HS)
- C94	-		0.170		Hydraulic oil
- C93	-		0.213		Hand sanitizer
- C95	-		0.174		
- C82B	-		0.166		
- C81A	-		0.166		

Comments: COURTYARD STORM DRAIN 0.141
AMBIENT COURTYAR 0.160 @ 10:49 AM

Indoor Air Source Screen Form

Sample Room/Area	Sample Location	Sample ID	Instrument Reading	Units	Volatile Ingredients in Consumer Products Identified Near Sample
- D70	-		0.280		(HS)
- D70	- SINK		0.350		Tempura Paint
- D70B	-		0.222		Hand soap
- D70A	-		0.209		
- D71F	-		0.350		(HS) Detergent, Gas stove
- D71F	- SINK		0.297		
- D71F	- WASHING MACHINE		0.241		
- D71D	-		0.254		
- D71E	- Restroom		0.258		Soap, COSMETICS Hairspray
- D71C	-		0.275		(HS)
- Hallway	- North		0.229		
- D71B	-		0.287		Soap, (HS)
- D71A	-		0.286		
- D71A	- FLOOR DRAIN		0.360		
- D73	-		0.344		
- D73	- SINK		0.298		
- D71	-		0.293		
- D74	-		0.279		
- D72	-		0.222		
- D72	- Sink		0.124		
- D72B	- Gas Water heater		0.181		
-	-				
-	-				
-	-				
-	-				
-	-				
-	-				
-	-				
-	-				
-	-				
-	-				

Comments: EXTERIOR D - 11:20AM 0.162 ppm

Building Survey Form

Type in or select answers from drop-down lists in the righthand column.
Upload answers to GeoTracker database for criteria marked with an asterisks (*).
See Table 1 in the *Guidance on Uploading Vapor Intrusion Information into GeoTracker* (Attachment 4 of Supplemental Vapor Intrusion Guidance) for a description of Building Design Type input choices.

Person Conducting Survey	Input
Name:	Eric Fraske
Company:	NV5
Phone Number:	562-544-3910
Email:	eric.fraske@nv5.com
Building Contact Information	**Input**
Name:	Matt Smith
Contact Title:	Manager
Phone Number:	424-581-5428
Email:	msmith@smmusd.org
Building Occupant Interviewed?	Yes
Building Information	**Input**
Date of Building Survey (dd/mm/yy):	07/06/2013
*Building Name:	McKinley Building A - Cafeteria
*Building Address (Street, City):	2401 Santa Monica Blvd, Santa Monica, CA
Coordinates for Center of Building (Latitude, Longitude; decimal degrees to 0.00000):	34.03194; 118.477325
*Building Location Onsite/Offsite with respect to Site/Facility:	Onsite
*Year Built (yyyy; approximate if unsure):	1951
*Building Occupants:	ensitive Use (e.g., Child Care or Medical Facilit
Building Dimensions	**Input**
*Building Footprint Area (within enclosed space; square feet [ft^2]):	4600
Building Dimensions (at grade; feet by feet):	65 x 70
*Ceiling Height of Ground Floor (feet, [ft]):	14
*Number of Floors (excluding the basement):	1
Building Design	**Input**
*Building Design Type:	School
Has the design been modified?	No
*Foundation Type:	Slab-on-Grade
*Building Vapor Intrusion Mitigation System:	None
*Heating, Ventilation, & Air Conditioning (HVAC) System:	Heating & Cooling

Building Survey Form

HVAC System has an Air Intake?	Yes
Type of Energy Used in Building?	Electricity
Energy Primarily Used For?	Other
Number of Units for Multi-Unit Buildings:	0
Number of Rooms (average per unit for multi-unit buildings):	9
Number of Exterior Doors:	5
Number of Elevators:	0
Number of Active Exhaust Fans (e.g., kitchen/bathroom):	2
Chimney or Other Vertical Draft Source?	No
Building Slab	**Input**
Slab Thickness (inches; approximate if unsure):	6
Largest Slab Penetration > 1 Foot Diameter:	None
Soil Type (USCS) 0 to 3 Feet Below Building:	Unknown
Evidence of Moisture Intrusion from Below Slab?	No
Diferential Pressure Measurement Points?	Unknown
Building Windows and Doors	**Input**
Number of Windows and Exterior Doors:	21
Weather Sealed Windows and Exterior Doors?	Some Sealed
Average Area of Window Open to Outside Air (ft^2):	5
Ventilation (e.g., windows, doors, garage doors) Under Typical Use Conditions	Minimal Open Windows or Doors
Building Crawl Space	**Input**
Crawl Space Height (ft):	NA
Number Crawl Space Vents:	NA
Average Area per Crawl Space Vent (Feet2):	NA
Evidence of moisture intrusion into Crawl Space from Soil?	N/A
Building Basement	**Input**
Basement Height (Feet):	NA
Basement Footprint Area (ft^2):	NA
Basement Wall Area Below Ground Surface (ft^2):	NA
Exposed Basement above grade?	N/A
Vents or Windows above-grade in exposed basement?	N/A
Unfinished Basement?	N/A
Evidence of moisture intrusion into Basement from Soil?	No

Building Survey Form

Factors Potentially Influencing Indoor Air Quality	Input
Is there an attached garage?	No
Is there smoking in the building?	No
Is there new carpet or furniture?	No
Have clothes or drapes been recently dry cleaned?	No
Has painting or staining been done with the last six months?	No
Has the building been recently remodeled?	No
Has the building ever had a fire?	Unknown
Is there a hobby or craft area in the building?	No
Are scented products (e.g. air fresheners, scented candles) regularly used inside?	No
Is there a chemical storage area at the building (e.g., solvent cleaners?	Yes
Is there a fuel oil tank on the property?	No
Is there a septic tank on the property?	No
Has the building been fumigated or sprayed for pests recently?	Unknown
Historically the building was primarily used for?	Other
Do current building occupants use solvents at another location (e.g., work, hobby)?	None
Meteorological Conditions	**Input**
Weather:	Clear
Outdoor Temperature - High (°F):	68
Outdoor Temperature - Low (°F):	64
Indoor Temperature (°F):	68
Barometric Pressure Reading (mmHg):	1.16
Wind Direction:	SW
Average Wind Speed (mph):	3
HVAC Setting for Current Season:	Cooling
Other Comments	
Building A - Cafeteria	

Building Survey Form

Type in or select answers from drop-down lists in the righthand column.
Upload answers to GeoTracker database for criteria marked with an asterisks (*).
See Table 1 in the *Guidance on Uploading Vapor Intrusion Information into GeoTracker* (Attachment 4 of Supplemental Vapor Intrusion Guidance) for a description of Building Design Type input choices.

Person Conducting Survey	Input
Name:	Eric Fraske
Company:	NV5
Phone Number:	562-544-3910
Email:	eric.fraske@nv5.com
Building Contact Information	**Input**
Name:	Matt Smith
Contact Title:	Manager
Phone Number:	424-581-5428
Email:	msmith@smmusd.org
Building Occupant Interviewed?	Yes
Building Information	**Input**
Date of Building Survey (dd/mm/yy):	07/06/2013
*Building Name:	McKinley Building B
*Building Address (Street, City):	2401 Santa Monica Blvd, Santa Monica, CA
Coordinates for Center of Building (Latitude, Longitude; decimal degrees to 0.00000):	34.032133; 118.477275
*Building Location Onsite/Offsite with respect to Site/Facility:	Onsite
*Year Built (yyyy; approximate if unsure):	1925
*Building Occupants:	ensitive Use (e.g., Child Care or Medical Facilit
Building Dimensions	**Input**
*Building Footprint Area (within enclosed space; square feet [ft^2]):	14000
Building Dimensions (at grade; feet by feet):	180 x 36
*Ceiling Height of Ground Floor (feet, [ft]):	14
*Number of Floors (excluding the basement):	2
Building Design	**Input**
*Building Design Type:	School
Has the design been modified?	No
*Foundation Type:	Partial Basement
*Building Vapor Intrusion Mitigation System:	None
*Heating, Ventilation, & Air Conditioning (HVAC) System:	Heating & Cooling

Building Survey Form

HVAC System has an Air Intake?	Yes
Type of Energy Used in Building?	Electricity
Energy Primarily Used For?	Other
Number of Units for Multi-Unit Buildings:	0
Number of Rooms (average per unit for multi-unit buildings):	10
Number of Exterior Doors:	14
Number of Elevators:	0
Number of Active Exhaust Fans (e.g., kitchen/bathroom):	0
Chimney or Other Vertical Draft Source?	No
Building Slab	**Input**
Slab Thickness (inches; approximate if unsure):	6
Largest Slab Penetration > 1 Foot Diameter:	None
Soil Type (USCS) 0 to 3 Feet Below Building:	Unknown
Evidence of Moisture Intrusion from Below Slab?	No
Diferential Pressure Measurement Points?	Unknown
Building Windows and Doors	**Input**
Number of Windows and Exterior Doors:	88
Weather Sealed Windows and Exterior Doors?	Some Sealed
Average Area of Window Open to Outside Air (ft^2):	2
Ventilation (e.g., windows, doors, garage doors) Under Typical Use Conditions	Minimal Open Windows or Doors
Building Crawl Space	**Input**
Crawl Space Height (ft):	3
Number Crawl Space Vents:	14
Average Area per Crawl Space Vent (Feet2):	3
Evidence of moisture intrusion into Crawl Space from Soil?	No
Building Basement	**Input**
Basement Height (Feet):	8
Basement Footprint Area (ft^2):	1500
Basement Wall Area Below Ground Surface (ft^2):	1200
Exposed Basement above grade?	Yes
Vents or Windows above-grade in exposed basement?	Yes
Unfinished Basement?	No
Evidence of moisture intrusion into Basement from Soil?	No

Building Survey Form

Factors Potentially Influencing Indoor Air Quality	Input
Is there an attached garage?	No
Is there smoking in the building?	No
Is there new carpet or furniture?	No
Have clothes or drapes been recently dry cleaned?	No
Has painting or staining been done with the last six months?	No
Has the building been recently remodeled?	No
Has the building ever had a fire?	Unknown
Is there a hobby or craft area in the building?	Yes
Are scented products (e.g. air fresheners, scented candles) regularly used inside?	No
Is there a chemical storage area at the building (e.g., solvent cleaners?	Yes
Is there a fuel oil tank on the property?	No
Is there a septic tank on the property?	No
Has the building been fumigated or sprayed for pests recently?	Unknown
Historically the building was primarily used for?	Other
Do current building occupants use solvents at another location (e.g., work, hobby)?	Painting/Finishing

Meteorological Conditions	Input
Weather:	Clear
Outdoor Temperature - High (°F):	68
Outdoor Temperature - Low (°F):	64
Indoor Temperature (°F):	68
Barometric Pressure Reading (mmHg):	1.16
Wind Direction:	SW
Average Wind Speed (mph):	3
HVAC Setting for Current Season:	Cooling

Other Comments
Building B - Classrooms

Building Survey Form

Type in or select answers from drop-down lists in the righthand column.
Upload answers to GeoTracker database for criteria marked with an asterisks (*).
See Table 1 in the *Guidance on Uploading Vapor Intrusion Information into GeoTracker* (Attachment 4 of Supplemental Vapor Intrusion Guidance) for a description of Building Design Type input choices.

Person Conducting Survey	Input
Name:	Eric Fraske
Company:	NV5
Phone Number:	562-544-3910
Email:	eric.fraske@nv5.com
Building Contact Information	**Input**
Name:	Matt Smith
Contact Title:	Manager
Phone Number:	424-581-5428
Email:	msmith@smmusd.org
Building Occupant Interviewed?	Yes
Building Information	**Input**
Date of Building Survey (dd/mm/yy):	07/06/2013
*Building Name:	McKinley Building C
*Building Address (Street, City):	2401 Santa Monica Blvd, Santa Monica, CA
Coordinates for Center of Building (Latitude, Longitude; decimal degrees to 0.00000):	34.032133; 118.477275
*Building Location Onsite/Offsite with respect to Site/Facility:	Onsite
*Year Built (yyyy; approximate if unsure):	1925
*Building Occupants:	ensitive Use (e.g., Child Care or Medical Facilit
Building Dimensions	**Input**
*Building Footprint Area (within enclosed space; square feet [ft^2]):	25000
Building Dimensions (at grade; feet by feet):	340 x 40
*Ceiling Height of Ground Floor (feet, [ft]):	14
*Number of Floors (excluding the basement):	2
Building Design	**Input**
*Building Design Type:	School
Has the design been modified?	No
*Foundation Type:	Partial Basement
*Building Vapor Intrusion Mitigation System:	None
*Heating, Ventilation, & Air Conditioning (HVAC) System:	Heating & Cooling

Building Survey Form

HVAC System has an Air Intake?	Yes
Type of Energy Used in Building?	Electricity
Energy Primarily Used For?	Other
Number of Units for Multi-Unit Buildings:	0
Number of Rooms (average per unit for multi-unit buildings):	42
Number of Exterior Doors:	47
Number of Elevators:	1
Number of Active Exhaust Fans (e.g., kitchen/bathroom):	0
Chimney or Other Vertical Draft Source?	Yes
Building Slab	**Input**
Slab Thickness (inches; approximate if unsure):	6
Largest Slab Penetration > 1 Foot Diameter:	None
Soil Type (USCS) 0 to 3 Feet Below Building:	Unknown
Evidence of Moisture Intrusion from Below Slab?	No
Diferential Pressure Measurement Points?	Unknown
Building Windows and Doors	**Input**
Number of Windows and Exterior Doors:	152
Weather Sealed Windows and Exterior Doors?	Some Sealed
Average Area of Window Open to Outside Air (ft^2):	2
Ventilation (e.g., windows, doors, garage doors) Under Typical Use Conditions	Minimal Open Windows or Doors
Building Crawl Space	**Input**
Crawl Space Height (ft):	3
Number Crawl Space Vents:	22
Average Area per Crawl Space Vent (Feet2):	3
Evidence of moisture intrusion into Crawl Space from Soil?	No
Building Basement	**Input**
Basement Height (Feet):	8
Basement Footprint Area (ft^2):	1500
Basement Wall Area Below Ground Surface (ft^2):	1200
Exposed Basement above grade?	Yes
Vents or Windows above-grade in exposed basement?	Yes
Unfinished Basement?	Yes
Evidence of moisture intrusion into Basement from Soil?	No

Building Survey Form

Factors Potentially Influencing Indoor Air Quality	Input
Is there an attached garage?	No
Is there smoking in the building?	No
Is there new carpet or furniture?	Yes
Have clothes or drapes been recently dry cleaned?	No
Has painting or staining been done with the last six months?	Yes
Has the building been recently remodeled?	Yes
Has the building ever had a fire?	Unknown
Is there a hobby or craft area in the building?	Yes
Are scented products (e.g. air fresheners, scented candles) regularly used inside?	No
Is there a chemical storage area at the building (e.g., solvent cleaners?	Yes
Is there a fuel oil tank on the property?	No
Is there a septic tank on the property?	No
Has the building been fumigated or sprayed for pests recently?	Unknown
Historically the building was primarily used for?	Other
Do current building occupants use solvents at another location (e.g., work, hobby)?	Painting/Finishing

Meteorological Conditions	Input
Weather:	Clear
Outdoor Temperature - High (°F):	68
Outdoor Temperature - Low (°F):	64
Indoor Temperature (°F):	68
Barometric Pressure Reading (mmHg):	1.16
Wind Direction:	SW
Average Wind Speed (mph):	3
HVAC Setting for Current Season:	Cooling

Other Comments
Building C - Classrooms, Offices, Auditorium, and Library

Building Survey Form

Type in or select answers from drop-down lists in the righthand column.
Upload answers to GeoTracker database for criteria marked with an asterisks (*).
See Table 1 in the *Guidance on Uploading Vapor Intrusion Information into GeoTracker* (Attachment 4 of Supplemental Vapor Intrusion Guidance) for a description of Building Design Type input choices.

Person Conducting Survey	Input
Name:	Eric Fraske
Company:	NV5
Phone Number:	562-544-3910
Email:	eric.fraske@nv5.com
Building Contact Information	**Input**
Name:	Matt Smith
Contact Title:	Manager
Phone Number:	424-581-5428
Email:	msmith@smmusd.org
Building Occupant Interviewed?	Yes
Building Information	**Input**
Date of Building Survey (dd/mm/yy):	07/06/2013
*Building Name:	McKinley Building D - Pre-School
*Building Address (Street, City):	2401 Santa Monica Blvd, Santa Monica, CA
Coordinates for Center of Building (Latitude, Longitude; decimal degrees to 0.00000):	34.032161; 118.476419
*Building Location Onsite/Offsite with respect to Site/Facility:	Onsite
*Year Built (yyyy; approximate if unsure):	1977
*Building Occupants:	ensitive Use (e.g., Child Care or Medical Facilit
Building Dimensions	**Input**
*Building Footprint Area (within enclosed space; square feet [ft^2]):	5000
Building Dimensions (at grade; feet by feet):	70 x 75
*Ceiling Height of Ground Floor (feet, [ft]):	13
*Number of Floors (excluding the basement):	1
Building Design	**Input**
*Building Design Type:	School
Has the design been modified?	No
*Foundation Type:	Slab-on-Grade
*Building Vapor Intrusion Mitigation System:	None
*Heating, Ventilation, & Air Conditioning (HVAC) System:	Heating & Cooling

Building Survey Form

HVAC System has an Air Intake?	Yes
Type of Energy Used in Building?	Electricity
Energy Primarily Used For?	Other
Number of Units for Multi-Unit Buildings:	0
Number of Rooms (average per unit for multi-unit buildings):	10
Number of Exterior Doors:	8
Number of Elevators:	0
Number of Active Exhaust Fans (e.g., kitchen/bathroom):	2
Chimney or Other Vertical Draft Source?	No
Building Slab	**Input**
Slab Thickness (inches; approximate if unsure):	6
Largest Slab Penetration > 1 Foot Diameter:	None
Soil Type (USCS) 0 to 3 Feet Below Building:	Unknown
Evidence of Moisture Intrusion from Below Slab?	No
Diferential Pressure Measurement Points?	Unknown
Building Windows and Doors	**Input**
Number of Windows and Exterior Doors:	21
Weather Sealed Windows and Exterior Doors?	Some Sealed
Average Area of Window Open to Outside Air (ft^2):	0
Ventilation (e.g., windows, doors, garage doors) Under Typical Use Conditions	All Windows and Doors Closed
Building Crawl Space	**Input**
Crawl Space Height (ft):	NA
Number Crawl Space Vents:	NA
Average Area per Crawl Space Vent (Feet2):	NA
Evidence of moisture intrusion into Crawl Space from Soil?	N/A
Building Basement	**Input**
Basement Height (Feet):	NA
Basement Footprint Area (ft^2):	NA
Basement Wall Area Below Ground Surface (ft^2):	NA
Exposed Basement above grade?	N/A
Vents or Windows above-grade in exposed basement?	N/A
Unfinished Basement?	N/A
Evidence of moisture intrusion into Basement from Soil?	No

Building Survey Form

Factors Potentially Influencing Indoor Air Quality	Input
Is there an attached garage?	No
Is there smoking in the building?	No
Is there new carpet or furniture?	No
Have clothes or drapes been recently dry cleaned?	No
Has painting or staining been done with the last six months?	No
Has the building been recently remodeled?	No
Has the building ever had a fire?	Unknown
Is there a hobby or craft area in the building?	Yes
Are scented products (e.g. air fresheners, scented candles) regularly used inside?	No
Is there a chemical storage area at the building (e.g., solvent cleaners?	Yes
Is there a fuel oil tank on the property?	No
Is there a septic tank on the property?	No
Has the building been fumigated or sprayed for pests recently?	Unknown
Historically the building was primarily used for?	Other
Do current building occupants use solvents at another location (e.g., work, hobby)?	Painting/Finishing

Meteorological Conditions	Input
Weather:	Clear
Outdoor Temperature - High (°F):	68
Outdoor Temperature - Low (°F):	64
Indoor Temperature (°F):	68
Barometric Pressure Reading (mmHg):	1.16
Wind Direction:	SW
Average Wind Speed (mph):	3
HVAC Setting for Current Season:	Cooling

Other Comments
Building D - Preschool

Building Survey Form

Type in or select answers from drop-down lists in the righthand column.
Upload answers to GeoTracker database for criteria marked with an asterisks (*).
See Table 1 in the *Guidance on Uploading Vapor Intrusion Information into GeoTracker* (Attachment 4 of Supplemental Vapor Intrusion Guidance) for a description of Building Design Type input choices.

Person Conducting Survey	Input
Name:	Eric Fraske
Company:	NV5
Phone Number:	562-544-3910
Email:	eric.fraske@nv5.com
Building Contact Information	**Input**
Name:	Matt Smith
Contact Title:	Manager
Phone Number:	424-581-5428
Email:	msmith@smmusd.org
Building Occupant Interviewed?	Yes
Building Information	**Input**
Date of Building Survey (dd/mm/yy):	07/06/2013
*Building Name:	Portable Classroom Building B7
*Building Address (Street, City):	2401 Santa Monica Blvd, Santa Monica, CA
Coordinates for Center of Building (Latitude, Longitude; decimal degrees to 0.00000):	34.031872; 118.477914
*Building Location Onsite/Offsite with respect to Site/Facility:	Onsite
*Year Built (yyyy; approximate if unsure):	2005
*Building Occupants:	ensitive Use (e.g., Child Care or Medical Facilit
Building Dimensions	**Input**
*Building Footprint Area (within enclosed space; square feet [ft^2]):	1000
Building Dimensions (at grade; feet by feet):	44 x 22
*Ceiling Height of Ground Floor (feet, [ft]):	9
*Number of Floors (excluding the basement):	1
Building Design	**Input**
*Building Design Type:	School
Has the design been modified?	No
*Foundation Type:	Crawl Space
*Building Vapor Intrusion Mitigation System:	None
*Heating, Ventilation, & Air Conditioning (HVAC) System:	Heating & Cooling

Building Survey Form

HVAC System has an Air Intake?	Yes
Type of Energy Used in Building?	Electricity
Energy Primarily Used For?	Other
Number of Units for Multi-Unit Buildings:	0
Number of Rooms (average per unit for multi-unit buildings):	1
Number of Exterior Doors:	1
Number of Elevators:	0
Number of Active Exhaust Fans (e.g., kitchen/bathroom):	1
Chimney or Other Vertical Draft Source?	No
Building Slab	**Input**
Slab Thickness (inches; approximate if unsure):	6
Largest Slab Penetration > 1 Foot Diameter:	None
Soil Type (USCS) 0 to 3 Feet Below Building:	Unknown
Evidence of Moisture Intrusion from Below Slab?	No
Diferential Pressure Measurement Points?	Unknown
Building Windows and Doors	**Input**
Number of Windows and Exterior Doors:	5
Weather Sealed Windows and Exterior Doors?	Some Sealed
Average Area of Window Open to Outside Air (ft^2):	8
Ventilation (e.g., windows, doors, garage doors) Under Typical Use Conditions	Minimal Open Windows or Doors
Building Crawl Space	**Input**
Crawl Space Height (ft):	1
Number Crawl Space Vents:	18
Average Area per Crawl Space Vent (Feet2):	0.5
Evidence of moisture intrusion into Crawl Space from Soil?	N/A
Building Basement	**Input**
Basement Height (Feet):	NA
Basement Footprint Area (ft^2):	NA
Basement Wall Area Below Ground Surface (ft^2):	NA
Exposed Basement above grade?	N/A
Vents or Windows above-grade in exposed basement?	N/A
Unfinished Basement?	N/A
Evidence of moisture intrusion into Basement from Soil?	No

Building Survey Form

Factors Potentially Influencing Indoor Air Quality	Input
Is there an attached garage?	No
Is there smoking in the building?	No
Is there new carpet or furniture?	No
Have clothes or drapes been recently dry cleaned?	No
Has painting or staining been done with the last six months?	No
Has the building been recently remodeled?	No
Has the building ever had a fire?	Unknown
Is there a hobby or craft area in the building?	Yes
Are scented products (e.g. air fresheners, scented candles) regularly used inside?	No
Is there a chemical storage area at the building (e.g., solvent cleaners?	Yes
Is there a fuel oil tank on the property?	No
Is there a septic tank on the property?	No
Has the building been fumigated or sprayed for pests recently?	Unknown
Historically the building was primarily used for?	Other
Do current building occupants use solvents at another location (e.g., work, hobby)?	Painting/Finishing

Meteorological Conditions	Input
Weather:	Clear
Outdoor Temperature - High (°F):	68
Outdoor Temperature - Low (°F):	64
Indoor Temperature (°F):	68
Barometric Pressure Reading (mmHg):	1.16
Wind Direction:	SW
Average Wind Speed (mph):	3
HVAC Setting for Current Season:	Cooling

Other Comments
Portable Classroom Building B7 - Portable Classroom on Raised Foundation

Building Survey Form

Type in or select answers from drop-down lists in the righthand column.
Upload answers to GeoTracker database for criteria marked with an asterisks (*).
See Table 1 in the *Guidance on Uploading Vapor Intrusion Information into GeoTracker* (Attachment 4 of Supplemental Vapor Intrusion Guidance) for a description of Building Design Type input choices.

Person Conducting Survey	Input
Name:	Eric Fraske
Company:	NV5
Phone Number:	562-544-3910
Email:	eric.fraske@nv5.com
Building Contact Information	**Input**
Name:	Matt Smith
Contact Title:	Manager
Phone Number:	424-581-5428
Email:	msmith@smmusd.org
Building Occupant Interviewed?	Yes
Building Information	**Input**
Date of Building Survey (dd/mm/yy):	07/06/2013
*Building Name:	Modular Building B10
*Building Address (Street, City):	2401 Santa Monica Blvd, Santa Monica, CA
Coordinates for Center of Building (Latitude, Longitude; decimal degrees to 0.00000):	34.032375; 118.477233
*Building Location Onsite/Offsite with respect to Site/Facility:	Onsite
*Year Built (yyyy; approximate if unsure):	2002
*Building Occupants:	ensitive Use (e.g., Child Care or Medical Facilit
Building Dimensions	**Input**
*Building Footprint Area (within enclosed space; square feet [ft^2]):	2500
Building Dimensions (at grade; feet by feet):	50 x 50
*Ceiling Height of Ground Floor (feet, [ft]):	9
*Number of Floors (excluding the basement):	1
Building Design	**Input**
*Building Design Type:	School
Has the design been modified?	No
*Foundation Type:	Slab-on-Grade
*Building Vapor Intrusion Mitigation System:	None
*Heating, Ventilation, & Air Conditioning (HVAC) System:	Heating & Cooling

Building Survey Form

HVAC System has an Air Intake?	Yes
Type of Energy Used in Building?	Electricity
Energy Primarily Used For?	Other
Number of Units for Multi-Unit Buildings:	0
Number of Rooms (average per unit for multi-unit buildings):	2
Number of Exterior Doors:	2
Number of Elevators:	0
Number of Active Exhaust Fans (e.g., kitchen/bathroom):	2
Chimney or Other Vertical Draft Source?	No
Building Slab	**Input**
Slab Thickness (inches; approximate if unsure):	6
Largest Slab Penetration > 1 Foot Diameter:	None
Soil Type (USCS) 0 to 3 Feet Below Building:	Unknown
Evidence of Moisture Intrusion from Below Slab?	No
Diferential Pressure Measurement Points?	Unknown
Building Windows and Doors	**Input**
Number of Windows and Exterior Doors:	6
Weather Sealed Windows and Exterior Doors?	Some Sealed
Average Area of Window Open to Outside Air (ft^2):	8
Ventilation (e.g., windows, doors, garage doors) Under Typical Use Conditions	Most Windows and/or Doors Open
Building Crawl Space	**Input**
Crawl Space Height (ft):	1
Number Crawl Space Vents:	1
Average Area per Crawl Space Vent (Feet2):	4
Evidence of moisture intrusion into Crawl Space from Soil?	No
Building Basement	**Input**
Basement Height (Feet):	NA
Basement Footprint Area (ft^2):	NA
Basement Wall Area Below Ground Surface (ft^2):	NA
Exposed Basement above grade?	N/A
Vents or Windows above-grade in exposed basement?	N/A
Unfinished Basement?	N/A
Evidence of moisture intrusion into Basement from Soil?	No

Building Survey Form

Factors Potentially Influencing Indoor Air Quality	Input
Is there an attached garage?	No
Is there smoking in the building?	No
Is there new carpet or furniture?	No
Have clothes or drapes been recently dry cleaned?	No
Has painting or staining been done with the last six months?	No
Has the building been recently remodeled?	No
Has the building ever had a fire?	Unknown
Is there a hobby or craft area in the building?	Yes
Are scented products (e.g. air fresheners, scented candles) regularly used inside?	No
Is there a chemical storage area at the building (e.g., solvent cleaners?	Yes
Is there a fuel oil tank on the property?	No
Is there a septic tank on the property?	No
Has the building been fumigated or sprayed for pests recently?	Unknown
Historically the building was primarily used for?	Other
Do current building occupants use solvents at another location (e.g., work, hobby)?	Painting/Finishing

Meteorological Conditions	Input
Weather:	Clear
Outdoor Temperature - High (°F):	68
Outdoor Temperature - Low (°F):	64
Indoor Temperature (°F):	68
Barometric Pressure Reading (mmHg):	1.16
Wind Direction:	SW
Average Wind Speed (mph):	3
HVAC Setting for Current Season:	Cooling

Other Comments
Modular Building - Classroom B10

APPENDIX B

Air Sampling Field Logs and Photographs

NV5 ALTA ENVIRONMENTAL

Summa Canister Sampling Log	Date: 7/13/23	Page: ___1___ of ___5____
Summa Canister Size: 6 Liter	Project Name:	McKinley ES Indoor Air Sampling
NV5 Employees: EF, NS, RB	Project Number: SMSD-23-11646	
Laboratory: Air Technology Laboratories	Client:	Santa Monica Malibu Unified School District
Total Samples Submitted: 25	Site Address: 2401 Santa Monica Blvd, Santa Monica, CA	
Total Duplicates: 1		

Sample ID		Canister ID		Flow Control ID		Initial Vacuum		Initial Time		Sample Location
OA1		N4788		2017		-30"Hg		7:36		Faculty Parking Lot
Time:	9:38	11:45	1:31	3:15						Notes
Vacuum:	-24	-17	-12	-7						

Sample ID		Canister ID		Flow Control ID		Initial Vacuum		Initial Time		Sample Location
OA2		2418		2007		-28"Hg		7:43		North Playground
Time:	9:43	11:47	1:34	3:20						Notes
Vacuum:	-22	-15	-10	-4						

Sample ID		Canister ID		Flow Control ID		Initial Vacuum		Initial Time		Sample Location
OA3		N4791		2138		-30"Hg		7:50		Southwest Lawn
Time:	9:54	11:51	1:39	3:24						Notes
Vacuum:	-23	-16	-10	-4						

Sample ID		Canister ID		Flow Control ID		Initial Vacuum		Initial Time		Sample Location
OA4		3101		2102		-30"Hg		7:55		Southeast Playground
Time:	9:57	11:53	1:40	3:27						Notes
Vacuum:	-25	-20	-16	-11						

Sample ID		Canister ID		Flow Control ID		Initial Vacuum		Initial Time		Sample Location
IA1		N4134		2077		-30"Hg		8:04		Building D Room 71D
Time:	10:04	11:55	1:43	3:51						Notes
Vacuum:	-24	-17	-14	-5						

NV5 ALTA ENVIRONMENTAL

Summa Canister Sampling Log	Date: 7/13/23	Page: 2 of 5
Summa Canister Size: 6 Liter	Project Name:	McKinley ES Indoor Air Sampling
NV5 Employees: EF, NS, RB	Project Number: SMSD-23-11646	
Laboratory: Air Technology Laboratories	Client:	Santa Monica Malibu Unified School District
Total Samples Submitted: 25	Site Address: 2401 Santa Monica Blvd, Santa Monica, CA	
Total Duplicates: 1		

Sample ID		Canister ID		Flow Control ID		Initial Vacuum		Initial Time		Sample Location
IA2		1460		2011		-30"Hg		8:04		Building D Room 70
Time:	10:02	11:54	1:42	3:47						Notes
Vacuum:	-25	-18	-13	-6						

Sample ID		Canister ID		Flow Control ID		Initial Vacuum		Initial Time		Sample Location
IA3		3100		2056		-30"Hg		8:05		Building D Room 71
Time:	9:58	11:54	1:41	3:11						Notes
Vacuum:	-22	-15	-9	-5						

Sample ID		Canister ID		Flow Control ID		Initial Vacuum		Initial Time		Sample Location
IA3 DUP		N4755		2049		-29"Hg		8:05		Building D Room 71
Time:	9:58	11:54	1:41	3:11						Notes
Vacuum:	-23	-18	-12	-8						

Sample ID		Canister ID		Flow Control ID		Initial Vacuum		Initial Time		Sample Location
IA4		1340		2131		-30"Hg		8:15		Modular Building B10
Time:	9:40	1:46	1:32	3:34						Notes
Vacuum:	-25	-17	-12	-5						

Sample ID		Canister ID		Flow Control ID		Initial Vacuum		Initial Time		Sample Location
IA5		N4752		2086		-30"Hg		8:17		Portable Classroom B7
Time:	9:44	1:47	1:34	3:37						Notes
Vacuum:	-26	-19	-13	-6						

NV5 ALTA ENVIRONMENTAL

Summa Canister Sampling Log	Date: 7/13/23	Page: ___3___ of ___5____
Summa Canister Size: 6 Liter	Project Name:	McKinley ES Indoor Air Sampling
NV5 Employees: EF, NS, RB	Project Number: SMSD-23-11646	
Laboratory: Air Technology Laboratories	Client:	Santa Monica Malibu Unified School District
Total Samples Submitted: 25	Site Address: 2401 Santa Monica Blvd, Santa Monica, CA	
Total Duplicates: 1		

Sample ID		Canister ID		Flow Control ID		Initial Vacuum		Initial Time		Sample Location
IA6		N4754		2122		-30"Hg		8:21		Portable Classroom B2
Time:	9:50	11:50	1:37	3:42						Notes
Vacuum:	-25	-19	-13	-6						

Sample ID		Canister ID		Flow Control ID		Initial Vacuum		Initial Time		Sample Location
IA7		5478		2108		-30"Hg		8:20		Cafeteria
Time:	9:46	11:50	1:35	3:41						Notes
Vacuum:	-25	-18	-12	-6						

Sample ID		Canister ID		Flow Control ID		Initial Vacuum		Initial Time		Sample Location
IA8		3143		2129		-30"Hg		8:28		Building B Basement
Time:	10:22	12:02	1:48	3:53						Notes
Vacuum:	-25	-18	-8	-5						

Sample ID		Canister ID		Flow Control ID		Initial Vacuum		Initial Time		Sample Location
IA9		1472		2033		-30"Hg		8:30		Building B Room 109
Time:	10:23	12:03	1:49	3:54						Notes
Vacuum:	-25	-20	-15	-10						

Sample ID		Canister ID		Flow Control ID		Initial Vacuum		Initial Time		Sample Location
IA10		5413		2116		-30"Hg		8:31		Building B Room 107
Time:	10:25	12:03	1:49	3:55						Notes
Vacuum:	-24	-18	-12	-5						

NV5 ALTA ENVIRONMENTAL

Summa Canister Sampling Log	Date: 7/13/23	Page: ___4___ of ___5____
Summa Canister Size: 6 Liter	Project Name:	McKinley ES Indoor Air Sampling
NV5 Employees: EF, NS, RB	Project Number: SMSD-23-11646	
Laboratory: Air Technology Laboratories	Client:	Santa Monica Malibu Unified School District
Total Samples Submitted: 25	Site Address: 2401 Santa Monica Blvd, Santa Monica, CA	
Total Duplicates: 1		

Sample ID		Canister ID		Flow Control ID		Initial Vacuum		Initial Time		Sample Location
IA11		1430		2109		-30"Hg		8:33		Building B Room 207
Time:	10:27	12:05	1:51	3:57						Notes
Vacuum:	-25	-20	-15	-8						

Sample ID		Canister ID		Flow Control ID		Initial Vacuum		Initial Time		Sample Location
IA12		1444		2115		-30"Hg		8:38		Administration Office
Time:	9:36	11:33	1:28	4:07						Notes
Vacuum:	-28	-21	-14	-6						

Sample ID		Canister ID		Flow Control ID		Initial Vacuum		Initial Time		Sample Location
IA13		5472		2135		-30"Hg		8:42		Library
Time:	10:05	12:06	1:44	4:02						Notes
Vacuum:	-25	-15	-13	-5						

Sample ID		Canister ID		Flow Control ID		Initial Vacuum		Initial Time		Sample Location
IA14		3641		2040		-18"Hg		8:43		Building C Room 102
Time:	10:06	11:20	11:55	12:09	12:29	12:50				Notes
Vacuum:	-13	-9	-8	-7	-6	-5				

Sample ID		Canister ID		Flow Control ID		Initial Vacuum		Initial Time		Sample Location
IA15		3740		2126		-29"Hg		8:45		Building C Room 105
Time:	10:08	11:56	1:45	2:33						Notes
Vacuum:	-23	-15	-8	-5						

NV5 ALTA ENVIRONMENTAL

Summa Canister Sampling Log	Date: 7/13/23	Page: ___5___ of ___5____
Summa Canister Size: 6 Liter	Project Name:	McKinley ES Indoor Air Sampling
NV5 Employees: EF, NS, RB	Project Number: SMSD-23-11646	
Laboratory: Air Technology Laboratories	Client:	Santa Monica Malibu Unified School District
Total Samples Submitted: 25	Site Address: 2401 Santa Monica Blvd, Santa Monica, CA	
Total Duplicates: 1		

Sample ID		Canister ID		Flow Control ID		Initial Vacuum		Initial Time		Sample Location
IA16		5432		2036		-30"Hg		8:47		Auditorium
Time:	10:10	11:58	1:45	4:03						Notes
Vacuum:	-27	-19	-15	-8						

Sample ID		Canister ID		Flow Control ID		Initial Vacuum		Initial Time		Sample Location
IA17		3547		2035		-29"Hg		8:48		STEM Lab
Time:	10:12	11:59	1:46	4:05						Notes
Vacuum:	-25	-20	-15	-9						

Sample ID		Canister ID		Flow Control ID		Initial Vacuum		Initial Time		Sample Location
IA18		N4132		1940		-30"Hg		8:52		Building C Basement
Time:	10:15	12:00	1:55	4:12						Notes
Vacuum:	-25	-19	-12	-5						

Sample ID		Canister ID		Flow Control ID		Initial Vacuum		Initial Time		Sample Location
IA19		3681		2103		-29"Hg		8:54		Building C Room 202
Time:	10:16	12:09	1:56	4:14						Notes
Vacuum:	-26	-20	-15	-7						

Sample ID		Canister ID		Flow Control ID		Initial Vacuum		Initial Time		Sample Location
IA20		3621		2058		-30"Hg		9:01		Boys Restroom
Time:	10:19	12:01	1:54	4:09						Notes
Vacuum:	-28	-22	-15	-8						Building C NE Wing

Photo 1: Outdoor Air Sample Location OA1 – Parking Lot

Photo 2: Outdoor Air Sample Location OA2 – Northwestern Playground

Photo 3: Outdoor Air Sample Location OA3 – Southwestern Lawn Area

Photo 4: Outdoor Air Sample Location OA4 – Southeastern Playground

Photo 5: Indoor Air Sample Location IA1 – Building D Room 71

Photo 6: Indoor Air Sample Location IA2 – Building D Room 70

Photo 7: Indoor Air Sample Location IA3/IA3DUP – Building D Room 71

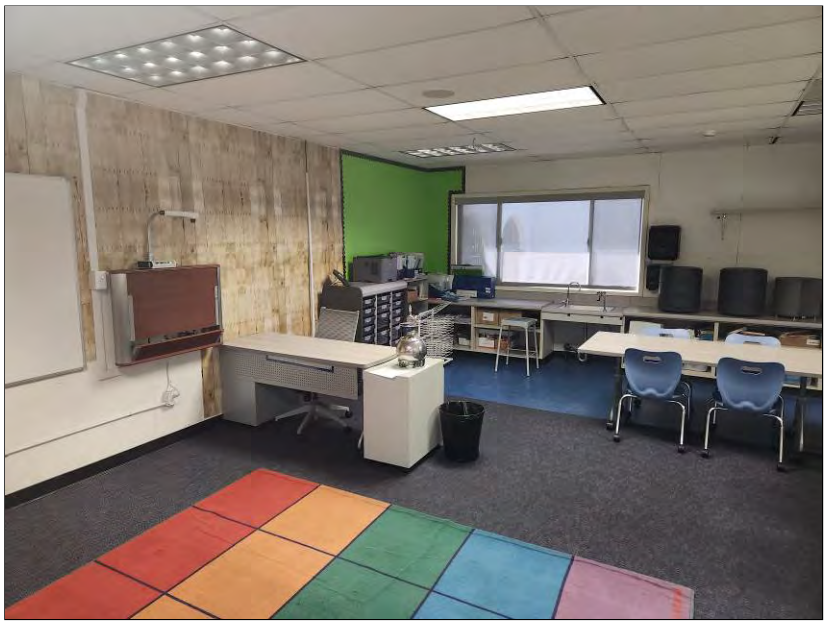


Photo 8: Indoor Air Sample Location IA4 – Modular Building Room B10

Photo 9: Indoor Air Sample Location IA5 – Portable Classroom Room B7

Photo 10: Indoor Air Sample Location IA6 – Portable Classroom Room B2

Photo 11: Indoor Air Sample Location IA7 – Building A/Cafeteria

Photo 12: Indoor Air Sample Location IA8 – Building B Basement

Photo 13: Indoor Air Sample Location IA9 – Building B Room 109

Photo 14: Indoor Air Sample Location IA10 – Building B Room 107

Photo 15: Indoor Air Sample Location IA11 – Building B Room 207

Photo 16: Indoor Air Sample Location IA12 – Administration Office

Photo 17: Indoor Air Sample Location IA13 - Library

Photo 18: Indoor Air Sample Location IA14 – Building C Room 102

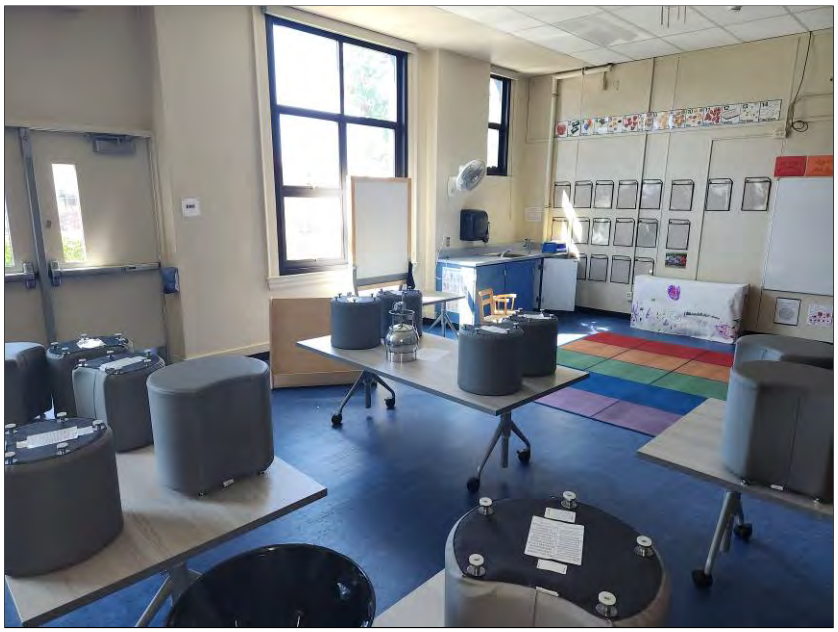


Photo 19: Indoor Air Sample Location IA15 – Building C Room 105

Photo 20: Indoor Air Sample Location IA16 - Auditorium

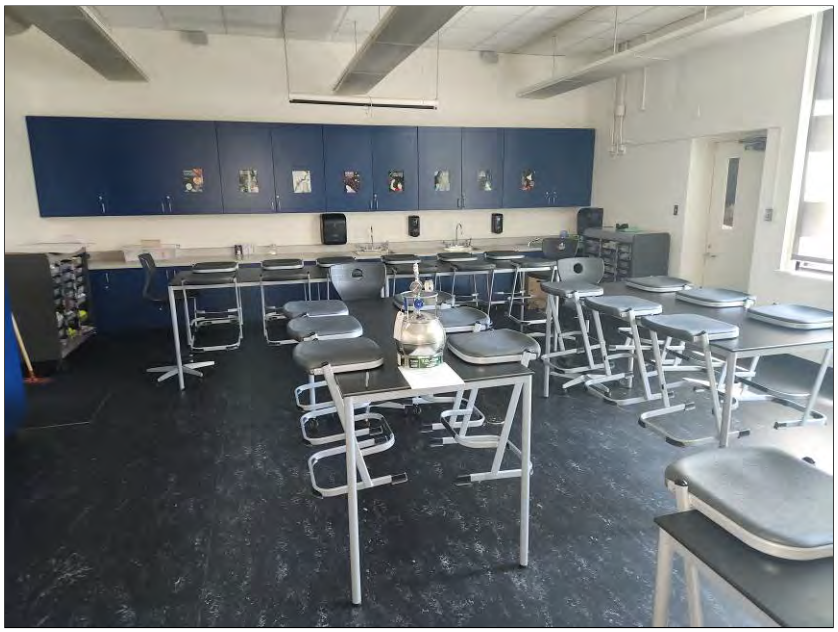


Photo 21: Indoor Air Sample Location IA17 – Computer Lab

Photo 22: Indoor Air Sample Location IA18 – Building C Basement

Photo 23: Indoor Air Sample Location IA19 – Building C Room 202

Photo 24: Indoor Air Sample Location IA20 – Building C Boys Bathroom

APPENDIX C

Laboratory Analytical Results

AirTECHNOLOGY
Laboratories, Inc.

July 20, 2023

LA Cert #04140
EPA Methods TO3, TO14A, TO15, 25C/3C, ASTM D1946, RSK-175

TX Cert T104704450-14-6
EPA Methods TO14A, TO15

UT Cert CA0133332015-3
EPA Methods TO3, TO14A, TO15, RSK-175

NV5
ATTN: Eric Fraske
3777 Long Beach Blvd., Annex Building
Long Beach, CA 90807

LABORATORY TEST RESULTS

Project Reference: McKinley Elementary School
Project Number: SMSD-23-11646
Lab Number: P071401-01/25

Enclosed are results for sample(s) received 7/14/23 by Air Technology Laboratories. Samples were received intact. Analyses were performed according to specifications on the chain of custody provided with the sample(s).

Report Narrative:

- Modifications to EPA Method TO15 SIM – Naphthalene required quadratic regression calibration.
- Unless otherwise noted in the report, sample analyses were performed within method performance criteria and meet all requirements of the TNI Standards.
- The enclosed results relate only to the sample(s).

Preliminary results were e-mailed to Eric Fraske on 7/19/23.

ATL appreciates the opportunity to provide testing services to your company. If you have any questions regarding these results, please call me at (626) 964-4032.

Sincerely,

Mark Johnson
Operations Manager
MJohnson@AirTechLabs.com

Note: The cover letter is an integral part of this analytical report.

AirTECHNOLOGY Laboratories, Inc.
18501 E. Gale Ave., Suite 130
City of Industry, CA 91748
Ph: 626-964-4032
Fx: 626-964-5832

CHAIN OF CUSTODY RECORD

TURNAROUND TIME		DELIVERABLES	PAGE: 1 OF 3
Standard ☐	48 hours ☐	EDD ■	Condition upon receipt:
Same Day ☐	72 hours ■	EDF ☐	Sealed Yes ☐ No ☐
24 hours ☐	96 hours ☐	Level 3 ☐	Intact Yes ☐ No ☐
Other:		Level 4 ☐	Chilled _____ deg C

Project No.:	SMSD-23-11646
Project Name:	McKinley Elementary School
Report To:	Eric Fraske
Company:	NV5
Street:	3777 Long Beach Blvd, Annex Building
City/State/Zip:	Long Beach, CA 90807
Phone& Fax:	562-544-3910
e-mail:	eric.fraske@nv5.com

BILLING

P.O. No.:	SMSD-23-11646
Bill to:	NV5
	3777 Long Beach Blvd, Annex
	Long Beach, CA 90807

ANALYSIS REQUEST

LAB USE ONLY	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME PM	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	VOCs by TO15 SIM + Napthalene					
P071401-01	OA1	7/13/2023	3:15	1 Can	Air	None	X					
-02	OA2	7/13/2023	3:20	1 Can	Air	None	X					
-03	OA3	7/13/2023	3:24	1 Can	Air	None	X					
-04	OA4	7/13/2023	3:27	1 Can	Air	None	X					
-05	IA1	7/13/2023	3:51	1 Can	Air	None	X					
-06	IA2	7/13/2023	3:47	1 Can	Air	None	X					
-07	IA3	7/13/2023	3:11	1 Can	Air	None	X					
-08	IA3DUP	7/13/2023	3:11	1 Can	Air	None	X					
-09	IA4	7/13/2023	3:34	1 Can	Air	None	X					
-10	IA5	7/13/2023	3:37	1 Can	Air	None	X					

AUTHORIZATION TO PERFORM WORK	COMPANY	DATE/TIME
ERIC FRASKE	NV5	7/13/23
SAMPLED BY	**COMPANY**	**DATE/TIME**
ERIC FRASKE, RUTA BANDZIULIS, NOAH STEVENS	NV5	7/13/23 4:14pm

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Noah Stevens	18:45 07/13/23		7/13/23 18:45

COMMENTS

METHOD OF TRANSPORT (circle one): Walk-In FedEx UPS Courier ATLI Other_____

DISTRIBUTION: White & Yellow - Lab Copies / Pink - Customer Copy

Preservation: **H**=HCl **N**=None / Container: **B**=Bag **C**=Can **V**=VOA **O**=Other *Rev. 03 - 5/7/09*

AirTECHNOLOGY Laboratories, Inc.
18501 E. Gale Ave., Suite 130
City of Industry, CA 91748
Ph: 626-964-4032
Fx: 626-964-5832

CHAIN OF CUSTODY RECORD

TURNAROUND TIME		DELIVERABLES	PAGE: 2 OF 3
Standard ☐	48 hours ☐	EDD ■	Condition upon receipt:
Same Day ☐	72 hours ■	EDF ☐	Sealed Yes ☐ No ☐
24 hours ☐	96 hours ☐	Level 3 ☐	Intact Yes ☐ No ☐
Other:		Level 4 ☐	Chilled _____ deg C

Project No.:	SMSD-23-11646
Project Name:	McKinley Elementary School
Report To:	Eric Fraske
Company:	NV5
Street:	3777 Long Beach Blvd, Annex Building
City/State/Zip:	Long Beach, CA 90807
Phone& Fax:	562-544-3910
e-mail:	eric.fraske@nv5.com

BILLING

P.O. No.: SMSD-23-11646
Bill to: NV5
3777 Long Beach Blvd, Annex
Long Beach, CA 90807

ANALYSIS REQUEST

LAB USE ONLY	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	VOCs by TO15 SIM + Napthalene					
P071401 -11	IA6	7/13/2023	3:42	1 Can	Air	None	X					
-12	IA7	7/13/2023	3:41	1 Can	Air	None	X					
-13	IA8	7/13/2023	3:53	1 Can	Air	None	X					
-14	IA9	7/13/2023	3:54	1 Can	Air	None	X					
-15	IA10	7/13/2023	3:55	1 Can	Air	None	X					
-16	IA11	7/13/2023	3:57	1 Can	Air	None	X					
-17	IA12	7/13/2023	4:07	1 Can	Air	None	X					
-18	IA13	7/13/2023	4:02	1 Can	Air	None	X					
-19	IA14	7/13/2023	12:50	1 Can	Air	None	X					
-20	IA15	7/13/2023	2:33	1 Can	Air	None	X					

AUTHORIZATION TO PERFORM WORK	COMPANY	DATE/TIME
ERIC FRASKE		7/13/23
SAMPLED BY	**COMPANY**	**DATE/TIME**
ERIC FRASKE, RUTA BANDZIULIS	NV5 NOAH STEVENS	7/13/23 4:14 pm

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Noah Stevens	18:45 07/13/23		7/13/23 18:45

METHOD OF TRANSPORT (circle one): Walk-In FedEx UPS Courier ATLI Other_____

COMMENTS

DISTRIBUTION: White & Yellow - Lab Copies / Pink - Customer Copy

Preservation: H=HCl N=None / Container: B=Bag C=Can V=VOA O=Other *Rev. 03 - 5/7/09*

AirTECHNOLOGY Laboratories, Inc.
18501 E. Gale Ave., Suite 130
City of Industry, CA 91748
Ph: 626-964-4032
Fx: 626-964-5832

CHAIN OF CUSTODY RECORD

TURNAROUND TIME		DELIVERABLES	PAGE: 3 OF 3
Standard ☐	48 hours ☐	EDD ■	Condition upon receipt:
Same Day ☐	72 hours ■	EDF ☐	Sealed Yes ☐ No ☐
24 hours ☐	96 hours ☐	Level 3 ☐	Intact Yes ☐ No ☐
Other:		Level 4 ☐	Chilled _____ deg C

Project No.:	SMSD-23-11646
Project Name:	McKinley Elementary School
Report To:	Eric Fraske
Company:	NV5
Street:	3777 Long Beach Blvd, Annex Building
City/State/Zip:	Long Beach, CA 90807
Phone& Fax:	562-544-3910
e-mail:	eric.fraske@nv5.com

BILLING

P.O. No.: SMSD-23-11646
Bill to: NV5
3777 Long Beach Blvd, Annex
Long Beach, CA 90807

ANALYSIS REQUEST

LAB USE ONLY	SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME PM	CONTAINER QTY/TYPE	MATRIX	PRESERVATION	VOCs by TO15 SIM + Napthalene					
P071401-21	IA16	7/13/2023	4:03	1 Can	Air	None	X					
-22	IA17	7/13/2023	4:05	1 Can	Air	None	X					
-23	IA18	7/13/2023	4:12	1 Can	Air	None	X					
-24	IA19	7/13/2023	4:14	1 Can	Air	None	X					
-25	IA20	7/13/2023	4:09	1 Can	Air	None	X					

AUTHORIZATION TO PERFORM WORK: ERIC FRASKE	COMPANY: NV5	DATE/TIME: 7/13/23	
SAMPLED BY: ERIC FRASKE, RUTA BANDZIULIS, NOAH STEVENS	COMPANY: NV5	DATE/TIME: 7/13/23 4:14pm	
RELINQUISHED BY: Noah Stevens	DATE/TIME: 18:45 07/13/23	RECEIVED BY:	DATE/TIME: 7/13/23 18:45
RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME

COMMENTS

METHOD OF TRANSPORT (circle one): Walk-In FedEx UPS Courier ATLI Other_____

DISTRIBUTION: White & Yellow - Lab Copies / Pink - Customer Copy

Preservation: **H**=HCl **N**=None / Container: **B**=Bag **C**=Can **V**=VOA **O**=Other *Rev. 03 - 5/7/09*

Client: NV5
Attn: Eric Fraske
Project Name: McKinley Elementary School
Project No.: SMSD-23-11646
Date Received: 07/13/23
Matrix: Air
Reporting Units: ug/m3

EPA Method TO15 SIM

Lab No.:	P071401-01			P071401-02			P071401-03			P071401-04		
Client Sample I.D.:	OA1			OA2			OA3			OA4		
Date/Time Sampled:	7/13/23 15:15			7/13/23 15:20			7/13/23 15:24			7/13/23 15:27		
Date/Time Analyzed:	7/17/23 13:27			7/17/23 14:08			7/17/23 14:48			7/17/23 16:40		
QC Batch No.:	230717MS2A1			230717MS2A1			230717MS2A1			230717MS2A1		
Analyst Initials:	VM			VM			VM			VM		
Dilution Factor:	1.0			1.0			1.0			1.0		
ANALYTE	Result ug/m3	RL ug/m3	MDL ug/m3	Result ug/m3	RL ug/m3	MDL ug/m3	Result ug/m3	RL ug/m3	MDL ug/m3	Result ug/m3	RL ug/m3	MDL ug/m3
Dichlorodifluoromethane (12)	2.0	0.049	0.00070	1.6	0.049	0.00070	2.1	0.049	0.00070	2.0	0.049	0.00070
Chloromethane	1.0	0.021	0.0055	0.89	0.021	0.0055	1.1	0.021	0.0055	1.1	0.021	0.0055
Vinyl Chloride	ND	0.013	0.0060	ND	0.013	0.0060	ND	0.013	0.0060	0.0072 J	0.013	0.0060
Chloroethane	0.035	0.026	0.0080	0.052	0.026	0.0080	0.085	0.026	0.0080	0.088	0.026	0.0080
Trichlorofluoromethane (11)	1.0	0.056	0.0013	0.78	0.056	0.0013	1.1	0.056	0.0013	1.0	0.056	0.0013
1,1,2-Cl 1,2,2-F ethane (113)	0.44	0.077	0.0023	0.36	0.077	0.0023	0.45	0.077	0.0023	0.43	0.077	0.0023
1,1-Dichloroethene	0.0030 J	0.020	0.0025	ND	0.020	0.0025	ND	0.020	0.0025	0.0031 J	0.020	0.0025
Methylene Chloride	0.29	0.035	0.0059	0.31	0.035	0.0059	0.32	0.035	0.0059	0.30	0.035	0.0059
t-1,2-Dichloroethene	0.0039 J	0.040	0.0029	ND	0.040	0.0029	0.0040 J	0.040	0.0029	0.0038 J	0.040	0.0029
1,1-Dichloroethane	ND	0.040	0.0076	ND	0.040	0.0076	ND	0.040	0.0076	ND	0.040	0.0076
c-1,2-Dichloroethene	ND	0.040	0.0033	ND	0.040	0.0033	ND	0.040	0.0033	ND	0.040	0.0033
Chloroform	0.11	0.049	0.0024	0.10	0.049	0.0024	0.11	0.049	0.0024	0.10	0.049	0.0024
1,1,1-Trichloroethane	0.0065 J	0.055	0.0064	0.0074 J	0.055	0.0064	0.0076 J	0.055	0.0064	0.0088 J	0.055	0.0064
Carbon Tetrachloride	0.45	0.063	0.0018	0.44	0.063	0.0018	0.46	0.063	0.0018	0.45	0.063	0.0018
Benzene	0.26	0.16	0.016	0.32	0.16	0.016	0.34	0.16	0.016	0.33	0.16	0.016
1,2-Dichloroethane	0.050	0.040	0.0033	0.049	0.040	0.0033	0.049	0.040	0.0033	0.051	0.040	0.0033
Trichloroethene	0.070	0.027	0.0030	0.091	0.027	0.0030	0.098	0.027	0.0030	0.079	0.027	0.0030
1,2-Dichloropropane	0.016 J	0.046	0.0098	0.010 J	0.046	0.0098	0.013 J	0.046	0.0098	0.011 J	0.046	0.0098
Bromodichloromethane	ND	0.067	0.0071	ND	0.067	0.0071	ND	0.067	0.0071	ND	0.067	0.0071
Toluene	0.52	0.075	0.014	0.28	0.075	0.014	0.68	0.075	0.014	0.66	0.075	0.014
t-1,3-Dichloropropene	ND	0.045	0.0059	ND	0.045	0.0059	ND	0.045	0.0059	0.0077 J	0.045	0.0059
1,1,2-Trichloroethane	ND	0.055	0.0022	ND	0.055	0.0022	ND	0.055	0.0022	ND	0.055	0.0022
Tetrachloroethene	0.017 J	0.068	0.0036	0.016 J	0.068	0.0036	0.016 J	0.068	0.0036	0.019 J	0.068	0.0036
1,2-Dibromoethane	ND	0.077	0.0017	ND	0.077	0.0017	ND	0.077	0.0017	ND	0.077	0.0017
Ethylbenzene	0.12	0.087	0.013	0.19	0.087	0.013	0.15	0.087	0.013	0.14	0.087	0.013
p,&m-Xylene	0.40	0.17	0.020	0.71	0.17	0.020	0.49	0.17	0.020	0.46	0.17	0.020
o-Xylene	0.16	0.087	0.021	0.24	0.087	0.021	0.18	0.087	0.021	0.18	0.087	0.021
Styrene	0.048 J	0.085	0.021	0.054 J	0.085	0.021	0.041 J	0.085	0.021	0.16	0.085	0.021
1,1,2,2-Tetrachloroethane	ND	0.069	0.0061	ND	0.069	0.0061	ND	0.069	0.0061	ND	0.069	0.0061
Naphthalene	0.14	0.052	0.010	0.090	0.052	0.010	0.14	0.052	0.010	1.1	0.052	0.010

MDL = Method Detection Limit
ND= Not Detected (below MDL)
RL = Reporting Limit
J = Trace amount. Analyte concentration between RL and MDL

Reviewed/Approved By: Operations Manager

Date 07-19-23

The cover letter is an integral part of this analytical report

Client: NV5
Attn: Eric Fraske
Project Name: McKinley Elementary School
Project No.: SMSD-23-11646
Date Received: 07/13/23
Matrix: Air
Reporting Units: ug/m3

EPA Method TO15 SIM

Lab No.:	P071401-05			P071401-06			P071401-07			P071401-08		
Client Sample I.D.:	IA1			IA2			IA3			IA3 DUP		
Date/Time Sampled:	7/13/23 15:51			7/13/23 15:47			7/13/23 15:11			7/13/23 15:11		
Date/Time Analyzed:	7/17/23 17:21			7/17/23 18:00			7/17/23 18:40			7/17/23 19:20		
QC Batch No.:	230717MS2A1			230717MS2A1			230717MS2A1			230717MS2A1		
Analyst Initials:	VM			VM			VM			VM		
Dilution Factor:	1.0			1.0			1.0			1.0		
ANALYTE	Result ug/m3	RL ug/m3	MDL ug/m3	Result ug/m3	RL ug/m3	MDL ug/m3	Result ug/m3	RL ug/m3	MDL ug/m3	Result ug/m3	RL ug/m3	MDL ug/m3
Dichlorodifluoromethane (12)	2.1	0.049	0.00070	2.1	0.049	0.00070	2.1	0.049	0.00070	2.1	0.049	0.00070
Chloromethane	1.1	0.021	0.0055	1.3	0.021	0.0055	1.2	0.021	0.0055	1.1	0.021	0.0055
Vinyl Chloride	0.0075 J	0.013	0.0060	ND	0.013	0.0060	ND	0.013	0.0060	ND	0.013	0.0060
Chloroethane	0.11	0.026	0.0080	0.13	0.026	0.0080	0.11	0.026	0.0080	0.099	0.026	0.0080
Trichlorofluoromethane (11)	1.0	0.056	0.0013	1.1	0.056	0.0013	1.1	0.056	0.0013	1.0	0.056	0.0013
1,1,2-Cl 1,2,2-F ethane (113)	0.43	0.077	0.0023	0.45	0.077	0.0023	0.45	0.077	0.0023	0.44	0.077	0.0023
1,1-Dichloroethene	ND	0.020	0.0025	ND	0.020	0.0025	ND	0.020	0.0025	ND	0.020	0.0025
Methylene Chloride	0.32	0.035	0.0059	0.31	0.035	0.0059	0.31	0.035	0.0059	0.31	0.035	0.0059
t-1,2-Dichloroethene	0.0038 J	0.040	0.0029	ND	0.040	0.0029	0.0041 J	0.040	0.0029	ND	0.040	0.0029
1,1-Dichloroethane	ND	0.040	0.0076	ND	0.040	0.0076	ND	0.040	0.0076	ND	0.040	0.0076
c-1,2-Dichloroethene	ND	0.040	0.0033	ND	0.040	0.0033	ND	0.040	0.0033	ND	0.040	0.0033
Chloroform	0.12	0.049	0.0024	0.10	0.049	0.0024	0.11	0.049	0.0024	0.12	0.049	0.0024
1,1,1-Trichloroethane	0.0085 J	0.055	0.0064	0.0089 J	0.055	0.0064	0.0079 J	0.055	0.0064	0.0072 J	0.055	0.0064
Carbon Tetrachloride	0.45	0.063	0.0018	0.47	0.063	0.0018	0.46	0.063	0.0018	0.46	0.063	0.0018
Benzene	0.29	0.16	0.016	0.30	0.16	0.016	0.32	0.16	0.016	0.31	0.16	0.016
1,2-Dichloroethane	0.097	0.040	0.0033	0.067	0.040	0.0033	0.073	0.040	0.0033	0.073	0.040	0.0033
Trichloroethene	0.067	0.027	0.0030	0.066	0.027	0.0030	0.090	0.027	0.0030	0.087	0.027	0.0030
1,2-Dichloropropane	0.021 J	0.046	0.0098	0.011 J	0.046	0.0098	0.013 J	0.046	0.0098	0.017 J	0.046	0.0098
Bromodichloromethane	0.012 J	0.067	0.0071	0.011 J	0.067	0.0071	ND	0.067	0.0071	0.0093 J	0.067	0.0071
Toluene	1.0	0.075	0.014	0.99	0.075	0.014	1.0	0.075	0.014	0.99	0.075	0.014
t-1,3-Dichloropropene	ND	0.045	0.0059	ND	0.045	0.0059	ND	0.045	0.0059	ND	0.045	0.0059
1,1,2-Trichloroethane	ND	0.055	0.0022	ND	0.055	0.0022	ND	0.055	0.0022	ND	0.055	0.0022
Tetrachloroethene	0.12	0.068	0.0036	0.100	0.068	0.0036	0.15	0.068	0.0036	0.15	0.068	0.0036
1,2-Dibromoethane	0.0030 J	0.077	0.0017	0.0045 J	0.077	0.0017	ND	0.077	0.0017	ND	0.077	0.0017
Ethylbenzene	0.20	0.087	0.013	0.19	0.087	0.013	0.19	0.087	0.013	0.20	0.087	0.013
p,&m-Xylene	0.63	0.17	0.020	0.62	0.17	0.020	0.65	0.17	0.020	0.64	0.17	0.020
o-Xylene	0.30	0.087	0.021	0.28	0.087	0.021	0.30	0.087	0.021	0.30	0.087	0.021
Styrene	0.18	0.085	0.021	0.18	0.085	0.021	0.24	0.085	0.021	0.16	0.085	0.021
1,1,2,2-Tetrachloroethane	ND	0.069	0.0061	ND	0.069	0.0061	ND	0.069	0.0061	ND	0.069	0.0061
Naphthalene	0.33	0.052	0.010	0.36	0.052	0.010	0.36	0.052	0.010	0.35	0.052	0.010

MDL = Method Detection Limit
ND= Not Detected (below MDL)
RL = Reporting Limit
J = Trace amount. Analyte concentration between RL and MDL

Reviewed/Approved By: Operations Manager

Date 07-19-23

The cover letter is an integral part of this analytical report

Client: NV5
Attn: Eric Fraske
Project Name: McKinley Elementary School
Project No.: SMSD-23-11646
Date Received: 07/13/23
Matrix: Air
Reporting Units: ug/m3

EPA Method TO15 SIM

Lab No.:	P071401-09			P071401-10			P071401-11			P071401-12		
Client Sample I.D.:	IA4			IA5			IA6			IA7		
Date/Time Sampled:	7/13/23 15:34			7/13/23 15:37			7/13/23 15:42			7/13/23 15:41		
Date/Time Analyzed:	7/17/23 20:00			7/17/23 20:40			7/17/23 21:19			7/17/23 22:02		
QC Batch No.:	230717MS2A1			230717MS2A1			230717MS2A1			230717MS2A1		
Analyst Initials:	VM			VM			VM			VM		
Dilution Factor:	1.0			1.0			1.0			1.0		
ANALYTE	Result ug/m3	RL ug/m3	MDL ug/m3	Result ug/m3	RL ug/m3	MDL ug/m3	Result ug/m3	RL ug/m3	MDL ug/m3	Result ug/m3	RL ug/m3	MDL ug/m3
Dichlorodifluoromethane (12)	2.0	0.049	0.00070	1.9	0.049	0.00070	1.9	0.049	0.00070	2.0	0.049	0.00070
Chloromethane	1.2	0.021	0.0055	1.1	0.021	0.0055	1.1	0.021	0.0055	1.1	0.021	0.0055
Vinyl Chloride	ND	0.013	0.0060	ND	0.013	0.0060	ND	0.013	0.0060	ND	0.013	0.0060
Chloroethane	0.050	0.026	0.0080	0.048	0.026	0.0080	0.088	0.026	0.0080	0.065	0.026	0.0080
Trichlorofluoromethane (11)	0.99	0.056	0.0013	0.96	0.056	0.0013	0.96	0.056	0.0013	0.98	0.056	0.0013
1,1,2-Cl 1,2,2-F ethane (113)	0.44	0.077	0.0023	0.43	0.077	0.0023	0.43	0.077	0.0023	0.43	0.077	0.0023
1,1-Dichloroethene	ND	0.020	0.0025	0.0025 J	0.020	0.0025	0.0029 J	0.020	0.0025	ND	0.020	0.0025
Methylene Chloride	0.42	0.035	0.0059	0.30	0.035	0.0059	0.29	0.035	0.0059	0.29	0.035	0.0059
t-1,2-Dichloroethene	0.0039 J	0.040	0.0029	0.0029 J	0.040	0.0029	0.0081 J	0.040	0.0029	ND	0.040	0.0029
1,1-Dichloroethane	ND	0.040	0.0076	ND	0.040	0.0076	ND	0.040	0.0076	ND	0.040	0.0076
c-1,2-Dichloroethene	ND	0.040	0.0033	ND	0.040	0.0033	0.0039 J	0.040	0.0033	ND	0.040	0.0033
Chloroform	0.10	0.049	0.0024	0.18	0.049	0.0024	0.12	0.049	0.0024	0.11	0.049	0.0024
1,1,1-Trichloroethane	0.0069 J	0.055	0.0064	0.0070 J	0.055	0.0064	0.0093 J	0.055	0.0064	0.0074 J	0.055	0.0064
Carbon Tetrachloride	0.45	0.063	0.0018	0.44	0.063	0.0018	0.44	0.063	0.0018	0.44	0.063	0.0018
Benzene	0.23	0.16	0.016	0.28	0.16	0.016	0.56	0.16	0.016	0.29	0.16	0.016
1,2-Dichloroethane	0.048	0.040	0.0033	0.055	0.040	0.0033	0.29	0.040	0.0033	0.049	0.040	0.0033
Trichloroethene	0.030	0.027	0.0030	0.085	0.027	0.0030	0.041	0.027	0.0030	0.084	0.027	0.0030
1,2-Dichloropropane	0.014 J	0.046	0.0098	0.014 J	0.046	0.0098	0.062	0.046	0.0098	0.011 J	0.046	0.0098
Bromodichloromethane	0.0094 J	0.067	0.0071	0.10	0.067	0.0071	0.013 J	0.067	0.0071	0.014 J	0.067	0.0071
Toluene	0.69	0.075	0.014	0.74	0.075	0.014	1.6	0.075	0.014	0.59	0.075	0.014
t-1,3-Dichloropropene	ND	0.045	0.0059	ND	0.045	0.0059	0.019 J	0.045	0.0059	0.0059 J	0.045	0.0059
1,1,2-Trichloroethane	ND	0.055	0.0022	ND	0.055	0.0022	ND	0.055	0.0022	ND	0.055	0.0022
Tetrachloroethene	0.018 J	0.068	0.0036	0.024 J	0.068	0.0036	0.031 J	0.068	0.0036	0.018 J	0.068	0.0036
1,2-Dibromoethane	0.0048 J	0.077	0.0017	0.0023 J	0.077	0.0017	0.016 J	0.077	0.0017	ND	0.077	0.0017
Ethylbenzene	0.23	0.087	0.013	0.30	0.087	0.013	0.25	0.087	0.013	0.17	0.087	0.013
p,&m-Xylene	0.76	0.17	0.020	0.60	0.17	0.020	0.60	0.17	0.020	0.57	0.17	0.020
o-Xylene	0.28	0.087	0.021	0.22	0.087	0.021	0.25	0.087	0.021	0.21	0.087	0.021
Styrene	0.17	0.085	0.021	0.38	0.085	0.021	0.48	0.085	0.021	0.066 J	0.085	0.021
1,1,2,2-Tetrachloroethane	ND	0.069	0.0061	ND	0.069	0.0061	ND	0.069	0.0061	ND	0.069	0.0061
Naphthalene	0.15	0.052	0.010	0.23	0.052	0.010	0.39	0.052	0.010	0.27	0.052	0.010

MDL = Method Detection Limit
ND= Not Detected (below MDL)
RL = Reporting Limit
J = Trace amount. Analyte concentration between RL and MDL

Reviewed/Approved By: Operations Manager

Date 07-19-23

The cover letter is an integral part of this analytical report

AirTECHNOLOGY Laboratories, Inc.
18501 E. Gale Avenue, Suite 130 ♦ City of Industry, CA 91748 ♦ Ph: (626) 964-4032 ♦ Fx: (626) 964-5832

Client: NV5
Attn: Eric Fraske
Project Name: McKinley Elementary School
Project No.: SMSD-23-11646
Date Received: 07/13/23
Matrix: Air
Reporting Units: ug/m3

EPA Method TO15 SIM

Lab No.:	P071401-13			P071401-14			P071401-15			P071401-16		
Client Sample I.D.:	IA8			IA9			IA10			IA11		
Date/Time Sampled:	7/13/23 15:53			7/13/23 15:54			7/13/23 15:55			7/13/23 15:57		
Date/Time Analyzed:	7/17/23 22:43			7/17/23 23:24			7/18/23 0:03			7/18/23 0:46		
QC Batch No.:	230717MS2A1			230717MS2A1			230717MS2A1			230717MS2A1		
Analyst Initials:	VM			VM			VM			VM		
Dilution Factor:	1.0			1.0			1.0			1.0		
ANALYTE	Result ug/m3	RL ug/m3	MDL ug/m3	Result ug/m3	RL ug/m3	MDL ug/m3	Result ug/m3	RL ug/m3	MDL ug/m3	Result ug/m3	RL ug/m3	MDL ug/m3
Dichlorodifluoromethane (12)	2.0	0.049	0.00070	2.0	0.049	0.00070	2.0	0.049	0.00070	2.0	0.049	0.00070
Chloromethane	1.00	0.021	0.0055	1.2	0.021	0.0055	1.1	0.021	0.0055	1.1	0.021	0.0055
Vinyl Chloride	ND	0.013	0.0060	ND	0.013	0.0060	ND	0.013	0.0060	ND	0.013	0.0060
Chloroethane	0.041	0.026	0.0080	0.052	0.026	0.0080	0.042	0.026	0.0080	0.043	0.026	0.0080
Trichlorofluoromethane (11)	1.0	0.056	0.0013	0.98	0.056	0.0013	1.00	0.056	0.0013	0.99	0.056	0.0013
1,1,2-Cl 1,2,2-F ethane (113)	0.44	0.077	0.0023	0.44	0.077	0.0023	0.45	0.077	0.0023	0.44	0.077	0.0023
1,1-Dichloroethene	ND	0.020	0.0025	ND	0.020	0.0025	0.0046 J	0.020	0.0025	0.0032 J	0.020	0.0025
Methylene Chloride	0.28	0.035	0.0059	0.34	0.035	0.0059	0.36	0.035	0.0059	0.35	0.035	0.0059
t-1,2-Dichloroethene	0.0037 J	0.040	0.0029	ND	0.040	0.0029	0.0045 J	0.040	0.0029	0.0031 J	0.040	0.0029
1,1-Dichloroethane	ND	0.040	0.0076	ND	0.040	0.0076	ND	0.040	0.0076	ND	0.040	0.0076
c-1,2-Dichloroethene	ND	0.040	0.0033	ND	0.040	0.0033	ND	0.040	0.0033	ND	0.040	0.0033
Chloroform	0.11	0.049	0.0024	0.18	0.049	0.0024	0.17	0.049	0.0024	0.11	0.049	0.0024
1,1,1-Trichloroethane	0.0085 J	0.055	0.0064	0.076	0.055	0.0064	0.48	0.055	0.0064	0.21	0.055	0.0064
Carbon Tetrachloride	0.46	0.063	0.0018	0.45	0.063	0.0018	0.45	0.063	0.0018	0.45	0.063	0.0018
Benzene	0.27	0.16	0.016	0.27	0.16	0.016	0.29	0.16	0.016	0.32	0.16	0.016
1,2-Dichloroethane	0.076	0.040	0.0033	0.066	0.040	0.0033	0.054	0.040	0.0033	0.050	0.040	0.0033
Trichloroethene	0.075	0.027	0.0030	0.023 J	0.027	0.0030	0.043	0.027	0.0030	0.17	0.027	0.0030
1,2-Dichloropropane	0.014 J	0.046	0.0098	0.020 J	0.046	0.0098	0.019 J	0.046	0.0098	0.014 J	0.046	0.0098
Bromodichloromethane	0.0073 J	0.067	0.0071	0.0080 J	0.067	0.0071	ND	0.067	0.0071	0.0081 J	0.067	0.0071
Toluene	0.60	0.075	0.014	2.1	0.075	0.014	1.8	0.075	0.014	0.94	0.075	0.014
t-1,3-Dichloropropene	ND	0.045	0.0059	ND	0.045	0.0059	ND	0.045	0.0059	ND	0.045	0.0059
1,1,2-Trichloroethane	ND	0.055	0.0022	ND	0.055	0.0022	ND	0.055	0.0022	ND	0.055	0.0022
Tetrachloroethene	0.019 J	0.068	0.0036	0.022 J	0.068	0.0036	0.020 J	0.068	0.0036	0.023 J	0.068	0.0036
1,2-Dibromoethane	ND	0.077	0.0017	ND	0.077	0.0017	0.0050 J	0.077	0.0017	ND	0.077	0.0017
Ethylbenzene	0.16	0.087	0.013	0.26	0.087	0.013	0.32	0.087	0.013	0.19	0.087	0.013
p,&m-Xylene	0.53	0.17	0.020	0.78	0.17	0.020	1.0	0.17	0.020	0.62	0.17	0.020
o-Xylene	0.23	0.087	0.021	0.31	0.087	0.021	0.38	0.087	0.021	0.22	0.087	0.021
Styrene	0.23	0.085	0.021	0.37	0.085	0.021	0.30	0.085	0.021	0.16	0.085	0.021
1,1,2,2-Tetrachloroethane	ND	0.069	0.0061	ND	0.069	0.0061	ND	0.069	0.0061	ND	0.069	0.0061
Naphthalene	0.19	0.052	0.010	0.53	0.052	0.010	0.37	0.052	0.010	0.24	0.052	0.010

MDL = Method Detection Limit
ND= Not Detected (below MDL)
RL = Reporting Limit
J = Trace amount. Analyte concentration between RL and MDL

Reviewed/Approved By: Annika Sato Shyle
Operations Manager

Date 07-19-23

The cover letter is an integral part of this analytical report

Client: NV5
Attn: Eric Fraske
Project Name: McKinley Elementary School
Project No.: SMSD-23-11646
Date Received: 07/13/23
Matrix: Air
Reporting Units: ug/m3

EPA Method TO15 SIM

Lab No.:	P071401-17			P071401-18			P071401-19			P071401-20		
Client Sample I.D.:	IA12			IA13			IA14			IA15		
Date/Time Sampled:	7/13/23 16:07			7/13/23 16:02			7/13/23 12:50			7/13/23 14:33		
Date/Time Analyzed:	7/18/23 1:26			7/18/23 2:08			7/18/23 2:50			7/18/23 3:29		
QC Batch No.:	230717MS2A1			230717MS2A1			230717MS2A1			230717MS2A1		
Analyst Initials:	VM			VM			VM			VM		
Dilution Factor:	1.0			1.0			1.0			1.0		
ANALYTE	Result ug/m3	RL ug/m3	MDL ug/m3	Result ug/m3	RL ug/m3	MDL ug/m3	Result ug/m3	RL ug/m3	MDL ug/m3	Result ug/m3	RL ug/m3	MDL ug/m3
Dichlorodifluoromethane (12)	2.0	0.049	0.00070	1.9	0.049	0.00070	2.0	0.049	0.00070	2.0	0.049	0.00070
Chloromethane	1.1	0.021	0.0055	1.0	0.021	0.0055	1.0	0.021	0.0055	1.1	0.021	0.0055
Vinyl Chloride	ND	0.013	0.0060	ND	0.013	0.0060	ND	0.013	0.0060	ND	0.013	0.0060
Chloroethane	0.10	0.026	0.0080	0.067	0.026	0.0080	0.052	0.026	0.0080	0.074	0.026	0.0080
Trichlorofluoromethane (11)	0.99	0.056	0.0013	0.97	0.056	0.0013	0.99	0.056	0.0013	1.0	0.056	0.0013
1,1,2-Cl 1,2,2-F ethane (113)	0.44	0.077	0.0023	0.43	0.077	0.0023	0.43	0.077	0.0023	0.44	0.077	0.0023
1,1-Dichloroethene	0.0029 J	0.020	0.0025	ND	0.020	0.0025	ND	0.020	0.0025	ND	0.020	0.0025
Methylene Chloride	0.32	0.035	0.0059	0.28	0.035	0.0059	0.33	0.035	0.0059	0.31	0.035	0.0059
t-1,2-Dichloroethene	ND	0.040	0.0029	0.0036 J	0.040	0.0029	0.0056 J	0.040	0.0029	0.0041 J	0.040	0.0029
1,1-Dichloroethane	ND	0.040	0.0076	ND	0.040	0.0076	ND	0.040	0.0076	ND	0.040	0.0076
c-1,2-Dichloroethene	ND	0.040	0.0033	ND	0.040	0.0033	ND	0.040	0.0033	ND	0.040	0.0033
Chloroform	0.12	0.049	0.0024	0.11	0.049	0.0024	0.15	0.049	0.0024	0.14	0.049	0.0024
1,1,1-Trichloroethane	0.025 J	0.055	0.0064	0.0075 J	0.055	0.0064	0.064	0.055	0.0064	0.067	0.055	0.0064
Carbon Tetrachloride	0.45	0.063	0.0018	0.44	0.063	0.0018	0.44	0.063	0.0018	0.45	0.063	0.0018
Benzene	0.29	0.16	0.016	0.30	0.16	0.016	1.2	0.16	0.016	0.33	0.16	0.016
1,2-Dichloroethane	0.078	0.040	0.0033	0.047	0.040	0.0033	0.067	0.040	0.0033	0.064	0.040	0.0033
Trichloroethene	0.078	0.027	0.0030	0.059	0.027	0.0030	0.071	0.027	0.0030	0.090	0.027	0.0030
1,2-Dichloropropane	0.016 J	0.046	0.0098	ND	0.046	0.0098	0.018 J	0.046	0.0098	0.038 J	0.046	0.0098
Bromodichloromethane	ND	0.067	0.0071	0.0094 J	0.067	0.0071	0.015 J	0.067	0.0071	ND	0.067	0.0071
Toluene	0.86	0.075	0.014	0.70	0.075	0.014	3.0	0.075	0.014	0.91	0.075	0.014
t-1,3-Dichloropropene	ND	0.045	0.0059	ND	0.045	0.0059	ND	0.045	0.0059	ND	0.045	0.0059
1,1,2-Trichloroethane	ND	0.055	0.0022	ND	0.055	0.0022	ND	0.055	0.0022	ND	0.055	0.0022
Tetrachloroethene	0.028 J	0.068	0.0036	0.055 J	0.068	0.0036	0.035 J	0.068	0.0036	0.034 J	0.068	0.0036
1,2-Dibromoethane	0.0046 J	0.077	0.0017	ND	0.077	0.0017	ND	0.077	0.0017	ND	0.077	0.0017
Ethylbenzene	0.21	0.087	0.013	0.14	0.087	0.013	0.35	0.087	0.013	0.33	0.087	0.013
p,&m-Xylene	0.55	0.17	0.020	0.44	0.17	0.020	1.1	0.17	0.020	1.0	0.17	0.020
o-Xylene	0.21	0.087	0.021	0.16	0.087	0.021	0.38	0.087	0.021	0.37	0.087	0.021
Styrene	0.16	0.085	0.021	0.20	0.085	0.021	0.26	0.085	0.021	0.16	0.085	0.021
1,1,2,2-Tetrachloroethane	ND	0.069	0.0061	ND	0.069	0.0061	ND	0.069	0.0061	ND	0.069	0.0061
Naphthalene	0.17	0.052	0.010	0.24	0.052	0.010	0.28	0.052	0.010	0.21	0.052	0.010

MDL = Method Detection Limit
ND= Not Detected (below MDL)
RL = Reporting Limit
J = Trace amount. Analyte concentration between RL and MDL

Reviewed/Approved By: Annika Sotelo
Operations Manager

Date 07-19-23

The cover letter is an integral part of this analytical report

Client: NV5
Attn: Eric Fraske
Project Name: McKinley Elementary School
Project No.: SMSD-23-11646
Date Received: 07/13/23
Matrix: Air
Reporting Units: ug/m3

EPA Method TO15 SIM

Lab No.:	P071401-21			P071401-22			P071401-23			P071401-24		
Client Sample I.D.:	IA16			IA17			IA18			IA19		
Date/Time Sampled:	7/13/23 16:03			7/13/23 16:05			7/13/23 16:12			7/13/23 16:14		
Date/Time Analyzed:	7/18/23 16:17			7/18/23 16:58			7/18/23 17:50			7/18/23 18:31		
QC Batch No.:	230718MS2A1			230718MS2A1			230718MS2A1			230718MS2A1		
Analyst Initials:	VM			VM			VM			VM		
Dilution Factor:	1.0			1.0			1.0			1.0		
ANALYTE	Result ug/m3	RL ug/m3	MDL ug/m3	Result ug/m3	RL ug/m3	MDL ug/m3	Result ug/m3	RL ug/m3	MDL ug/m3	Result ug/m3	RL ug/m3	MDL ug/m3
Dichlorodifluoromethane (12)	2.0	0.049	0.00070	2.0	0.049	0.00070	2.0	0.049	0.00070	2.0	0.049	0.00070
Chloromethane	1.1	0.021	0.0055	1.1	0.021	0.0055	1.0	0.021	0.0055	1.2	0.021	0.0055
Vinyl Chloride	ND	0.013	0.0060	ND	0.013	0.0060	ND	0.013	0.0060	ND	0.013	0.0060
Chloroethane	0.063	0.026	0.0080	0.068	0.026	0.0080	0.059	0.026	0.0080	0.078	0.026	0.0080
Trichlorofluoromethane (11)	1.00	0.056	0.0013	1.0	0.056	0.0013	1.0	0.056	0.0013	0.98	0.056	0.0013
1,1,2-Cl 1,2,2-F ethane (113)	0.44	0.077	0.0023	0.44	0.077	0.0023	0.44	0.077	0.0023	0.43	0.077	0.0023
1,1-Dichloroethene	ND	0.020	0.0025	ND	0.020	0.0025	ND	0.020	0.0025	ND	0.020	0.0025
Methylene Chloride	0.28	0.035	0.0059	0.30	0.035	0.0059	0.29	0.035	0.0059	0.31	0.035	0.0059
t-1,2-Dichloroethene	0.0047 J	0.040	0.0029	ND	0.040	0.0029	ND	0.040	0.0029	0.0029 J	0.040	0.0029
1,1-Dichloroethane	ND	0.040	0.0076	ND	0.040	0.0076	ND	0.040	0.0076	ND	0.040	0.0076
c-1,2-Dichloroethene	ND	0.040	0.0033	ND	0.040	0.0033	ND	0.040	0.0033	ND	0.040	0.0033
Chloroform	0.10	0.049	0.0024	0.21	0.049	0.0024	0.12	0.049	0.0024	0.11	0.049	0.0024
1,1,1-Trichloroethane	0.022 J	0.055	0.0064	0.015 J	0.055	0.0064	0.0075 J	0.055	0.0064	0.057	0.055	0.0064
Carbon Tetrachloride	0.45	0.063	0.0018	0.44	0.063	0.0018	0.45	0.063	0.0018	0.45	0.063	0.0018
Benzene	0.29	0.16	0.016	0.29	0.16	0.016	0.28	0.16	0.016	0.31	0.16	0.016
1,2-Dichloroethane	0.046	0.040	0.0033	0.063	0.040	0.0033	0.065	0.040	0.0033	0.055	0.040	0.0033
Trichloroethene	0.069	0.027	0.0030	0.059	0.027	0.0030	0.048	0.027	0.0030	0.095	0.027	0.0030
1,2-Dichloropropane	0.015 J	0.046	0.0098	0.021 J	0.046	0.0098	0.013 J	0.046	0.0098	0.012 J	0.046	0.0098
Bromodichloromethane	0.011 J	0.067	0.0071	ND	0.067	0.0071	0.011 J	0.067	0.0071	0.023 J	0.067	0.0071
Toluene	0.60	0.075	0.014	0.87	0.075	0.014	1.5	0.075	0.014	0.79	0.075	0.014
t-1,3-Dichloropropene	ND	0.045	0.0059	ND	0.045	0.0059	ND	0.045	0.0059	0.077	0.045	0.0059
1,1,2-Trichloroethane	ND	0.055	0.0022	ND	0.055	0.0022	ND	0.055	0.0022	ND	0.055	0.0022
Tetrachloroethene	0.017 J	0.068	0.0036	0.019 J	0.068	0.0036	0.018 J	0.068	0.0036	0.021 J	0.068	0.0036
1,2-Dibromoethane	ND	0.077	0.0017	ND	0.077	0.0017	0.0020 J	0.077	0.0017	ND	0.077	0.0017
Ethylbenzene	0.14	0.087	0.013	2.0	0.087	0.013	0.24	0.087	0.013	0.21	0.087	0.013
p,&m-Xylene	0.44	0.17	0.020	7.7	0.17	0.020	0.83	0.17	0.020	0.58	0.17	0.020
o-Xylene	0.16	0.087	0.021	1.9	0.087	0.021	0.26	0.087	0.021	0.25	0.087	0.021
Styrene	0.098	0.085	0.021	0.44	0.085	0.021	0.21	0.085	0.021	0.31	0.085	0.021
1,1,2,2-Tetrachloroethane	ND	0.069	0.0061	ND	0.069	0.0061	ND	0.069	0.0061	ND	0.069	0.0061
Naphthalene	0.24	0.052	0.010	0.20	0.052	0.010	0.16	0.052	0.010	0.22	0.052	0.010

MDL = Method Detection Limit
ND= Not Detected (below MDL)
RL = Reporting Limit
J = Trace amount. Analyte concentration between RL and MDL

Reviewed/Approved By: Annika Sohlo Sluyter
Operations Manager

Date 07-19-23

The cover letter is an integral part of this analytical report

Client: NV5
Attn: Eric Fraske
Project Name: McKinley Elementary School
Project No.: SMSD-23-11646
Date Received: 07/13/23
Matrix: Air
Reporting Units: ug/m3

EPA Method TO15 SIM

Lab No.:	P071401-25											
Client Sample I.D.:	IA20											
Date/Time Sampled:	7/13/23 16:09											
Date/Time Analyzed:	7/18/23 19:11											
QC Batch No.:	230718MS2A1											
Analyst Initials:	VM											
Dilution Factor:	1.0											
ANALYTE	Result ug/m3	RL ug/m3	MDL ug/m3									
Dichlorodifluoromethane (12)	2.0	0.049	0.00070									
Chloromethane	1.1	0.021	0.0055									
Vinyl Chloride	ND	0.013	0.0060									
Chloroethane	ND	0.026	0.0080									
Trichlorofluoromethane (11)	1.0	0.056	0.0013									
1,1,2-Cl 1,2,2-F ethane (113)	0.44	0.077	0.0023									
1,1-Dichloroethene	ND	0.020	0.0025									
Methylene Chloride	0.28	0.035	0.0059									
t-1,2-Dichloroethene	ND	0.040	0.0029									
1,1-Dichloroethane	ND	0.040	0.0076									
c-1,2-Dichloroethene	ND	0.040	0.0033									
Chloroform	0.095	0.049	0.0024									
1,1,1-Trichloroethane	0.0066 J	0.055	0.0064									
Carbon Tetrachloride	0.45	0.063	0.0018									
Benzene	0.26	0.16	0.016									
1,2-Dichloroethane	0.044	0.040	0.0033									
Trichloroethene	0.047	0.027	0.0030									
1,2-Dichloropropane	ND	0.046	0.0098									
Bromodichloromethane	0.0099 J	0.067	0.0071									
Toluene	0.50	0.075	0.014									
t-1,3-Dichloropropene	ND	0.045	0.0059									
1,1,2-Trichloroethane	ND	0.055	0.0022									
Tetrachloroethene	0.028 J	0.068	0.0036									
1,2-Dibromoethane	ND	0.077	0.0017									
Ethylbenzene	0.12	0.087	0.013									
p,&m-Xylene	0.39	0.17	0.020									
o-Xylene	0.16	0.087	0.021									
Styrene	0.054 J	0.085	0.021									
1,1,2,2-Tetrachloroethane	ND	0.069	0.0061									
Naphthalene	0.12	0.052	0.010									

MDL = Method Detection Limit
ND= Not Detected (below MDL)
RL = Reporting Limit
J = Trace amount. Analyte concentration between RL and MDL

Reviewed/Approved By: Annika Sotelo Gusfa
Operations Manager

Date 07-19-23

The cover letter is an integral part of this analytical report

Client: NV5
Attn: Eric Fraske
Project Name: McKinley Elementary School
Project No.: SMSD-23-11646
Date Received: 07/13/23
Matrix: Air
Reporting Units: ug/m3

EPA Method TO15 SIM

Lab No.:	METHOD BLANK			METHOD BLANK								
Client Sample I.D.:	--			--								
Date/Time Sampled:	--			--								
Date/Time Analyzed:	7/17/23 12:45			7/18/23 11:39								
QC Batch No.:	230717MS2A1			230718MS2A1								
Analyst Initials:	VM			VM								
Dilution Factor:	1.0			1.0								
ANALYTE	Result ug/m3	RL ug/m3	MDL ug/m3	Result ug/m3	RL ug/m3	MDL ug/m3						
Dichlorodifluoromethane (12)	0.0079 J	0.049	0.00070	0.0077 J	0.049	0.00070						
Chloromethane	0.016 J	0.021	0.0055	0.017 J	0.021	0.0055						
Vinyl Chloride	ND	0.013	0.0060	ND	0.013	0.0060						
Chloroethane	ND	0.026	0.0080	ND	0.026	0.0080						
Trichlorofluoromethane (11)	0.0047 J	0.056	0.0013	0.0045 J	0.056	0.0013						
1,1,2-Cl 1,2,2-F ethane (113)	ND	0.077	0.0023	ND	0.077	0.0023						
1,1-Dichloroethene	ND	0.020	0.0025	ND	0.020	0.0025						
Methylene Chloride	0.018 J	0.035	0.0059	0.016 J	0.035	0.0059						
t-1,2-Dichloroethene	ND	0.040	0.0029	ND	0.040	0.0029						
1,1-Dichloroethane	ND	0.040	0.0076	ND	0.040	0.0076						
c-1,2-Dichloroethene	ND	0.040	0.0033	ND	0.040	0.0033						
Chloroform	ND	0.049	0.0024	ND	0.049	0.0024						
1,1,1-Trichloroethane	ND	0.055	0.0064	ND	0.055	0.0064						
Carbon Tetrachloride	ND	0.063	0.0018	ND	0.063	0.0018						
Benzene	0.028 J	0.16	0.016	0.029 J	0.16	0.016						
1,2-Dichloroethane	ND	0.040	0.0033	ND	0.040	0.0033						
Trichloroethene	ND	0.027	0.0030	ND	0.027	0.0030						
1,2-Dichloropropane	ND	0.046	0.0098	ND	0.046	0.0098						
Bromodichloromethane	ND	0.067	0.0071	ND	0.067	0.0071						
Toluene	0.014 J	0.075	0.014	0.014 J	0.075	0.014						
t-1,3-Dichloropropene	ND	0.045	0.0059	ND	0.045	0.0059						
1,1,2-Trichloroethane	ND	0.055	0.0022	ND	0.055	0.0022						
Tetrachloroethene	ND	0.068	0.0036	ND	0.068	0.0036						
1,2-Dibromoethane	ND	0.077	0.0017	ND	0.077	0.0017						
Ethylbenzene	ND	0.087	0.013	ND	0.087	0.013						
p,&m-Xylene	ND	0.17	0.020	ND	0.17	0.020						
o-Xylene	ND	0.087	0.021	ND	0.087	0.021						
Styrene	ND	0.085	0.021	ND	0.085	0.021						
1,1,2,2-Tetrachloroethane	ND	0.069	0.0061	ND	0.069	0.0061						
Naphthalene	0.011 J	0.052	0.010	0.012 J	0.052	0.010						

MDL = Method Detection Limit
ND= Not Detected (below MDL)
RL = Reporting Limit
J = Trace amount. Analyte concentration between RL and MDL

Reviewed/Approved By: Annika Patel-Singh
Operations Manager

Date 07-19-23

The cover letter is an integral part of this analytical report

QC Batch No: 230717MS2A1
Matrix: Air
Reporting Units: ug/m3

EPA Method TO15 SIM
LABORATORY CONTROL SAMPLE SUMMARY

Lab No.:	METHOD BLANK				LCS		LCSD					
Date/Time Analyzed:	7/17/23 12:45				7/17/23 10:51		7/17/23 11:28					
Analyst Initials:	VM				VM		VM					
Dilution Factor:	1.0				1.0		1.0					
ANALYTE	**Result ug/m3**	**RL ug/m3**	**MDL ug/m3**	**SPIKE AMT. ug/m3**	**Result ug/m3**	**% Rec.**	**Result ug/m3**	**% Rec.**	**RPD**	**Low %Rec**	**High %Rec**	**Max. RPD**
Vinyl Chloride	ND	0.013	0.0021	1.28	1.39	109	1.41	110	1.2	70	130	30
1,1-Dichloroethene	ND	0.020	0.0024	1.98	1.92	97	1.91	96	0.7	70	130	30
1,1,1-Trichloroethane	ND	0.055	0.0053	2.73	3.07	112	3.05	112	0.6	70	130	30
Benzene	0.028 J	0.16	0.0083	1.60	1.44	90	1.44	90	0.3	70	130	30
Trichloroethene	ND	0.054	0.0026	2.69	2.59	97	2.54	94	2.3	70	130	30
Tetrachloroethene	ND	0.068	0.013	3.39	3.01	89	3.03	89	0.8	70	130	30

MDL = Method Detection Limit
ND= Not Detected (below MDL)
RL = Reporting Limit
J = Trace amount. Analyte concentration between RL and MDL

Reviewed/Approved By: Annika Sotto Sly Date: 07-19-23

The cover letter is an integral part of this analytical report

18501 E. Gale Avenue, Suite 130 ♦ City of Industry, CA 91748 ♦ Ph: (626) 964-4032 ♦ Fx: (626) 964-5832

QC Batch No: 230718MS2A1
Matrix: Air
Reporting Units: ug/m3

EPA Method TO15 SIM
LABORATORY CONTROL SAMPLE SUMMARY

Lab No.:	METHOD BLANK				LCS		LCSD					
Date/Time Analyzed:	7/18/23 11:39				7/18/23 5:15		7/18/23 5:51					
Analyst Initials:	VM				VM		VM					
Dilution Factor:	1.0				1.0		1.0					
ANALYTE	**Result ug/m3**	**RL ug/m3**	**MDL ug/m3**	**SPIKE AMT. ug/m3**	**Result ug/m3**	**% Rec.**	**Result ug/m3**	**% Rec.**	**RPD**	**Low %Rec**	**High %Rec**	**Max. RPD**
Vinyl Chloride	ND	0.013	0.0021	1.28	1.34	105	1.34	105	0.3	70	130	30
1,1-Dichloroethene	ND	0.020	0.0024	1.98	1.89	95	1.91	96	1.3	70	130	30
1,1,1-Trichloroethane	ND	0.055	0.0053	2.73	2.88	106	2.92	107	1.3	70	130	30
Benzene	0.029 J	0.16	0.0083	1.60	1.43	90	1.45	91	1.1	70	130	30
Trichloroethene	ND	0.054	0.0026	2.69	2.56	95	2.56	95	0.2	70	130	30
Tetrachloroethene	ND	0.068	0.013	3.39	3.07	90	3.10	91	1.0	70	130	30

MDL = Method Detection Limit
ND= Not Detected (below MDL)
RL = Reporting Limit
J = Trace amount. Analyte concentration between RL and MDL

Reviewed/Approved By: Annika Sotto-Shu Date: 07-19-23

The cover letter is an integral part of this analytical report

18501 E. Gale Avenue, Suite 130 ♦ City of Industry, CA 91748 ♦ Ph: (626) 964-4032 ♦ Fx: (626) 964-5832

APPENDIX D

Indoor Air Quality Assessment

Technical Memorandum

ENVIRO-TOX services, inc.

Date: August 3, 2023

To: Mr. Eric Fraske
Senior Engineer III
NV5
3777 Long Beach Boulevard, Annex Building
Long Beach, California 90807

Subject: ***Indoor Air Quality Assessment***
McKinley Elementary School
Santa Monica, California

At the request of NV5, Enviro-Tox Services Inc. (Enviro-Tox) conducted an Indoor Air Quality Assessment for the McKinley Elementary School located at 2401 Santa Monica Boulevard in Santa Monica, California (the Site).

Background

An environmental investigation conducted at the Site by NV5 (2023) revealed the presence of volatile organic compounds (VOCs) in soil gas under the school site. The most likely source of the VOCs identified in soil gas appears to be an unknown off-site source located to the northeast of the Site. The soil gas analytical data collected by NV5 (2023) are summarized in Table 1.

Following the discovery of VOCs in soil gas, Enviro-Tox (2023) conducted a Vapor Intrusion Risk Evaluation (VIRE) for the Site. Vapor intrusion occurs when VOCs from contaminated soil gas migrate upwards toward the ground surface and into overlying buildings through gaps and cracks in foundation slabs. The objective of the VIRE was to assess whether the presence of VOCs detected in soil gas under the Site could pose a potential health risk or hazard to onsite receptors. Screening-level emission estimation methods were used to predict potential indoor and outdoor air chemical concentrations that may result from the flux of chemical vapors potentially released from soil gas sources detected under the Site. The estimated flux and indoor or outdoor air concentrations were then used to evaluate potential health risks that may result from exposures that could occur at the Site. Results of the VIRE indicated that the concentrations of benzene, ethylbenzene, naphthalene, tetrachloroethene (PCE), and trichloroethene (TCE) exceeded screening risk levels considered acceptable by federal and/or state regulatory agencies and therefore could pose a health risk to onsite receptors if, in fact, vapor intrusion is occurring at the Site.

In an effort to assess whether VOCs could be impacting indoor air, the Santa Monica Unified School District (SMUSD) requested the collection and analysis of indoor and outdoor air samples. In response to SMUSD's request, NV5 collected indoor and outdoor air samples at the Site on July 13, 2023. Indoor and outdoor air quality analytical results are presented in Table 2.

It is not surprising to find VOCs in indoor and outdoor air in urban environments (Cal-EPA, 2023). Indoor air contamination resulting from consumer products, chemical usage, building materials, and outdoor sources are commonly referred to as "background" when assessing the potential for intrusion

of subsurface contaminant vapors into the indoor air of overlying buildings. Any indoor air sample collected for site-specific assessment of subsurface vapor intrusion is likely to detect chemicals from these other sources. In many cases, the compounds detected in indoor air may be the same as those present in soil gas that may enter the building through subsurface vapor intrusion. The presence of indoor and outdoor sources of VOCs can often make it challenging to assess the contribution of vapor intrusion to indoor air concentrations because it is often difficult to distinguish background from subsurface contaminant contributions.

The primary objective of this indoor air quality assessment is to determine whether subsurface VOCs are entering the indoor environment. According to the new Cal-EPA (2023) vapor intrusion guidance, indoor air sampling results should be interpreted considering multiple Lines of Evidence (LOEs). At a minimum, the vapor intrusion investigation should consider the following four LOEs related to soil gas and indoor air analytical results:

1. Selection of Chemicals of Potential Concern
2. Comparison of Constituent Ratios
3. Attenuation Factor Comparison
4. Comparison of Indoor and Outdoor Air Quality Results

The sections below describe the process followed to evaluate whether vapor intrusion is occurring at the Site, by assessing VOCs that could be attributed to indoor sources (such as vapor intrusion) from those attributed to "background" sources.

Vapor Intrusion Evaluation Using Multiple Lines of Evidence

Selection of Chemicals of Potential Concern

The Cal-EPA (2023) guidance specifically states that only the VOCs detected in soil gas should be considered to be chemicals of potential concern (COPCs) when evaluating vapor intrusion. The "risk drivers" identified in soil gas at the Site include benzene, ethylbenzene, naphthalene, PCE and TCE (Enviro-Tox, 2023). Following Cal-EPA (2023) guidance, only the five "risk drivers" are used as indicator chemicals to assess the potential vapor intrusion into onsite buildings.

Comparison of Constituent Ratios

Evaluating the ratio between concentrations of different chemicals in soil gas and indoor air may help to confirm that indoor air impacts are due to vapor intrusion. The relative ratios of VOC concentrations for many indoor and outdoor sources will be distinct from subsurface-derived VOC ratios. If the ratios of constituents in the indoor air are similar to the ratios observed in soil gas, it can be concluded that the two are linked and that confounding sources are not likely present (Cal-EPA, 2023).

The soil gas concentrations for the five "risk drivers" detected in soil gas are summarized in Table 3. The indoor air concentrations for the chlorinated "risk drivers" are presented in Table 4. The indoor air concentrations for the petroleum-derived "risk drivers" are presented in Table 5. For the chlorinated "risk drivers," PCE made up 100% of the chlorinated VOCs detected in soil gas (Table 3). However, in indoor air, PCE is only 35% of the PCE and TCE combination (Table 4). For petroleum-

derived "risk drivers," on average, the relative composition in soil gas was 62% ethylbenzene, 22% benzene, and 16% naphthalene (Table 3). However, in indoor air, the relative composition of the three VOCs was essentially distributed evenly, with 30% for each (Table 5). Since the data indicate that the chemical ratios observed in soil gas and indoor air are different, it can be concluded that there is likely no link between VOCs in soil gas and those found in indoor air.

Attenuation Factor Comparison

Vapor intrusion typically is driven by advection (Cal-EPA, 2023). Therefore, VOCs move at approximately the same rate from beneath the building into indoor air. Under these conditions, chemical-specific attenuation factors derived from indoor air and subsurface sampling data should be similar among the soil gas VOCs. If a chemical has a much larger attenuation factor than the other VOCs, it may indicate the presence of "background" sources of contamination.

Attenuation factors are estimated using the following equation:

$$AF = \frac{C_{indoor}}{C_{soil\ gas}}$$

Where:

AF	=	Attenuation factor (unitless)
C_{indoor}	=	Indoor air concentration (micrograms per cubic meter [ug/m^3])
$C_{soil\ gas}$	=	Soil gas concentration (ug/m^3)

The chemical-specific attenuation factors estimated for the Site are presented in Table 6. The estimated AFs range from 0.25 for ethylbenzene to 0.000098 for TCE (Table 6). Since the data indicate that the chemical-specific AFs are not similar for the "risk drivers," it can be concluded that there is likely no link between VOCs in soil gas and those found in indoor air.

Comparison of Indoor and Outdoor Air Quality Results

Outdoor air sampling results are used to evaluate whether detections in indoor air samples could be the result of VOCs present in ambient air. In general, vapor intrusion is not identified as the likely source of a chemical in indoor air unless indoor air VOC concentrations are greater than those found in outdoor ambient air samples (Cal-EPA, 2023).

The comparison of Indoor and Outdoor Air Quality Results was conducted using the Wilcoxon-Mann-Whitney statistical test (WMW; Singh and Maichele, 2015). The WMW test is a nonparametric test used for determining whether a difference exists between the Site and the background population distributions. The WMW test is used to assess whether or not measurements from one population consistently tend to be larger (or smaller) than those from the other population based upon the assumption that the dispersion of the two distributions are roughly the same. This test determines which distribution is higher by comparing the relative ranks of the two data sets when the data from both sources are sorted into a single list. It is assumed that any difference between the background and Site concentration distributions is due to a shift in location (mean, median) of the Site concentrations to higher values (due to the presence of contamination in addition to the background).

The WMW test was conducted using the ProUCL 5.00.02 software (Singh and Maichele, 2015). The methodologies employed follow United States Environmental Protection Agency (USEPA) and Cal-EPA risk assessment guidance.

The null (H0) and alternate hypothesis (HA) test results were presented as follows:

H0: the mean chemical concentration for the Site is less than or equal to the mean concentration in the background population.

HA: the mean chemical concentration for the Site is greater than the mean concentration in the background population.

Copies of ProUCL printouts for all chemicals tested are included in Attachment A.

Based on the results of the WMW test, a chemical having an indoor air concentration statistically higher ($p < 0.05$) than its outdoor concentration was considered to be due to a chemical release into the building's interior. All VOCs detected in indoor air were found to be at concentrations equal to or lower (i.e., not statistically significantly different) than the concentration of the same chemical reported for outdoor air (Attachment A).

Results and Conclusions

The chemicals detected in soil gas, indoor air, and outdoor air at the Site are known to be widely used as fuel components and solvents in many consumer and domestic products. Thus, it is possible that these chemicals were released to indoor air from the use of consumer products, fuels, lubricants, sealers, solvents and cleaning articles, and/or construction materials.

The objective of the indoor air sampling was to determine if vapor intrusion is occurring at the school site. According to Cal-EPA (2023) guidance, if vapor intrusion is occurring, we would expect that (1) the relative ratios of VOC concentrations in soil gas and indoor air would be similar, indicating a link between soil gas and indoor air; (2) chemical-specific attenuation factors derived from indoor air and subsurface sampling data would be similar, and (3) subsurface-derived VOCs would be found in indoor air at concentrations higher than outdoor air concentrations.

Comparison of the ratios of VOC concentrations in soil gas to indoor air shows that the relative ratios of "risk driver" chemicals in soil gas are different from those of indoor air. Therefore, there is no evidence of a link between VOCs in soil gas and those found in indoor air.

The chemical-specific attenuation factors estimated for "risk driver" chemicals at the Site range from 0.25 for ethylbenzene to 0.000098 for TCE (Table 6). Since the data indicate that the chemical-specific AFs are not similar, there is no evidence of a link between VOCs in soil gas and those found in indoor air.

In an effort to determine if there is a significant difference in the indoor and outdoor VOC concentrations, Enviro-Tox conducted a statistical comparison of indoor and outdoor VOC concentrations. According to the statistical analyses, there is no significant difference between the indoor and outdoor air quality data for the five "risk drivers." These results indicate that vapor

intrusion is either not occurring at the school site or, if occurring, it is occurring at a very slow rate and at a rate that does not affect the indoor air quality.

Based on this evaluation it can be concluded that VOCs detected in indoor air at the school site likely originated from "background" sources such as consumer products, construction materials and outdoor air. It can also be concluded that, while some VOCs detected in soil gas may also contribute to VOCs detected in indoor air, the contribution from soil gas is likely minimal and insignificant when compared to the contribution made by "background" sources.

Limitations

The conclusions and recommendations presented in this report are professional opinions based solely upon the data described in this report. They are intended exclusively for the purpose outlined herein and the property's location and project indicated. The scope of services performed in execution of this investigation may not be appropriate to satisfy the needs of users other than NV5. Any use or reuse of this document or the findings, conclusions, or recommendations presented herein is at the sole risk of said user.

Given that the scope of services for this investigation was limited, and that conditions may vary between the points explored, it is possible that currently unrecognized subsurface contamination might be present at the subject property. Should site use or conditions change, the information and conclusions in this report may no longer apply. Opinions relating to environmental and public health conditions are based on limited data and actual conditions may vary from those encountered at the times and locations where data were obtained. No express or implied representation or warranty is included or intended in this report except that the work was performed within the limits prescribed by the Client with the customary thoroughness and competence of professionals working in the same area on similar projects.

References

California Environmental Protection Agency (Cal-EPA), Department of Toxic Substances Control (DTSC). 2023. Supplemental Guidance: Screening and Evaluating Vapor Intrusion. Final Draft. February.

Enviro-Tox Services, Inc. 2023. Vapor Intrusion Risk Evaluation, McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. July 10.

NV5. 2023. Soil Vapor Investigation Report – McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, CA 90404.

Singh, A. and R. Maichle. 2015. "ProUCL Version 5.1, User Guide. Statistical Software for Environmental Applications for Data Sets with and without Nondetect Observations" Prepared for U.S. Environmental Protection Agency, Office of Research and Development. EPA/600/R-07/041.

Attachments

Table 1. Soil Vapor Sample Laboratory Analysis Summary

Table 2. Indoor Air and Outdoor Air Sampling Laboratory Analysis Summary

Table 3. Chemical Composition Ratios for "Risk Drivers" Detected in Soil Gas

Table 4. Chemical Composition Ratios for Chlorinated "Risk Drivers" Detected in Indoor Air

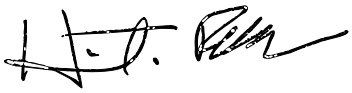
Table 5. Chemical Composition Ratios for Petroleum-Derived "Risk Drivers" Detected in Indoor Air

Table 6. Chemical-Specific Attenuation Factors for "Risk Drivers"

Attachment A – ProUCL Printout

This memorandum was prepared by:

Enviro-Tox Services, Inc.



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Heriberto Robles, Ph. D., D.A.B.T.
Principal Toxicologist

TABLES

Table 1

Soil Vapor Sample Laboratory Analysis Summary

McKinley Elementary School

2401 Santa Monica Boulevard, Santa Monica, California

Sample ID	Sample Depth (Feet Below Ground Surface)	Sample Date	VOCS EPA Method 8260 Results in ug/m^3																	
			1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Isopropyltoluene	Benzene	Ethylbenzene	Freon 12	Isopropyl benzene	m,p-Xylene	Methylene Chloride	Naphthalene	n-Butylbenzene	n-Propylbenzene	o-Xylene	sec-Butylbenzene	Styrene	Tetrachloroethene	Toluene	Trichloroethene
SV4-5V	5	6/10/2023	226	96	232	25	111	ND (<12)	27	461	ND (<8)	ND (<5)	ND (<4)	66	103	ND (<4)	ND (<6)	489	290	ND (<8)
SV4-15V	15	6/10/2023	ND (<6)	ND (<6)	ND (<5)	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	701	ND (<5)	ND (<8)
SV5-5V	5	6/10/2023	24	22	397	13	38	16J	ND (<7)	78	ND (<8)	8J	ND (<4)	ND (<5)	38	9J	ND (<6)	84	102	ND (<8)
SV5-15V	15	6/10/2023	ND (<6)	ND (<6)	ND (<5)	ND (<3)	7J	16	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	7J	ND (<4)	ND (<6)	291	ND (<5)	ND (<8)
SV6-5V	5	6/10/2023	12	10	231	ND (<3)	16	16	ND (<7)	32	ND (<8)	ND (<5)	8J	ND (<5)	16	7J	ND (<6)	167	24	ND (<8)
SV6-15V	15	6/10/2023	ND (<6)	ND (<6)	ND (<5)	ND (<3)	7J	ND (<21)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	7J	ND (<4)	ND (<6)	394	ND (<5)	ND (<8)
SV7-5V	5	6/10/2023	12	9	63	ND (<3)	12	16	ND (<7)	24	ND (<8)	ND (<5)	ND (<4)	ND (<5)	12	6J	ND (<6)	1,100	13	ND (<8)
SV7-5V REP	5	6/10/2023	12	10	69	ND (<3)	13	17	ND (<7)	26	ND (<8)	ND (<5)	ND (<4)	ND (<5)	13	7J	ND (<6)	1,530	15	ND (<8)
SV7-15V	15	6/10/2023	ND (<6)	ND (<6)	8	ND (<3)	7J	17	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	7J	ND (<4)	ND (<6)	2,360	ND (<5)	ND (<8)
SV8-5V	5	6/10/2023	ND (<6)	ND (<6)	2,480	13	9	ND (<12)	ND (<7)	35	ND (<8)	ND (<5)	ND (<4)	ND (<5)	10	ND (<4)	8J	467	261	ND (<8)
SV8-15V	15	6/10/2023	ND (<6)	ND (<6)	29	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	2,470	ND (<5)	ND (<8)
SV8-15V REP	15	6/11/2023	ND (<6)	ND (<6)	17	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	2,180	ND (<5)	ND (<8)
SV9-5V	5	6/10/2023	ND (<6)	ND (<6)	239	5J	14	17	ND (<7)	30	ND (<8)	ND (<5)	ND (<4)	ND (<5)	14	7J	ND (<6)	55	66	ND (<8)
SV9-15V	15	6/10/2023	8J	ND (<6)	21	ND (<3)	8J	16J	ND (<7)	14J	ND (<8)	7J	7J	ND (<5)	8J	7J	ND (<6)	254	24	ND (<8)
SV10-5V	5	6/10/2023	ND (<6)	ND (<6)	395	5J	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	68	198	ND (<8)
SV10-15V	15	6/10/2023	ND (<6)	ND (<6)	88	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	646	16	ND (<8)
SV11-5V	5	6/10/2023	ND (<6)	ND (<6)	366	6J	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	54	231	ND (<8)
SV11-15V	15	6/10/2023	ND (<6)	ND (<6)	ND (<5)	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	14J	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	926	11	31
SV12-5V	5	6/10/2023	ND (<6)	ND (<6)	15	ND (<3)	ND (<6)	ND (<12)	ND (<7)	16J	12J	14J	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	ND (<8)	93	ND (<8)
SV12-15V	15	6/10/2023	ND (<6)	ND (<6)	29	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	82	14	98
SV13-5V	5	6/10/2023	15	ND (<6)	301	14	49	ND (<12)	ND (<7)	201	ND (<8)	ND (<5)	ND (<4)	ND (<5)	69	ND (<4)	ND (<6)	222	153	ND (<8)
SV13-15V	15	6/10/2023	ND (<6)	ND (<6)	ND (<5)	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	2,600	10	ND (<8)

NOTES:

µg/m^3 = micrograms per cubic meter

ND (<MDL) = Not detected at or above the listed laboratory method detection limit (MDL)

REP = Replicate Sample

J = Concentration is below laboratory reporting limit (RL) but above MDL

Table 2

Indoor Air and Outdoor Air Sampling Laboratory Analysis Summary

McKinley Elementary School

2401 Santa Monica Boulevard, Santa Monica, California

Analyte	CAS Number	OA1	OA2	OA3	OA4	IA1	IA2	IA3	IA3 DUP	IA4	IA5	IA6	IA7	IA8	IA9	IA10
		Chelsea Parking Lot	Main Playground	Southwestern Lawn	Southeastern Playground	Building D Room 71D	Building D Room 70	Building D Room 71	Building D Room 71	Modular Building Room B10	Portable Classroom Building B7	Portable Classroom Building B2	Building A Cafeteria	Building B Basement	Building B Room 109	Building B Room 107
Dichlorodifluoromethane (12)	75-71-8	2	1.6	2.1	2	2.1	2.1	2.1	2.1	2	1.9	1.9	2	2	2	2
Chloromethane	74-87-3	1	0.89	1.1	1.1	1.1	1.3	1.2	1.1	1.2	1.1	1.1	1.1	1	1.2	1.1
Vinyl Chloride	75-01-4	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	0.0072J	0.0075J	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)
Chloroethane	75-00-3	0.035	0.052	0.085	0.088	0.11	0.13	0.11	0.099	0.05	0.048	0.088	0.065	0.041	0.052	0.042
Trichlorofluoromethane (11)	75-69-4	1	0.78	1.1	1	1	1.1	1.1	1	0.99	0.96	0.96	0.98	1	0.98	1
1,1,2-Cl 1,2,2-F ethane (113)	76-13-1	0.44	0.36	0.45	0.43	0.43	0.45	0.45	0.44	0.44	0.43	0.43	0.43	0.44	0.44	0.45
1,1-Dichloroethene	75-35-4	0.0030J	ND (<0.0025)	ND (<0.0025)	0.0031J	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	0.0025J	0.0029J	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	0.0046J
Methylene Chloride	75-09-2	0.29	0.31	0.32	0.3	0.32	0.31	0.31	0.31	0.42	0.3	0.29	0.29	0.28	0.34	0.36
t-1,2-Dichloroethene	156-60-5	0.0039J	ND (<0.0029)	0.0040J	0.0038J	0.0038J	ND (<0.0029)	0.0041J	ND (<0.0029)	0.0039J	0.0029J	0.0081J	ND (<0.0029)	0.0037J	ND (<0.0029)	0.0045J
1,1-Dichloroethane	75-34-3	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)
c-1,2-Dichloroethene	156-59-2	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	0.0039J	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)
Chloroform	67-66-3	0.11	0.1	0.11	0.1	0.12	0.1	0.11	0.12	0.1	0.18	0.12	0.11	0.11	0.18	0.17
1,1,1-Trichloroethane	71-55-6	0.0065J	0.0074J	0.0076J	0.0088J	0.0085J	0.0089J	0.0079J	0.0072J	0.0069J	0.0070J	0.0093J	0.0074J	0.0085J	0.076	0.48
Carbon Tetrachloride	56-23-5	0.45	0.44	0.46	0.45	0.45	0.47	0.46	0.46	0.45	0.44	0.44	0.44	0.46	0.45	0.45
Benzene	71-43-2	0.26	0.32	0.34	0.33	0.29	0.3	0.32	0.31	0.23	0.28	0.56	0.29	0.27	0.27	0.29
1,2-Dichloroethane	107-06-2	0.05	0.049	0.049	0.051	0.097	0.067	0.073	0.073	0.048	0.055	0.29	0.049	0.076	0.066	0.054
Trichloroethene	79-01-6	0.07	0.091	0.098	0.079	0.067	0.066	0.09	0.087	0.03	0.085	0.041	0.084	0.075	0.023J	0.043
1,2-Dichloropropane	78-87-5	0.016J	0.010J	0.013J	0.011J	0.021J	0.011J	0.013J	0.017J	0.014J	0.014J	0.062	0.011J	0.014J	0.020J	0.019J
Bromodichloromethane	75-27-4	ND (<0.0071)	ND (<0.0071)	ND (<0.0071)	ND (<0.0071)	0.012J	0.011J	ND (<0.0071)	0.0093J	0.0094J	0.1	0.013J	0.014J	0.0073J	0.0080J	ND (<0.0071)
Toluene	108-88-3	0.52	0.28	0.68	0.66	1	0.99	1	0.99	0.69	0.74	1.6	0.59	0.6	2.1	1.8
t-1,3-Dichloropropene	10061-02-6	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	0.0077J	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	0.019J	0.0059J	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)
1,1,2-Trichloroethane	79-00-5	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)
Tetrachloroethene	127-18-4	0.017J	0.016J	0.016J	0.019J	0.12	0.1	0.15	0.15	0.018J	0.024J	0.031J	0.018J	0.019J	0.022J	0.020J
1,2-Dibromoethane	106-93-4	ND (<0.0017)	ND (<0.0017)	ND (<0.0017)	ND (<0.0017)	0.0030J	0.0045J	ND (<0.0017)	ND (<0.0017)	0.0048J	0.0023J	0.016J	ND (<0.0017)	ND (<0.0017)	ND (<0.0017)	0.0050J
Ethylbenzene	100-41-4	0.12	0.19	0.15	0.14	0.2	0.19	0.19	0.2	0.23	0.3	0.25	0.17	0.16	0.26	0.32
p,&m-Xylene	--	0.4	0.71	0.49	0.46	0.63	0.62	0.65	0.64	0.76	0.6	0.6	0.57	0.53	0.78	1
o-Xylene	95-47-6	0.16	0.24	0.18	0.18	0.3	0.28	0.3	0.3	0.28	0.22	0.25	0.21	0.23	0.31	0.38
Styrene	100-42-5	0.048J	0.054J	0.041J	0.16	0.18	0.18	0.24	0.16	0.17	0.38	0.48	0.066J	0.23	0.37	0.3
1,1,2,2-Tetrachloroethane	79-34-5	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)
Naphthalene	91-20-3	0.14	0.09	0.14	1.1	0.33	0.36	0.36	0.35	0.15	0.23	0.39	0.27	0.19	0.53	0.37

Notes:

All concentrations are reported in micrograms per cubic meter ($\mu g/m^3$)

ND: Not detected above reported laboratory method detection limit (ND < MDL)

J: Reported concentration is below laboratory reporting limit but above the laboratory method detection limit

Table 2

Indoor Air and Outdoor Air Sampling Laboratory Analysis Summary
McKinley Elementary School
2401 Santa Monica Boulevard, Santa Monica, California

Analyte	CAS Number	IA11	IA12	IA13	IA14	IA15	IA16	IA17	IA18	IA19	IA20
		Building B Room 207	Building C Admin Office	Building C Library	Building C Room 102	Building C Room 105	Building C Auditorium	Building C STEM Lab	Building C Basement	Building C Room 202	Building C Boys Bathroom
Dichlorodifluoromethane (12)	75-71-8	2	2	1.9	2	2	2	2	2	2	2
Chloromethane	74-87-3	1.1	1.1	1	1	1.1	1.1	1.1	1	1.2	1.1
Vinyl Chloride	75-01-4	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)
Chloroethane	75-00-3	0.043	0.1	0.067	0.052	0.074	0.063	0.068	0.059	0.078	ND (<0.0080)
Trichlorofluoromethane (11)	75-69-4	0.99	0.99	0.97	0.99	1	1	1	1	0.98	1
1,1,2-Cl 1,2,2-F ethane (113)	76-13-1	0.44	0.44	0.43	0.43	0.44	0.44	0.44	0.44	0.43	0.44
1,1-Dichloroethene	75-35-4	0.0032J	0.0029J	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)
Methylene Chloride	75-09-2	0.35	0.32	0.28	0.33	0.31	0.28	0.3	0.29	0.31	0.28
t-1,2-Dichloroethene	156-60-5	0.0031J	ND (<0.0029)	0.0036J	0.0056J	0.0041J	0.0047J	ND (<0.0029)	ND (<0.0029)	0.0029J	ND (<0.0029)
1,1-Dichloroethane	75-34-3	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)
c-1,2-Dichloroethene	156-59-2	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)
Chloroform	67-66-3	0.11	0.12	0.11	0.15	0.14	0.1	0.21	0.12	0.11	0.095
1,1,1-Trichloroethane	71-55-6	0.21	0.025J	0.0075J	0.064	0.067	0.022J	0.015J	0.0075J	0.057	0.0066J
Carbon Tetrachloride	56-23-5	0.45	0.45	0.44	0.44	0.45	0.45	0.44	0.45	0.45	0.45
Benzene	71-43-2	0.32	0.29	0.3	1.2	0.33	0.29	0.29	0.28	0.31	0.26
1,2-Dichloroethane	107-06-2	0.05	0.078	0.047	0.067	0.064	0.046	0.063	0.065	0.055	0.044
Trichloroethene	79-01-6	0.17	0.078	0.059	0.071	0.09	0.069	0.059	0.048	0.095	0.047
1,2-Dichloropropane	78-87-5	0.014J	0.016J	ND (<0.0098)	0.018J	0.038J	0.015J	0.021J	0.013J	0.012J	ND (<0.0098)
Bromodichloromethane	75-27-4	0.0081J	ND (<0.0071)	0.0094J	0.015J	ND (<0.0071)	0.011J	ND (<0.0071)	0.011J	0.023J	0.0099J
Toluene	108-88-3	0.94	0.86	0.7	3	0.91	0.6	0.87	1.5	0.79	0.5
t-1,3-Dichloropropene	10061-02-6	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	0.077	ND (<0.0059)
1,1,2-Trichloroethane	79-00-5	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)
Tetrachloroethene	127-18-4	0.023J	0.028J	0.055J	0.035J	0.034J	0.017J	0.019J	0.018J	0.021J	0.028J
1,2-Dibromoethane	106-93-4	ND (<0.0017)	0.0046J	ND (<0.0017)	ND (<0.0017)	ND (<0.0017)	ND (<0.0017)	ND (<0.0017)	0.0020J	ND (<0.0017)	ND (<0.0017)
Ethylbenzene	100-41-4	0.19	0.21	0.14	0.35	0.33	0.14	2	0.24	0.21	0.12
p,&m-Xylene	--	0.62	0.55	0.44	1.1	1	0.44	7.7	0.83	0.58	0.39
o-Xylene	95-47-6	0.22	0.21	0.16	0.38	0.37	0.16	1.9	0.26	0.25	0.16
Styrene	100-42-5	0.16	0.16	0.2	0.26	0.16	0.098	0.44	0.21	0.31	0.054J
1,1,2,2-Tetrachloroethane	79-34-5	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)
Naphthalene	91-20-3	0.24	0.17	0.24	0.28	0.21	0.24	0.2	0.16	0.22	0.12

Notes:

All concentrations are reported in micrograms per cubic meter ($\mu g/m^3$)

ND: Not detected above reported laboratory method detection limit (ND < MDL)

J: Reported concentration is below laboratory reporting limit but above the laboratory method detection limit

Table 3

Chemical Composition Ratios for "Risk Drivers" Detected in Soil Gas

McKinley Elementary School

2401 Santa Monica Boulevard, Santa Monica, California

Sample ID	Sample Depth (Feet Below Ground Surface)	Chlorinated "Risk Drivers"		Petroleum-Derived "Risk Drivers"		
		Tetrachloroethene	Trichloroethene	Benzene	Ethylbenzene	Naphthalene
SV4-5V	5	489	ND (<8)	25	111	0
SV5-5V	5	84	ND (<8)	13	38	8
SV6-5V	5	167	ND (<8)	0.0	16	0
SV7-5V	5	1,100	ND (<8)	0.0	12	0
SV7-5V REP	5	1,530	ND (<8)	0.0	13	0
SV8-5V	5	467	ND (<8)	13	9	0
SV9-5V	5	55	ND (<8)	5.0	14	0
SV10-5V	5	68	ND (<8)	5.0	0.0	0
SV11-5V	5	54	ND (<8)	6.0	0.0	0
SV12-5V	5	ND (<8)	ND (<8)	0	0	14
SV13-5V	5	222	ND (<8)	14	49	0
SV4-15V	15	701	ND (<8)	0.0	0.0	0
SV5-15V	15	291	ND (<8)	0.0	7.0	0
SV6-15V	15	394	ND (<8)	0.0	7.0	0
SV7-15V	15	2,360	ND (<8)	0.0	7.0	0
SV8-15V	15	2,470	ND (<8)	0.0	0.0	0
SV8-15V REP	15	2,180	ND (<8)	0.0	0.0	0
SV9-15V	15	254	ND (<8)	0.0	8.0	7
SV10-15V	15	646	ND (<8)	0.0	0.0	0
SV11-15V	15	926	31	0	0	14
SV12-15V	15	82	98	0	0	0
SV13-15V	15	2,600	ND (<8)	0	0	0

Notes:

All concentrations are reported in micrograms per cubic meter ($\mu g/m^3$)

ND (<MDL) = Not detected at or above the listed laboratory method detection limit (MDL)

REP = Replicate Sample

Table 4

Chemical Composition Ratios for Chlorinated "Risk Drivers" Detected in Indoor Air

McKinley Elementary School

2401 Santa Monica Boulevard, Santa Monica, California

Analyte	IA1	IA2	IA3	IA3 DUP	IA4	IA5	IA6	IA7	IA8	IA9	IA10	IA11	IA12	IA13	IA14	IA15	IA16
	Building D Room 71D	Building D Room 70	Building D Room 71	Building D Room 71	Modular Building Room B10	Portable Classroom Building B7	Portable Classroom Building B2	Building A Cafeteria	Building B Basement	Building B Room 109	Building B Room 107	Building B Room 207	Building C Admin Office	Building C Library	Building C Room 102	Building C Room 105	Building C Auditorium
Chlorinated VOCs																	
Trichloroethene	0.067	0.066	0.09	0.087	0.03	0.085	0.041	0.084	0.075	0.023	0.043	0.17	0.078	0.059	0.071	0.09	0.069
Tetrachloroethene	0.12	0.1	0.15	0.15	0.018	0.024	0.031	0.018	0.019	0.022	0.02	0.023	0.028	0.055	0.035	0.034	0.017
Total	0.187	0.166	0.24	0.237	0.048	0.109	0.072	0.102	0.094	0.045	0.063	0.193	0.106	0.114	0.106	0.124	0.086
Ratios (% of total)																	
Trichloroethene	35.83	39.76	37.50	36.71	62.50	77.98	56.94	82.35	79.79	51.11	68.25	88.08	73.58	51.75	66.98	72.58	80.23
Tetrachloroethene	64.17	60.24	62.50	63.29	37.50	22.02	43.06	17.65	20.21	48.89	31.75	11.92	26.42	48.25	33.02	27.42	19.77
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Notes:

All concentrations are reported in micrograms per cubic meter ($\mu g/m^3$)

Table 4

Chemical Composition Ratios for Chlorinated "Risk Drivers" Detected in Indoor Air

McKinley Elementary School

2401 Santa Monica Boulevard, Santa Monica, California

Analyte	IA17	IA18	IA19	IA20
	Building C STEM Lab	**Building C Basement**	**Building C Room 202**	**Building C Boys Bathroom**
Chlorinated VOCs				
Trichloroethene	0.059	0.048	0.095	0.047
Tetrachloroethene	0.019	0.018	0.021	0.028
Total	0.078	0.066	0.116	0.075
Ratios (% of total)				
Trichloroethene	75.64	72.73	81.90	62.67
Tetrachloroethene	24.36	27.27	18.10	37.33
Total	100.00	100.00	100.00	100.00

Notes:

All concentrations are reported in micrograms per cubic meter ($\mu g/m^3$)

Table 5

Chemical Composition Ratios for Petroleum-Derived "Risk Drivers" Detected in Indoor Air

McKinley Elementary School

2401 Santa Monica Boulevard, Santa Monica, California

Analyte	IA1	IA2	IA3	IA3 DUP	IA4	IA5	IA6	IA7	IA8	IA9	IA10	IA11	IA12	IA13	IA14	IA15
	Building D Room 71D	**Building D Room 70**	**Building D Room 71**	**Building D Room 71**	**Modular Building Room B10**	**Portable Classroom Building B7**	**Portable Classroom Building B2**	**Building A Cafeteria**	**Building B Basement**	**Building B Room 109**	**Building B Room 107**	**Building B Room 207**	**Building C Admin Office**	**Building C Library**	**Building C Room 102**	**Building C Room 105**
Petroleum-Derived VOCs																
Benzene	0.29	0.3	0.32	0.31	0.23	0.28	0.56	0.29	0.27	0.27	0.29	0.32	0.29	0.3	1.2	0.33
Ethylbenzene	0.2	0.19	0.19	0.2	0.23	0.3	0.25	0.17	0.16	0.26	0.32	0.19	0.21	0.14	0.35	0.33
Naphthalene	0.33	0.36	0.36	0.35	0.15	0.23	0.39	0.27	0.19	0.53	0.37	0.24	0.17	0.24	0.28	0.21
Total	0.82	0.85	0.87	0.86	0.61	0.81	1.2	0.73	0.62	1.06	0.98	0.75	0.67	0.68	1.83	0.87
Ratios (% of Total)																
Benzene	35.37	35.29	36.78	36.05	37.70	34.57	46.67	39.73	43.55	25.47	29.59	42.67	43.28	44.12	65.57	37.93
Ethylbenzene	24.39	22.35	21.84	23.26	37.70	37.04	20.83	23.29	25.81	24.53	32.65	25.33	31.34	20.59	19.13	37.93
Naphthalene	40.24	42.35	41.38	40.70	24.59	28.40	32.50	36.99	30.65	50.00	37.76	32.00	25.37	35.29	15.30	24.14
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Notes:

All concentrations are reported in micrograms per cubic meter ($\mu g/m^3$)

Table 5

Chemical Composition Ratios for Petroleum-Derived "Risk Drivers" Detected in Indoor Air

McKinley Elementary School

2401 Santa Monica Boulevard, Santa Monica, California

Analyte	IA16	IA17	IA18	IA19	IA20
	Building C Auditorium	**Building C STEM Lab**	**Building C Basement**	**Building C Room 202**	**Building C Boys Bathroom**
Petroleum-Derived VOCs					
Benzene	0.29	0.29	0.28	0.31	0.26
Ethylbenzene	0.14	2	0.24	0.21	0.12
Naphthalene	0.24	0.2	0.16	0.22	0.12
Total	0.67	2.49	0.68	0.74	0.5
Ratios (% of Total)					
Benzene	43.28	11.65	41.18	41.89	52.00
Ethylbenzene	20.90	80.32	35.29	28.38	24.00
Naphthalene	35.82	8.03	23.53	29.73	24.00
Total	100.00	100.00	100.00	100.00	100.00

Notes:

All concentrations are reported in micrograms per cubic meter ($\mu g/m^3$)

Table 6

Chemical-Specific Attenuation Factors for "Risk Drivers"

McKinley Elementary School

2401 Santa Monica Boulevard, Santa Monica, California

"Risk Driver" Volatile Organic Compounds	Maximum Soil Gas Concentration Detected at a Depth of 5 Feet Below Ground Surface (ug/m^3)	Maximum Soil Gas Concentration Detected at a Depth of 15 Feet Below Ground Surface (ug/m^3)	Maximum Detected Indoor Air Concentration (ug/m^3)	Attenuation factor for VOCs Detected at a Depth of 5 Feet Below Ground Surface (Unitless)	Attenuation factor for VOCs Detected at a Depth of 15 Feet Below Ground Surface (Unitless)
Benzene	25	0	1.2	4.8E-02	NC
Ethylbenzene	111	8	2	1.8E-02	2.5E-01
Naphthalene	14	14	0.53	3.8E-02	3.8E-02
Tetrachloroethene	1530	2600	0.15	9.8E-05	5.8E-05
Trichloroethene	0	98	0.17	NC	1.7E-03

Notes:

ug/m^3 = Micrograms per cubic meter

NC = Not calculated

ATTACHMENT A

ProUCL Printout

Building A, Modular and Portable Air Sampling Results
McKinley Elementary School
2401 Santa Monica Boulevard, Santa Monica, California

Analyte	CAS Number	OA1	OA2	OA3	OA4	IA4	IA5	IA6	IA7
		Chelsea Parking Lot	Main Playground	Southwestern Lawn	Southeastern Playground	Modular Building Room B10	Portable Classroom Building B7	Portable Classroom Building B2	Building A Cafeteria
Chlorinated VOCs									
Tetrachloroethene	127-18-4	1.7E-02	1.6E-02	1.6E-02	1.9E-02	1.8E-02	2.4E-02	3.1E-02	1.8E-02
Trichloroethene	79-01-6	7.0E-02	9.1E-02	9.8E-02	7.9E-02	3.0E-02	8.5E-02	4.1E-02	8.4E-02
Petroleum-Derived VOCs									
Benzene	71-43-2	2.6E-01	3.2E-01	3.4E-01	3.3E-01	2.3E-01	2.8E-01	5.6E-01	2.9E-01
Ethylbenzene	100-41-4	1.2E-01	1.9E-01	1.5E-01	1.4E-01	2.3E-01	3.0E-01	2.5E-01	1.7E-01
Naphthalene	91-20-3	1.4E-01	9.0E-02	1.4E-01	1.1E+00	1.5E-01	2.3E-01	3.9E-01	2.7E-01

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.2 7/24/2023 2:33:04 PM
From File	McKinley I-O Risk Driver Stats.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: OA-PCE

Sample 2 Data: Bld. C-PCE

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	4	4
Number of Distinct Observations	3	3
Minimum	0.016	0.1
Maximum	0.019	0.15
Mean	0.017	0.13
Median	0.0165	0.135
SD	0.00141	0.0245
SE of Mean	7.0711E-4	0.0122

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	10
WMW U-Stat	0
Mean (U)	8
SD(U) - Adj ties	3.443
WMW U-Stat Critical Value (0.05)	14
Standardized WMW U-Stat	-2.483
Approximate P-Value	0.993

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.2 7/24/2023 2:34:38 PM
From File	McKinley I-O Risk Driver Stats.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: OA-TCE

Sample 2 Data: Bld. C-TCE

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	4	4
Number of Distinct Observations	4	4
Minimum	0.07	0.066
Maximum	0.098	0.09
Mean	0.0845	0.0775
Median	0.085	0.077
SD	0.0124	0.0128
SE of Mean	0.00622	0.00638

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	22
WMW U-Stat	12
Mean (U)	8
SD(U) - Adj ties	3.464
WMW U-Stat Critical Value (0.05)	14
Standardized WMW U-Stat	1.01
Approximate P-Value	0.156

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.2 7/24/2023 2:35:20 PM
From File	McKinley I-O Risk Driver Stats.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: OA-Benzene

Sample 2 Data: Bld. C-Benzene

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	4	4
Number of Distinct Observations	4	4
Minimum	0.26	0.29
Maximum	0.34	0.32
Mean	0.313	0.305
Median	0.325	0.305
SD	0.0359	0.0129
SE of Mean	0.018	0.00645

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	21.5
WMW U-Stat	11.5
Mean (U)	8
SD(U) - Adj ties	3.464
WMW U-Stat Critical Value (0.05)	14
Standardized WMW U-Stat	0.871
Approximate P-Value	0.192

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.2 7/24/2023 2:35:57 PM
From File	McKinley I-O Risk Driver Stats.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: OA-Ethylbenzene

Sample 2 Data: Bld. C-Ethylbenzene

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	4	4
Number of Distinct Observations	4	2
Minimum	0.12	0.19
Maximum	0.19	0.2
Mean	0.15	0.195
Median	0.145	0.195
SD	0.0294	0.00577
SE of Mean	0.0147	0.00289

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	11
WMW U-Stat	1
Mean (U)	8
SD(U) - Adj ties	3.443
WMW U-Stat Critical Value (0.05)	14
Standardized WMW U-Stat	-2.233
Approximate P-Value	0.987

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.2 7/24/2023 2:36:33 PM
From File	McKinley I-O Risk Driver Stats.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: OA-Naphthalene

Sample 2 Data: Bld. C-Naphthalene

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	4	4
Number of Distinct Observations	3	3
Minimum	0.09	0.33
Maximum	1.1	0.36
Mean	0.368	0.35
Median	0.14	0.355
SD	0.489	0.0141
SE of Mean	0.244	0.00707

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	14
WMW U-Stat	4
Mean (U)	8
SD(U) - Adj ties	3.443
WMW U-Stat Critical Value (0.05)	14
Standardized WMW U-Stat	-1.315
Approximate P-Value	0.906

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

Building B Air Sampling Results
McKinley Elementary School
2401 Santa Monica Boulevard, Santa Monica, California

Analyte	CAS Number	OA1	OA2	OA3	OA4	IA8	IA9	IA10	IA11
		Chelsea Parking Lot	Main Playground	Southwestern Lawn	Southeastern Playground	Building B Basement	Building B Room 109	Building B Room 107	Building B Room 207
Chlorinated VOCs									
Tetrachloroethene	127-18-4	1.7E-02	1.6E-02	1.6E-02	1.9E-02	1.9E-02	2.2E-02	2.0E-02	2.3E-02
Trichloroethene	79-01-6	7.0E-02	9.1E-02	9.8E-02	7.9E-02	7.5E-02	2.3E-02	4.3E-02	1.7E-01
Petroleum-Derived VOCs									
Benzene	71-43-2	2.6E-01	3.2E-01	3.4E-01	3.3E-01	2.7E-01	2.7E-01	2.9E-01	3.2E-01
Ethylbenzene	100-41-4	1.2E-01	1.9E-01	1.5E-01	1.4E-01	1.6E-01	2.6E-01	3.2E-01	1.9E-01
Naphthalene	91-20-3	1.4E-01	9.0E-02	1.4E-01	1.1E+00	1.9E-01	5.3E-01	3.7E-01	2.4E-01

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.2 7/24/2023 2:42:37 PM
From File	McKinley I-O Risk Driver Stats_b.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: OA-PCE

Sample 2 Data: Bld. B-PCE

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	4	4
Number of Distinct Observations	3	4
Minimum	0.016	0.019
Maximum	0.019	0.023
Mean	0.017	0.021
Median	0.0165	0.021
SD	0.00141	0.00183
SE of Mean	7.0711E-4	9.1287E-4

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	10.5
WMW U-Stat	0.5
Mean (U)	8
SD(U) - Adj ties	3.443
WMW U-Stat Critical Value (0.05)	14
Standardized WMW U-Stat	-2.337
Approximate P-Value	0.99

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.2 7/24/2023 2:43:20 PM
From File	McKinley I-O Risk Driver Stats_b.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: OA-TCE

Sample 2 Data: Bld. B-TCE

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	4	4
Number of Distinct Observations	4	4
Minimum	0.07	0.023
Maximum	0.098	0.17
Mean	0.0845	0.0778
Median	0.085	0.059
SD	0.0124	0.0651
SE of Mean	0.00622	0.0326

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	21
WMW U-Stat	11
Mean (U)	8
SD(U) - Adj ties	3.464
WMW U-Stat Critical Value (0.05)	14
Standardized WMW U-Stat	0.722
Approximate P-Value	0.235

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.2 7/24/2023 2:43:58 PM
From File	McKinley I-O Risk Driver Stats_b.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: OA-Benzene

Sample 2 Data: Bld. B-Benzene

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	4	4
Number of Distinct Observations	4	3
Minimum	0.26	0.27
Maximum	0.34	0.32
Mean	0.313	0.288
Median	0.325	0.28
SD	0.0359	0.0236
SE of Mean	0.018	0.0118

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	21.5
WMW U-Stat	11.5
Mean (U)	8
SD(U) - Adj ties	3.443
WMW U-Stat Critical Value (0.05)	14
Standardized WMW U-Stat	0.877
Approximate P-Value	0.19

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.2 7/24/2023 2:45:02 PM
From File	McKinley I-O Risk Driver Stats_b.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: OA-Ethylbenzene

Sample 2 Data: Bld. B-Ethylbenzene

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	4	4
Number of Distinct Observations	4	4
Minimum	0.12	0.16
Maximum	0.19	0.32
Mean	0.15	0.233
Median	0.145	0.225
SD	0.0294	0.0718
SE of Mean	0.0147	0.0359

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	11.5
WMW U-Stat	1.5
Mean (U)	8
SD(U) - Adj ties	3.464
WMW U-Stat Critical Value (0.05)	14
Standardized WMW U-Stat	-2.033
Approximate P-Value	0.979

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.2 7/24/2023 2:45:46 PM
From File	McKinley I-O Risk Driver Stats_b.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: OA-Naphthalene

Sample 2 Data: Bld. B-Naphthalene

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	4	4
Number of Distinct Observations	3	4
Minimum	0.09	0.19
Maximum	1.1	0.53
Mean	0.368	0.333
Median	0.14	0.305
SD	0.489	0.152
SE of Mean	0.244	0.076

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	14
WMW U-Stat	4
Mean (U)	8
SD(U) - Adj ties	3.464
WMW U-Stat Critical Value (0.05)	14
Standardized WMW U-Stat	-1.307
Approximate P-Value	0.904

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

Building C Air Sampling Results
McKinley Elementary School
2401 Santa Monica Boulevard, Santa Monica, California

Analyte	CAS Number	OA1	OA2	OA3	OA4	IA12	IA13	IA14	IA15	IA16	IA17	IA18	IA19	IA20
		Chelsea Parking Lot	Main Playground	Southwestern Lawn	Southeastern Playground	Building C Admin Office	Building C Library	Building C Room 102	Building C Room 105	Building C Auditorium	Building C STEM Lab	Building C Basement	Building C Room 202	Building C Boys Bathroom
Chlorinated VOCs														
Tetrachloroethene	127-18-4	1.7E-02	1.6E-02	1.6E-02	1.9E-02	2.8E-02	5.5E-02	3.5E-02	3.4E-02	1.7E-02	1.9E-02	1.8E-02	2.1E-02	2.8E-02
Trichloroethene	79-01-6	7.0E-02	9.1E-02	9.8E-02	7.9E-02	7.8E-02	5.9E-02	7.1E-02	9.0E-02	6.9E-02	5.9E-02	4.8E-02	9.5E-02	4.7E-02
Petroleum-Derived VOCs														
Benzene	71-43-2	2.6E-01	3.2E-01	3.4E-01	3.3E-01	2.9E-01	3.0E-01	1.2E+00	3.3E-01	2.9E-01	2.9E-01	2.8E-01	3.1E-01	2.6E-01
Ethylbenzene	100-41-4	1.2E-01	1.9E-01	1.5E-01	1.4E-01	2.1E-01	1.4E-01	3.5E-01	3.3E-01	1.4E-01	2.0E+00	2.4E-01	2.1E-01	1.2E-01
Naphthalene	91-20-3	1.4E-01	9.0E-02	1.4E-01	1.1E+00	1.7E-01	2.4E-01	2.8E-01	2.1E-01	2.4E-01	2.0E-01	1.6E-01	2.2E-01	1.2E-01

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.2 7/24/2023 2:46:48 PM
From File	McKinley I-O Risk Driver Stats_c.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: OA-PCE

Sample 2 Data: Bld. C-PCE

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	4	9
Number of Distinct Observations	3	8
Minimum	0.016	0.017
Maximum	0.019	0.055
Mean	0.017	0.0283
Median	0.0165	0.028
SD	0.00141	0.0121
SE of Mean	7.0711E-4	0.00402

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	13
WMW U-Stat	3
Mean (U)	18
SD(U) - Adj ties	6.454
WMW U-Stat Critical Value (0.05)	29
Standardized WMW U-Stat	-2.405
Approximate P-Value	0.992

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.2 7/24/2023 2:47:30 PM
From File	McKinley I-O Risk Driver Stats_c.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: OA-TCE

Sample 2 Data: Bld. C-TCE

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	4	9
Number of Distinct Observations	4	8
Minimum	0.07	0.047
Maximum	0.098	0.095
Mean	0.0845	0.0684
Median	0.085	0.069
SD	0.0124	0.017
SE of Mean	0.00622	0.00568

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	39
WMW U-Stat	29
Mean (U)	18
SD(U) - Adj ties	6.481
WMW U-Stat Critical Value (0.05)	29
Standardized WMW U-Stat	1.622
Approximate P-Value	0.0524

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.2 7/24/2023 2:48:34 PM
From File	McKinley I-O Risk Driver Stats_c.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: OA-Benzene

Sample 2 Data: Bld. C-Benzene

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	4	9
Number of Distinct Observations	4	7
Minimum	0.26	0.26
Maximum	0.34	1.2
Mean	0.313	0.394
Median	0.325	0.29
SD	0.0359	0.303
SE of Mean	0.018	0.101

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	33
WMW U-Stat	23
Mean (U)	18
SD(U) - Adj ties	6.436
WMW U-Stat Critical Value (0.05)	29
Standardized WMW U-Stat	0.7
Approximate P-Value	0.242

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.2 7/24/2023 2:49:13 PM
From File	McKinley I-O Risk Driver Stats_c.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: OA-Ethylbenzene

Sample 2 Data: Bld. C-Ethylbenzene

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	4	9
Number of Distinct Observations	4	7
Minimum	0.12	0.12
Maximum	0.19	2
Mean	0.15	0.416
Median	0.145	0.21
SD	0.0294	0.6
SE of Mean	0.0147	0.2

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	18.5
WMW U-Stat	8.5
Mean (U)	18
SD(U) - Adj ties	6.436
WMW U-Stat Critical Value (0.05)	29
Standardized WMW U-Stat	-1.556
Approximate P-Value	0.94

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.2 7/24/2023 2:49:49 PM
From File	McKinley I-O Risk Driver Stats_c.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: OA-Naphthalene

Sample 2 Data: Bld. C-Naphthalene

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	4	9
Number of Distinct Observations	3	8
Minimum	0.09	0.12
Maximum	1.1	0.28
Mean	0.368	0.204
Median	0.14	0.21
SD	0.489	0.0485
SE of Mean	0.244	0.0162

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	21
WMW U-Stat	11
Mean (U)	18
SD(U) - Adj ties	6.472
WMW U-Stat Critical Value (0.05)	29
Standardized WMW U-Stat	-1.16
Approximate P-Value	0.877

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

Building D Air Sampling Results
McKinley Elementary School
2401 Santa Monica Boulevard, Santa Monica, California

Analyte	CAS Number	OA1	OA2	OA3	OA4	IA1	IA2	IA3	IA3 DUP
		Chelsea Parking Lot	Main Playground	Southwestern Lawn	Southeastern Playground	Building D Room 71D	Building D Room 70	Building D Room 71	Building D Room 71
Chlorinated VOCs									
Tetrachloroethene	127-18-4	1.7E-02	1.6E-02	1.6E-02	1.9E-02	1.2E-01	1.0E-01	1.5E-01	1.5E-01
Trichloroethene	79-01-6	7.0E-02	9.1E-02	9.8E-02	7.9E-02	6.7E-02	6.6E-02	9.0E-02	8.7E-02
Petroleum-Derived VOCs									
Benzene	71-43-2	2.6E-01	3.2E-01	3.4E-01	3.3E-01	2.9E-01	3.0E-01	3.2E-01	3.1E-01
Ethylbenzene	100-41-4	1.2E-01	1.9E-01	1.5E-01	1.4E-01	2.0E-01	1.9E-01	1.9E-01	2.0E-01
Naphthalene	91-20-3	1.4E-01	9.0E-02	1.4E-01	1.1E+00	3.3E-01	3.6E-01	3.6E-01	3.5E-01

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.2 7/24/2023 2:37:18 PM
From File	McKinley I-O Risk Driver Stats_a.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: OA-PCE

Sample 2 Data: Bld. A-PCE

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	4	4
Number of Distinct Observations	3	3
Minimum	0.016	0.018
Maximum	0.019	0.031
Mean	0.017	0.0228
Median	0.0165	0.021
SD	0.00141	0.00618
SE of Mean	7.0711E-4	0.00309

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	12
WMW U-Stat	2
Mean (U)	8
SD(U) - Adj ties	3.443
WMW U-Stat Critical Value (0.05)	14
Standardized WMW U-Stat	-1.899
Approximate P-Value	0.971

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.2 7/24/2023 2:39:00 PM
From File	McKinley I-O Risk Driver Stats_a.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: OA-TCE

Sample 2 Data: Bld. A-TCE

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	4	4
Number of Distinct Observations	4	4
Minimum	0.07	0.03
Maximum	0.098	0.085
Mean	0.0845	0.06
Median	0.085	0.0625
SD	0.0124	0.0286
SE of Mean	0.00622	0.0143

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	22
WMW U-Stat	12
Mean (U)	8
SD(U) - Adj ties	3.464
WMW U-Stat Critical Value (0.05)	14
Standardized WMW U-Stat	1.01
Approximate P-Value	0.156

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.2 7/24/2023 2:39:56 PM
From File	McKinley I-O Risk Driver Stats_a.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: OA-Benzene

Sample 2 Data: Bld. A-Benzene

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	4	4
Number of Distinct Observations	4	4
Minimum	0.26	0.23
Maximum	0.34	0.56
Mean	0.313	0.34
Median	0.325	0.285
SD	0.0359	0.149
SE of Mean	0.018	0.0745

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	20
WMW U-Stat	10
Mean (U)	8
SD(U) - Adj ties	3.464
WMW U-Stat Critical Value (0.05)	14
Standardized WMW U-Stat	0.433
Approximate P-Value	0.333

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.2 7/24/2023 2:40:32 PM
From File	McKinley I-O Risk Driver Stats_a.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: OA-Ethylbenzene

Sample 2 Data: Bld. A-Ethylbenzene

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	4	4
Number of Distinct Observations	4	4
Minimum	0.12	0.17
Maximum	0.19	0.3
Mean	0.15	0.238
Median	0.145	0.24
SD	0.0294	0.0538
SE of Mean	0.0147	0.0269

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	11
WMW U-Stat	1
Mean (U)	8
SD(U) - Adj ties	3.464
WMW U-Stat Critical Value (0.05)	14
Standardized WMW U-Stat	-2.165
Approximate P-Value	0.985

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.2 7/24/2023 2:41:08 PM
From File	McKinley I-O Risk Driver Stats_a.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: OA-Naphthalene

Sample 2 Data: Bld. A-Naphthalene

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	4	4
Number of Distinct Observations	3	4
Minimum	0.09	0.15
Maximum	1.1	0.39
Mean	0.368	0.26
Median	0.14	0.25
SD	0.489	0.1
SE of Mean	0.244	0.05

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	14
WMW U-Stat	4
Mean (U)	8
SD(U) - Adj ties	3.464
WMW U-Stat Critical Value (0.05)	14
Standardized WMW U-Stat	-1.307
Approximate P-Value	0.904

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

STEP-OUT SOIL SAMPLING REPORT

McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, California 90404

Prepared for:

Santa Monica-Malibu Unified School District
2828 4th Street
Santa Monica, California 90405

Project Number: SMSD-23-11670
September 15, 2023

Alta Environmental LP, an NV5 Company
3777 Long Beach Boulevard, Annex Building
Long Beach, CA 90807 www.NV5.com

PROFESSIONAL CERTIFICATION

We appreciate the opportunity to provide our services to you. If you have any questions, please contact us at (562) 544-3910.

This report has been prepared by:

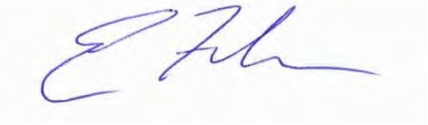

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TABLE OF CONTENTS

1. EXECUTIVE SUMMARY 1

2. BACKGROUND 2
   2.1 Site Location and Description 2
   2.2 Previous Investigations 2

3. STEP-OUT SOIL SAMPLING 4
   3.1 Pre-field Activities 4
      3.1.1 Health and Safety Plan 4
      3.1.2 Utility Clearance and Geophysical Survey 4
   3.2 Sample Collection and Analysis 4
      3.2.1 Soil-Matrix Sample Collection and Analysis 5
      3.2.2 Equipment Decontamination 5
      3.2.3 Quality Assurance/Quality Control (QA/QC) 5
      3.2.4 Investigation Derived Waste (IDW) 5

4. INVESTIGATION RESULTS 5
   4.1 Lithology 5
   4.2 Laboratory Analytical Results 6
      4.2.1 Arsenic in Soil 6
      4.2.2 QA/QC 6

5. STATISTICAL DATA EVALUATION 6

6. CONCLUSIONS AND RECOMMENDATIONS 7

7. WARRANTY 8
   7.1 Warranty 8
   7.2 Use by Third Parties 9

8. REFERENCES 9
   8.1 References 9

Tables

Table 1 Arsenic in Site Soil

Figures

Figure 1 Site Location Map
Figure 2 Site Vicinity Map
Figure 3 Soil Boring Locations
Figure 4 B7 and B8 Associated Step-Out Borings
Figure 5 B10 Associated Step-Out Borings
Figure 6 B11 Associated Step-Out Borings

TABLE OF CONTENTS

Appendices

Appendix A Soil Sampling Logs
Appendix B Laboratory Analytical Reports
Appendix C Waste Manifests
Appendix D Statistical Analysis of Soil Arsenic Data

1. EXECUTIVE SUMMARY

Alta Environmental LP, an NV5 Company (NV5) has prepared this Step-Out Soil Sampling Report for the assessment of the proposed construction work areas associated with campus upgrades planned for McKinley Elementary School, located at 2401 Santa Monica Boulevard in Santa Monica, California (herein identified as the "Site"). This assessment was completed for the Santa Monica-Malibu Unified School District (SMMUSD) in accordance with NV5 proposal number SMSD-23-11670 dated July 14, 2023. The objective of the assessment was to further assess findings of an investigation completed in February 2023, which identified four Site locations where the arsenic levels in soil exceeded the State of California Department of Toxic Substances Control (DTSC) upper-bound screening level for naturally occurring arsenic in Southern California soils of 12 milligrams per kilogram (mg/kg)[1].

During this assessment, additional arsenic step-out soil samples were collected in the vicinity of the previously identified arsenic impacts to assess the potential presence of soil with arsenic concentrations exceeding Site-specific ambient background levels. If soil arsenic concentrations are greater than the calculated upper-limit local arsenic background concentration, it would indicate evidence of a release which may require remedial action.

In accordance with the DTSC *Arsenic Strategies, Determination of Arsenic Remediation, Development of Arsenic Cleanup Goals* guidance document dated January 16, 2009 (Guidance Document), a statistical data evaluation was conducted by a board-certified toxicologist to determine the upper-limit local arsenic background concentration at the Site.

The results of the statistical data evaluation determined that the upper bound soil arsenic background concentration at the Site is greater than concentrations detected during the initial February 2023 investigation and the Step-Out Soil Sampling discussed herein. The results of the statistical analysis indicate that the soil arsenic concentrations detected at the Site are within ambient, background concentrations and not the result of a past release. Therefore, no further assessment related to Site soil arsenic levels is recommended.

It should be noted that the development at the Site will consist of construction of a new classroom building and modification to existing playground and parking lot areas. All soils within the boundaries of the Site are currently, and following completion the proposed construction activities will be, covered by a building structure or asphalt or concrete pavement, thereby eliminating any potential exposure pathways to future occupants of the Site.

NV5 understands that access to the Site will be limited and may require trained (in accordance with applicable Cal/OSHA requirements) personnel during construction activities including any proposed soil disturbance or grading. The presence of the naturally occurring arsenic containing soils at the Site should be brought to the attention of Site contractors prior to commencement of work activities so that appropriate health and safety measures can be employed during activities involving soil disturbance.

Site contractors, in consultation with their occupational health and safety professionals, should determine what mitigation measures are required when conducting soil disturbing activities at the Site. These

[1] California Department of Toxic Substances Control (DTSC) Human and Ecological Risk Office (HERO) Human Health Risk Assessment (HHRA) Note Number 11 Southern California Ambient Arsenic Screening Level.

mitigation measures could include, but are not limited to, a combination of measures such as awareness training, personnel air monitoring, perimeter dust monitoring, personal protective equipment (PPE) usage, and enhanced hygiene practices.

As with any soil grading project, NV5 also recommends that dust suppression and dust monitoring, as required on all grading projects by the South Coast Air Quality Management District, be implemented to limit the potential for migration of fugitive dusts.

While the levels of arsenic detected in Site soils were determined to be naturally occurring and not the result of a release, export of the soils off-site for reuse may not be acceptable. The highest concentrations of arsenic detected in Site soils are greater than the established Southern California Ambient Arsenic Screening Level; however, the detected concentrations of arsenic in Site soils may also be higher than the naturally occurring levels of arsenic present at other off-site locations, and therefore not acceptable for use as import material. If future Site activities generate soil for export, it is recommended that these soils be disposed of at a licensed waste acceptance facility.

2. BACKGROUND

2.1 Site Location and Description

McKinley Elementary School is an approximately 6.50-acre rectangular shaped campus located at 2401 Santa Monica Boulevard in the City of Santa Monica (Figure 1), serving approximately 450 students in grade levels from transitional kindergarten through fifth grade. The current campus is developed with four educational buildings and 11 portable buildings, as well as play yards and sports fields, staff and visitor parking, and programmed and unprogrammed open space. Vehicular access is from Chelsea Avenue, with student drop-off/pick-up occurring on-site. The school campus is bounded by Santa Monica Boulevard and commercial uses to the southeast, Arizona Avenue and multi-family residential uses to the northwest, and mixed multi-family and commercial uses to the northeast across Chelsea Avenue and to the southwest across 23rd Court. A dry cleaner facility is located across Chelsea Avenue near the eastern corner of the campus.

The subject of this investigation is an approximately 1.06-acre area located along the northeastern portion of the McKinley Elementary School campus (Site). As part of a proposed campus upgrade, the first phase of work will include new building construction, renovation of existing buildings, and new on-campus parking and roadways. A new two-story classroom and administration building is proposed to be constructed within the area that currently serves as staff and visitor parking. In addition, proposed renovations of the existing main campus building will include new ground and second floor connections to the main building, new staff and visitor parking lots, and construction of a new on campus drop-off/pick-up lane adjacent to Chelsea Avenue. The limits of the proposed construction activities (Site) are shown in the attached Figure 2.

2.2 Previous Investigations

Previous environmental investigations conducted at the McKinley Elementary School and the Site are listed below.

Phase I Environmental Site Assessment Report – McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. Prepared by NV5. April 19, 2022.

According to historical resources reviewed during the Phase I, the larger school campus in which the Site is located was first developed for use as a school around 1925. Since then, multiple other classroom structures were subsequently constructed throughout the campus, however the Site itself has historically only been developed with playground areas and paved parking lots.

This assessment identified the following evidence of recognized environmental conditions (RECs) in connection with the Site.

- *Regulatory database records and historical records indicate that a drycleaner has operated at the northeast adjoining property located at 2441 Santa Monica Boulevard from at least 1991 to present day. Records indicate that dry-cleaning equipment that utilized perchloroethylene (PCE, a chlorinated solvent) was used at this facility. While evidence of violations, leaks, spills, or releases were not identified, based on the proximity of this facility to the Site and the inherent environmental risk associated with dry-cleaning facilities, these listings are considered to represent a REC.*
- *Based on the age of historical and current structures on the Site, arsenic, lead-based paint, asbestos, pesticides, and polychlorinated biphenyls (PCBs) in caulking may have been historically used at the Site. As a result, there is a potential for these compounds to be present in the shallow soils onsite.*

NV5 recommended conducting a limited Phase II ESA to determine if dry-cleaning operations on the northeastern adjoining property had negatively impacted the Site. Additionally, NV5 recommended a limited Phase II subsurface investigation be conducted in areas of proposed soil disturbance to evaluate shallow soil conditions with respect to lead, arsenic, PCBs, and pesticides.

Environmental Site Investigation Report – McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. Prepared by NV5. April 27, 2023.

This assessment included the collection and analysis of soil samples from twelve locations throughout the Site for lead, arsenic, PCBs, and pesticides and the collection of soil vapor samples from three soil vapor probe locations on the eastern portion of the Site.

The results of the laboratory analysis identified trace concentrations of PCBs and pesticides in samples collected at two locations; however, all detected concentrations were below applicable health risk screening levels. Lead was detected in all collected soil samples; however, none of the detected concentrations exceeded the residential risk screening level for lead in soil. Arsenic was detected at four locations (B7, B8, B10, and B11) at concentrations that exceeded the DTSC upper-bound arsenic screening level for Southern California soils of 12 mg/kg. Based on these findings, NV5 recommended that additional step-out sampling be conducted to determine the extent of arsenic impacted soils above the Southern California ambient arsenic screening level and that once delineated, the impacted soil should be excavated and removed from the Site for disposal.

Concentrations of multiple VOCs in excess of risk screening levels were identified in soil vapor samples collected from both the 5-foot and 15-foot depth probes at all three soil vapor sample locations (SV1 through SV3). Concentrations of PCE tended to increase with depth and proximity to the existing adjoining upgradient dry-cleaner property. Conversely, concentrations of petroleum hydrocarbon (benzene, toluene, ethylbenzene, etc.) related constituents decreased with depth and proximity to the adjoining dry-cleaner.

Historical resources indicated that the original structures at the campus were constructed in the 1920's on vacant land that was reported to have been used for the cultivation of beans. No historical or current uses of chlorinated solvents or petroleum products at the McKinley school campus were identified during the Phase I ESA, thereby indicating the source of the VOC impacts to be from an undetermined off-site source. As the off-site source(s) and extent of soil vapor impacts are currently unknown, NV5 recommended that additional soil vapor assessment be conducted at the Site to further evaluate the potential risk of vapor intrusion to proposed structures and to assess if mitigation measures would be warranted. Additional soil vapor sampling at the Site and indoor air sampling throughout the McKinley Elementary School campus was conducted throughout June and July 2023. The results of these investigations are published under separate cover.

3. STEP-OUT SOIL SAMPLING

3.1 Pre-field Activities

3.1.1 Health and Safety Plan

Prior to conducting field work for the project, NV5 prepared a site-specific Health and Safety Plan (HASP) that was implemented per California Occupational Safety and Health Administration (OSHA) California Code of Regulations (CCR) Title 8, Section 5192 requirements. The HASP presented an overview of the scope of work and discussions of potential job hazards that could be encountered during the investigation. All field personnel were required to review and sign the HASP before beginning any fieldwork.

Daily tailgate meetings were held with NV5 personnel and subcontractors at the beginning of each day during the investigation. The plan of the day, potential safety hazards, and site-specific safety procedures were discussed during the tailgate meetings.

All NV5 personnel conducting field work onsite have received the OSHA Hazardous Waste Operations training in accordance with 29 CFR 1910.120 and CCR Title 8, Section 5192. The investigation work was completed with no reportable injuries or illnesses.

3.1.2 Utility Clearance and Geophysical Survey

The proposed boring locations were marked with white spray paint, as required by Underground Service Alert (USA). On July 13, 2023, NV5 notified USA of the proposed sampling activities (USA Notification ID: A231941066-00A). USA then notified the companies and agencies that may have underground utilities in the vicinity to mark their respective utilities on the ground with spray paint so that the utilities could be avoided during sampling.

NV5 conducted a geophysical survey (survey) of the Site to independently clear each of the soil boring/soil vapor probe locations to ensure that buried utilities would not be encountered during soil sampling. On July 20, 2023, NV5's subcontractor, SoCal Locators, surveyed the Site using a combination of electromagnetic induction, magnetometry, and ground penetrating radar.

3.2 Sample Collection and Analysis

Subsurface soil sampling activities were conducted at the Site on July 25 and 26, 2023. Soil sampling activities were conducted by properly trained NV5 staff under the supervision of Eric Fraske, a State of California registered Civil Professional Engineer (PE).

3.2.1 Soil-Matrix Sample Collection and Analysis

32 shallow soil borings were advanced throughout the Site (Figures 3 through 6) using direct push drilling equipment operated by Strongarm Environmental Field Services. At each boring location, soil samples were collected at depths of 2, 4, 6, and 8 feet below ground surface (bgs).

Soil samples were collected in core samplers lined with acetate tubes, sealed with Teflon® sleeves and plastic endcaps, and labeled with the boring identification number, sample depth, date, and time of collection. Following collection, each sample was placed in a chilled cooler for transport to the California-certified environmental laboratory, Eurofins CalScience of Tustin, California. The details of the soil samples were recorded on a chain-of-custody form including the sample identification, date and time of collection, sample matrix, containers, preservative, requested analyses, sampler's name, couriers used, and responsible laboratory personnel.

The soil encountered during the investigation was logged continuously using the Unified Soils Classification System (USCS) under the supervision of a California PE. The lithology, field observations, and sampling depths of the borings were documented on sampling logs (included in Appendix A).

All collected soil samples were analyzed for arsenic by United States Environmental Protection Agency (USEPA) Method 6020. Laboratory analytical reports and chain-of-custody documentation for the soil samples are presented in Appendix B.

Following completion of the soil sampling, all borings were backfilled with hydrated bentonite chips and patched with cold-patch asphalt to match existing surface conditions.

3.2.2 Equipment Decontamination

All soil sampling equipment was decontaminated with a three-bucket wash consisting of a non-phosphate cleaning solution, tap water, and a final rinse in distilled water.

3.2.3 Quality Assurance/Quality Control (QA/QC)

Four duplicate soil samples (B7A-6 DUP, B08W-2 DUP, B10E-2 DUP and B11E-4 DUP) and two equipment blank (EB) samples were collected for analysis. The duplicate soil samples and EB samples were analyzed for the same constituents as the primary samples (arsenic).

3.2.4 Investigation Derived Waste (IDW)

IDW, including equipment decontamination water, soil cuttings, used personal protective equipment (PPE), and sampling supplies generated during this sampling event was contained in an appropriately labeled 55-gallon drum, which was temporarily stored on-site pending waste characterization. Subsequent laboratory analysis of the drummed material classified the IDW as non-hazardous waste. The drum was transported to a licensed waste disposal facility by a licensed waste hauler (Belshire Environmental Services, Inc.) for disposal on August 14, 2023. A copy of the waste manifest is presented in Appendix D.

4. INVESTIGATION RESULTS

4.1 Lithology

Soils encountered at the Site generally consisted of sandy clays and clayey and silty sands. Groundwater was not encountered at any sample location.

4.2 Laboratory Analytical Results

A tabulated summary of arsenic concentrations detected in the soil matrix samples is presented on Table 1. Laboratory analytical reports and chain-of-custody documentation are presented in Appendix C.

Laboratory results where analyte concentrations were not detected above the laboratory method detection limit (MDL) are identified as “ND” along with the corresponding MDL. Analytical concentrations detected above the MDL, but below the laboratory reporting limit (RL) are considered estimated values and are reported with a “J-flag” identifier (J).

Concentrations of arsenic in soil were evaluated in accordance with the 2009 *DTSC Arsenic Strategies, Determination of Arsenic Remediation, Determination of Arsenic Cleanup Goals for Proposed and Existing School Sites* as further discussed in Section 5.

4.2.1 Arsenic in Soil

- Arsenic was detected in all collected soil samples at concentrations ranging between 2.5 and 20.9 mg/kg. The maximum detected concentration of arsenic was detected in sample B07WW-2, collected at sample location B07WW at a depth of 2 ft bgs.

4.2.2 QA/QC

- The samples were received by the laboratory in good condition, properly preserved, and on ice. Laboratory analysis was conducted within the applicable laboratory method holding times.
- Arsenic was detected at an estimated concentration of 0.199J micrograms per liter (µg/L) in the EB sample collected on July 25, 2023 (EB072523) and at an estimated concentration of 0.241J µg/L in the EB sample collected on July 26, 2023 (EB072623). These trace concentrations are well below (several orders of magnitude) the minimum concentration of arsenic detected in the soil samples. Therefore, the detected concentrations of arsenic in the soil samples are considered valid.
- The concentrations of arsenic in the duplicate soil samples (B07A-6 DUP, B08W-2 DUP, B10E-2DUP, and B11E-4 DUP) were similar to concentrations of arsenic detected in the corresponding primary samples (B07A-6, B08W-2, B10E-2, and B11E-4).

5. STATISTICAL DATA EVALUATION

Due to the prevalence of naturally occurring arsenic of varying concentrations in Southern California soils, the DTSC developed the January 16, 2009 *Arsenic Strategies, Determination of Arsenic Remediation, Development of Arsenic Cleanup Goals* guidance document (Guidance Document) for sites where concentrations of arsenic may exceed naturally occurring background levels (in this case, the aforementioned 12 mg/kg). The Guidance Document presents data evaluation methods to determine the site-specific background level of arsenic and to assess whether arsenic remediation is warranted.

NV5 engaged a board-certified toxicologist (Enviro-Tox) to conduct a statistical evaluation of the arsenic data to determine the upper limit of local arsenic background concentration at the Site. In accordance with Guidance Document, all available soil arsenic data for the Site, including the concentrations of arsenic detected in soil samples collected during the initial assessment in February 2023, were included in the statistical analyses. The data evaluation is presented in Appendix D. The statistical methods used in the data evaluation were taken directly from the Guidance Document.

The results of the analysis indicated that the 95 percent upper confidence limit of the 99th quartile of the arsenic data set concentration at the Site is 22.15 mg/kg, which is greater than all detected concentrations of arsenic at the Site. The results of the statistical analysis indicated that all soil arsenic concentrations identified for the Site are within ambient, background concentrations and not the result of an arsenic release.

6. CONCLUSIONS AND RECOMMENDATIONS

This investigation was conducted for the purpose of further investigating concentrations of arsenic previously identified in soil at the Site. The following are NV5's conclusions for this investigation based on the reported laboratory results and the statistical data evaluation.

- Soils at the Site consist primarily of sandy clays and clayey and silty sands to the maximum explored depth of 8 feet bgs. Groundwater was not encountered during this assessment.
- Arsenic was detected in all collected soil samples at concentrations ranging between 2.5 and 20.9 milligrams per kilogram (mg/kg). The maximum detected concentration of arsenic was detected in the sample collected from location B07WW at a depth of 2 ft bgs.
- A statistical data evaluation of all available soil arsenic data for the Site (including the concentrations of arsenic detected in soil samples collected during the initial assessment in February 2023), was conducted to determine the upper limit local arsenic background concentration. The results of the statistical data evaluation determined that the upper bound soil arsenic background concentration at the Site is 22.15 mg/kg, which is greater than all detected concentrations of arsenic at the Site. The results of the statistical analysis indicated that all soil arsenic concentrations identified for the Site are within ambient, background concentrations and not the result of a past release. Therefore, no further assessment is recommended.
- It should be noted that the development at the Site will consist of construction of a new classroom building and modification to existing playground and parking lot areas. All soils within the boundaries of the Site are currently, and following completion the proposed construction activities will be, covered by a building structure or asphalt or concrete pavement, thereby eliminating any potential exposure pathways to future occupants of the Site.
- NV5 understands that access to the Site will be limited and may require trained (in accordance with applicable Cal/OSHA Requirements) personnel during construction activities including any proposed soil disturbance or grading. The presence of the naturally occurring arsenic containing soils at the Site should be brought to the attention of Site contractors prior to commencement of work activities so that appropriate health and safety measures can be employed during activities involving soil disturbance.

  Site contractors, in consultation with their occupational health and safety professionals, should determine what mitigation measures are required when conducting soil disturbing activities at the Site. These mitigation measures could include, but are not limited to, a combination of measures such as awareness training, personnel air monitoring, perimeter dust monitoring, PPE usage, and enhanced hygiene practices.

As with any soil grading project, NV5 also recommends that dust suppression and dust monitoring, as required on all grading projects by the South Coast Air Quality Management District, be implemented to limit the potential for migration of fugitive dusts.

- While the levels of arsenic detected in Site soils were determined to be naturally occurring and not the result of a release, export of the soils off-site for reuse may not be acceptable. The highest concentrations of arsenic detected in Site soils are greater than the established Southern California Ambient Arsenic Screening Level; however, the detected concentrations of arsenic in Site soils may also be higher than the naturally occurring levels of arsenic present at other off-site locations, and therefore not acceptable for use as import material. If future Site activities generate soil for export, it is recommended that these soils be disposed of at a licensed waste acceptance facility.

7. WARRANTY

7.1 Warranty

NV5 warrants that the findings and conclusions reported herein were conducted in general accordance with standard industry practices. The conclusions presented in the report are based solely on the services described herein and not on scientific tasks or procedures beyond the scope of agreed upon services.

The step-out soil sampling report has been developed to provide the client with information regarding apparent indications of recognized environmental conditions relating to the Site. It is necessarily limited to the conditions observed and to the information available at the time of the work. The assessment and conclusions presented herein were based upon the subjective evaluation of limited data. They may not represent all conditions at the subject site as they reflect the information gathered from specific locations. NV5 warrants that the findings and conclusions contained herein have been promulgated in accordance with generally accepted environmental investigation methodology and only for the site described in this report. The findings set forth in this report are strictly limited to the date of the evaluation.

The scope of the step-out soil sampling report was developed specifically to meet the client's stated objectives and the data that was developed may not be suitable for use to satisfy other objectives. Any limitations on the data to meet the client's stated objectives are described in the report.

Due to the limited nature of the work, there is a possibility that there may exist conditions which could not be identified within the scope of the assessment, or which were not apparent at the time of report preparation. It is also possible that the testing methods employed at the time of the report may later be superseded by other methods. The description, type, and composition of what are commonly referred to as "hazardous materials or conditions" can also change over time. NV5 does not accept responsibility for changes in the state of the art, nor for changes in the scope of various lists of hazardous materials or conditions. NV5 believes that the findings and conclusions provided in this report are reasonable. However, no other warranties are implied or expressed.

Analytical results contained in this report are limited to the corresponding sampling location, depth, sampled material, selected range of analyses and laboratory reporting limits. Additional chemical

constituents not searched for during the current study may be present in soil, soil gas and/or groundwater at the Site.

The location and concentration of contaminants can vary over time due to seasonal water table fluctuations, past disposal practices, the passage of time and other factors.

7.2 Use by Third Parties

This report was prepared pursuant to the contract NV5 has with the Santa Monica-Malibu Unified School District. That contractual relationship included an exchange of information about the subject site that was unique and between NV5 and its client and serves as the basis upon which this report was prepared. Because of the importance of the communication between NV5 and its client, reliance, or any use of this report by anyone other than the Santa Monica-Malibu Unified School District, for whom it was prepared, is prohibited and therefore not foreseeable to NV5.

Reliance on or use by any such third party without explicit authorization in the report does not make said third party a third-party beneficiary to NV5's contract with the Santa Monica-Malibu Unified School District. Any such unauthorized reliance on or use of this report, including any of its information or conclusions, will be at the third party's risk. For the same reasons, no warranties, or representations, expressed or implied in this report, are made to any such third party.

8. REFERENCES

8.1 References

Phase I Environmental Site Assessment Report – McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. Prepared by NV5. April 19, 2022.

Environmental Site Investigation Report – McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. Prepared by NV5. April 27, 2023.

California Department of Toxic Substances Control. Arsenic Strategies, Determination of Arsenic Remediation, Determination of Arsenic Cleanup Goals for Proposed and Existing School Sites. March 21, 2009.

California Department of Toxic Substances Control Human and Ecological Risk Office (HERO). Human Health Risk Assessment (HHRA) Note 11 Southern California Ambient Arsenic Screening Level. December 28, 2020.

TABLES

Table 1: Arsenic in Site Soil
McKinley Elementary School
2401 Santa Monica Boulevard, Santa Monica, California

Sample ID	Sample Date	Sample Depth (ftbgs)	Arsenic (mg/kg)
B2-0.5	2/20/2023	0.50	9.9
B2-2	2/20/2023	2	9.2
B3-0.5	2/20/2023	0.50	6.2
B3-2	2/20/2023	2	7.8
B4-0.5	2/20/2023	0.50	6.9
B4-2	2/20/2023	2	9
B5-0.5	2/20/2023	0.50	9.8
B5-2	2/20/2023	2	9.1
B6-0.5	2/20/2023	0.50	8.7
B6-2	2/20/2023	2	10
B7-0.5	2/20/2023	0.50	9.6
B7-0.5 DUP	2/20/2023	0.50	9.5
B7-2	2/20/2023	2	19
B7-4	2/20/2023	4	16
B07A-2	7/25/2023	2	16.9
B07A-4	7/25/2023	4	13.8
B07A-6	7/25/2023	6	9.69
B07A-6 DUP	7/25/2023	6	18.4
B07A-8	7/25/2023	8	9.42
B07E-2	7/25/2023	2	10.6
B07E-4	7/25/2023	4	16.2
B07E-6	7/25/2023	6	11.7
B07E-8	7/25/2023	8	10.3
B07EE-2	7/25/2023	2	9.96
B07EE-4	7/25/2023	4	17.4
B07EE-6	7/25/2023	6	7.9
B07EE-8	7/25/2023	8	9.96
B07N-2	7/25/2023	2	19.2
B07N-4	7/25/2023	4	13.2
B07N-6	7/25/2023	6	11.5
B07N-8	7/25/2023	8	7.85
B07NN-2	7/25/2023	2	17.1
B07NN-4	7/25/2023	4	15.6
B07NN-6	7/25/2023	6	10.1
B07NN-8	7/25/2023	8	7.5
B07W-2	7/25/2023	2	16.8
B07W-4	7/25/2023	4	15.7
B07W-6	7/25/2023	6	11
B07W-8	7/25/2023	8	8.84
B07WW-2	7/25/2023	2	20.9
B07WW-4	7/25/2023	4	13.8
B07WW-6	7/25/2023	6	7.07
B07WW-8	7/25/2023	8	6.68
B8-0.5	2/20/2023	0.50	8.7

Table 1: Arsenic in Site Soil
McKinley Elementary School
2401 Santa Monica Boulevard, Santa Monica, California

Sample ID	Sample Date	Sample Depth (ftbgs)	Arsenic (mg/kg)
B8-2	2/20/2023	2	18
B8-4	2/20/2023	4	17
B08A-2	7/25/2023	2	16
B08A-4	7/25/2023	4	7.95
B08A-6	7/25/2023	6	11.3
B08A-8	7/25/2023	8	10.8
B08E-2	7/25/2023	2	10.3
B08E-4	7/25/2023	4	17.3
B08E-6	7/25/2023	6	10.6
B08E-8	7/25/2023	8	10.1
B08EE-2	7/25/2023	2	14.4
B08EE-4	7/25/2023	4	16.9
B08EE-6	7/25/2023	6	10.1
B08EE-8	7/25/2023	8	9.14
B08S-2	7/25/2023	2	13.6
B08S-4	7/25/2023	4	15.7
B08S-6	7/25/2023	6	14.6
B08S-8	7/25/2023	8	11.8
B08SS-2	7/25/2023	2	13.8
B08SS-4	7/25/2023	4	17.2
B08SS-6	7/25/2023	6	11.5
B08SS-8	7/25/2023	8	10.5
B08W-2	7/25/2023	2	16.8
B08W-2 DUP	7/25/2023	2	8.99
B08W-4	7/25/2023	4	14.3
B08W-6	7/25/2023	6	11.4
B08W-8	7/25/2023	8	9.74
B08WW-2	7/25/2023	2	15.3
B08WW-4	7/25/2023	4	15.9
B08WW-6	7/25/2023	6	10.9
B08WW-8	7/25/2023	8	8.55
B9-0.5	2/20/2023	0.50	2.5
B9-2	2/20/2023	2.0	10
B10-0.5	2/20/2023	0.50	10
B10-2	2/20/2023	2	18
B10-4	2/20/2023	4	17
B10A-2	7/26/2023	2	9.66
B10A-4	7/26/2023	4	13.8
B10A-6	7/26/2023	6	12.6
B10A-8	7/26/2023	8	12.4
B10E-2	7/26/2023	2	6.04
B10E-2 DUP	7/26/2023	2	7.17
B10E-4	7/26/2023	4	17.1
B10E-6	7/26/2023	6	11.9

Table 1: Arsenic in Site Soil
McKinley Elementary School
2401 Santa Monica Boulevard, Santa Monica, California

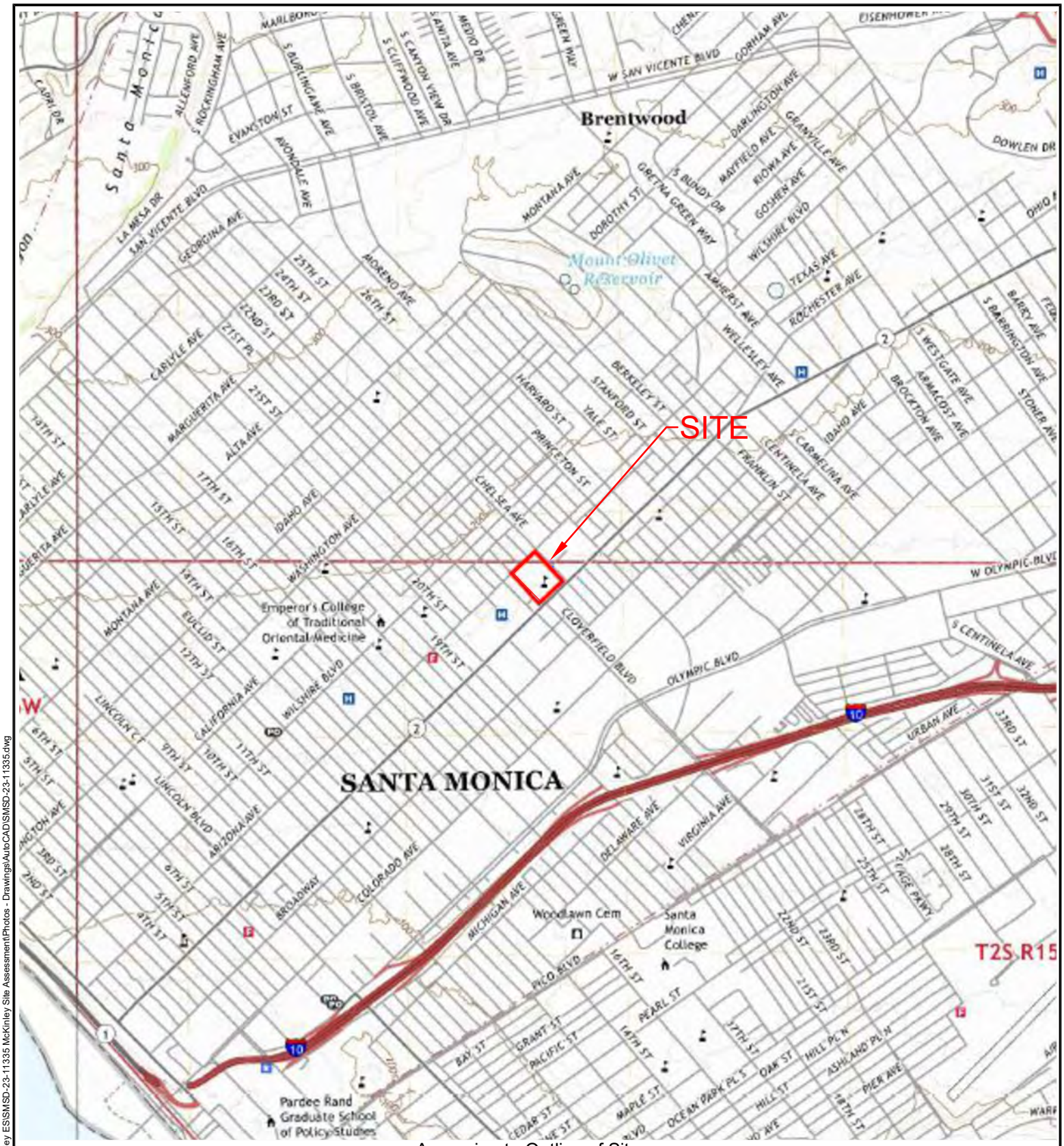
Sample ID	Sample Date	Sample Depth (ftbgs)	Arsenic (mg/kg)
B10E-8	7/26/2023	8	11.3
B10EE-2	7/26/2023	2	8.8
B10EE-4	7/26/2023	4	14.8
B10EE-6	7/26/2023	6	8.1
B10EE-8	7/26/2023	8	11.6
B10N-2	7/26/2023	2	16.8
B10N-4	7/26/2023	4	16
B10N-6	7/26/2023	6	10.8
B10N-8	7/26/2023	8	12.2
B10NN-2	7/26/2023	2	19.6
B10NN-4	7/26/2023	4	16
B10NN-6	7/26/2023	6	11
B10NN-8	7/26/2023	8	11.6
B10S-2	7/26/2023	2	6.83
B10S-4	7/26/2023	4	16
B10S-6	7/26/2023	6	11.5
B10S-8	7/26/2023	8	11.9
B10SS-2	7/26/2023	2	12.9
B10SS-4	7/26/2023	4	16.1
B10SS-6	7/26/2023	6	11.1
B10SS-8	7/26/2023	8	12.7
B10W-2	7/26/2023	2	10.1
B10W-4	7/26/2023	4	16
B10W-6	7/26/2023	6	12.5
B10W-8	7/26/2023	8	13.5
B10WW-2	7/26/2023	2	14.6
B10WW-4	7/26/2023	4	16
B10WW-6	7/26/2023	6	10.3
B10WW-8	7/26/2023	8	10.1
B11-0.5	2/20/2023	0.50	8.9
B11-2	2/20/2023	2	13
B11-4	2/20/2023	4	19
B11A-2	7/25/2023	2	10.8
B11A-4	7/25/2023	4	11.9
B11A-6	7/25/2023	6	12.7
B11A-8	7/25/2023	8	14.6
B11E-2	7/25/2023	2	8.53
B11E-4	7/25/2023	4	18.9
B11E-4 DUP	7/25/2023	4	8.79
B11E-6	7/25/2023	6	16.3
B11E-8	7/25/2023	8	12.9
B11EE-2	7/25/2023	2	13.5
B11EE-4	7/25/2023	4	19
B11EE-6	7/25/2023	6	12.9

Table 1: Arsenic in Site Soil
McKinley Elementary School
2401 Santa Monica Boulevard, Santa Monica, California

Sample ID	Sample Date	Sample Depth (ftbgs)	Arsenic (mg/kg)
B11EE-8	7/25/2023	8	11.6
B11N-2	7/25/2023	2	10.8
B11N-4	7/25/2023	4	13.7
B11N-6	7/25/2023	6	17.6
B11N-8	7/25/2023	8	13
B11NN-2	7/25/2023	2	9.96
B11NN-4	7/25/2023	4	15.3
B11NN-6	7/25/2023	6	14.1
B11NN-8	7/25/2023	8	11.2
B11S-2	7/25/2023	2	9.38
B11S-4	7/25/2023	4	17.7
B11S-6	7/25/2023	6	15.7
B11S-8	7/25/2023	8	16.5
B11SS-2	7/25/2023	2	10.1
B11SS-4	7/25/2023	4	18.3
B11SS-6	7/25/2023	6	15.4
B11SS-8	7/25/2023	8	13.9
B11W-2	7/25/2023	2	9.63
B11W-4	7/25/2023	4	16.7
B11W-6	7/25/2023	6	16
B11W-8	7/25/2023	8	12.3
B11WW-2	7/25/2023	2	14.7
B11WW-4	7/25/2023	4	18.9
B11WW-6	7/25/2023	6	15.3
B11WW-8	7/25/2023	8	14.8
B12-0.5	2/20/2023	0.50	8.1
B12-2	2/20/2023	2	ND (<.0.74)

Notes:
All concentrations are reported in milligrams per kilogram (mg/kg)
Sample depths are reported in feet below ground surface (ftbgs)
ND: Not detected above the reported laboratory method detection limit
DUP: Duplicate sample

FIGURES



Approximate Outline of Site

FIGURE 1: Site Location Map

CLIENT: Santa Monica-Malibu Unified School District	SITE LOCATION: 2401 Santa Monica Boulevard Santa Monica, California 90404
PROJECT #: SMSD-23-11670	

NV5 ALTA ENVIRONMENTAL

3777 Long Beach Blvd., Annex Bldg.
Long Beach, CA 90807
(562) 495-5777 www.altaenviron.com

DRAWN: ED	APPROVED: EF	NORTH
SCALE: None	DATE: 7/10/2023	

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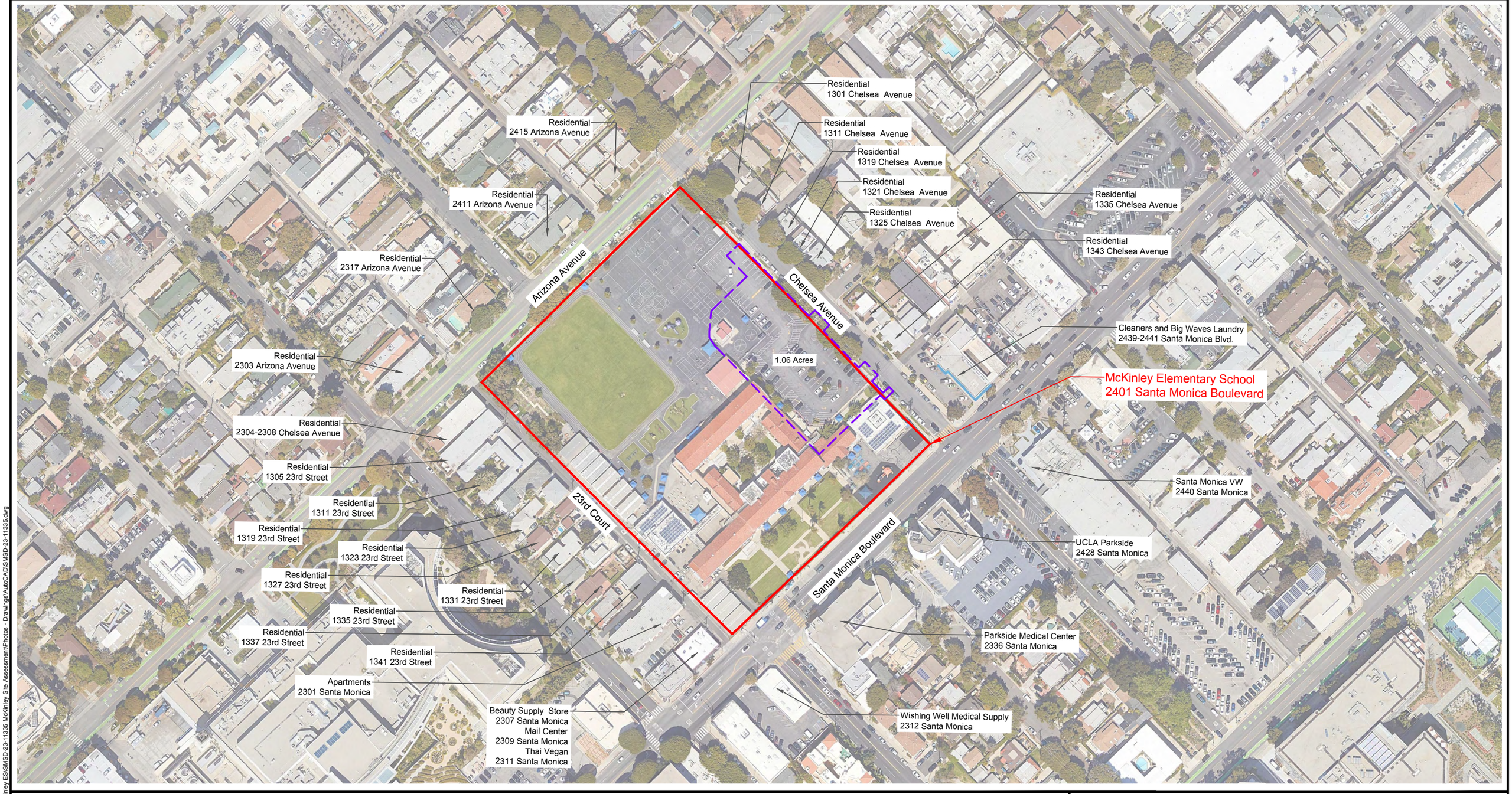


LEGEND:

Campus Boundary

Site Boundary

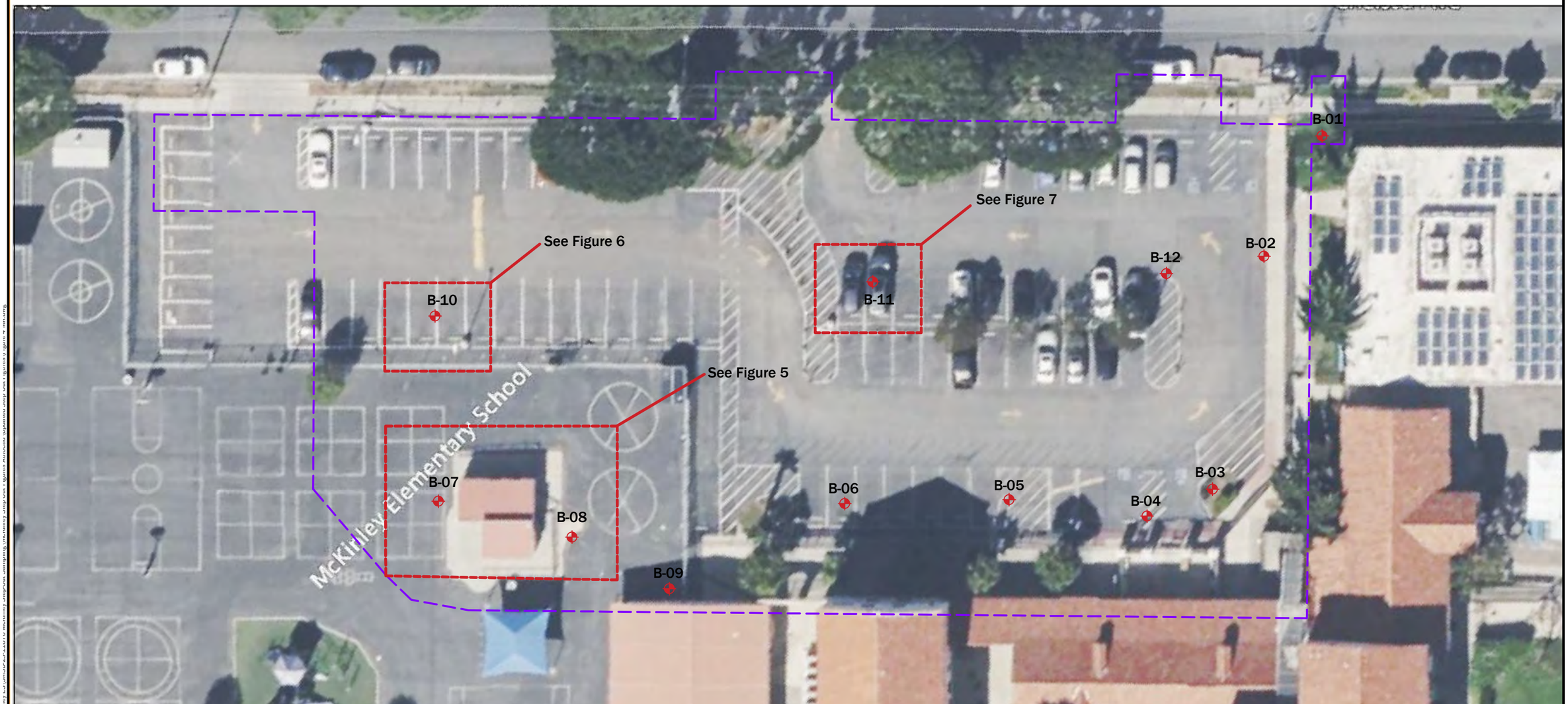
APPX. SCALE:
1" = 150'
0 150' 1"

NORTH

FIGURE 2: Site Vicinity Map

CLIENT: Santa Monica Malibu Unified School District	DRAWN: AHL	APPROVED: EF
	SCALE: NTS	DATE: JULY 2023
SITE LOCATION: McKinley Elementary School 2401 Santa Monica Boulevard Santa Monica, California 90404	ALTA ENVIRONMENTAL	
PROJECT #: SMSD-23-11670	3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	

W:\Clients N-S\Santa Monica-Malibu USD (SMSD)\McKinley ES\SMSD-23-11335 McKinley Site Assessment\Photos - Drawings\AutoCAD\SMSD-23-11335.dwg



LEGEND:

Approximate Site Boundary

Approximate Extents of Step Out Borings, July 2023

Approximate Location of Previous Soil Borings, February 2023

APPX. SCALE:
1" = 30'
0 1" 30'

NORTH

FIGURE 3: Soil Boring Locations

CLIENT: Santa Monica Malibu Unified School District	DRAWN: NS	APPROVED: EF
	SCALE: 1" = 30'	DATE: Aug. 2023
SITE LOCATION: McKinley Elementary School 2401 Santa Monica Boulevard Santa Monica, California 90404	NV5 ALTA ENVIRONMENTAL	
PROJECT #: SMSD-23-11670	3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	

LEGEND:

- Approximate Site Boundary
- Approximate Step Out Boring Locations, July 2023
- Approximate Location of Previous Soil Borings, February 2023

APPX. SCALE:
1" = 10'
0 1" 10'

NORTH

FIGURE 4: B-07 and B-08 Associated Step Out Borings

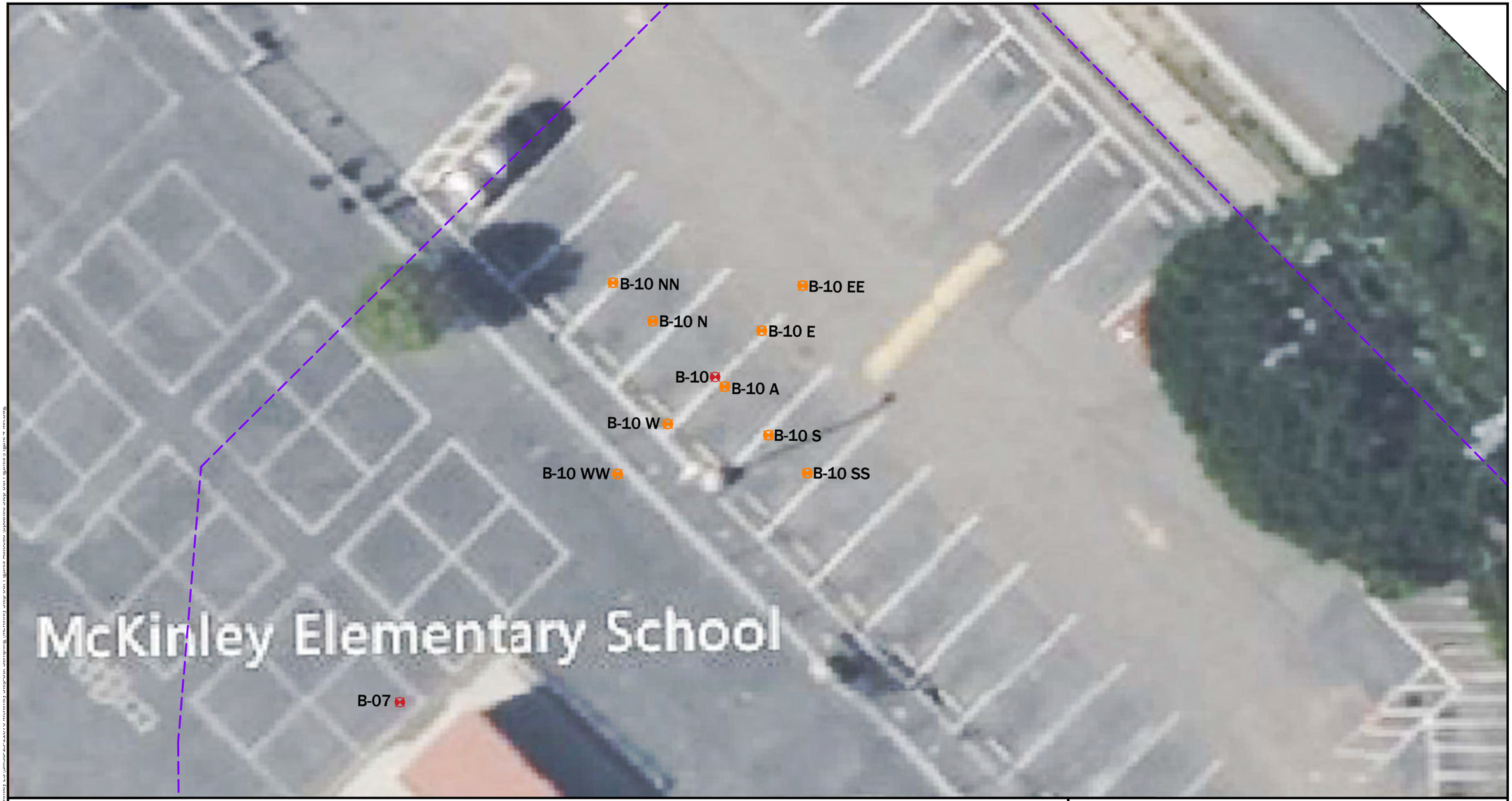
CLIENT: Santa Monica
Malibu Unified School District

DRAWN: NS
APPROVED: EF
SCALE: 1" = 10'
DATE: Aug. 2023

SITE LOCATION:
McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, California 90404

PROJECT #: SMSD-23-11670

NV5 ALTA ENVIRONMENTAL
3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807
P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com



LEGEND:

- Approximate Site Boundary
- Approximate Step Out Boring Locations, July 2023
- Approximate Location of Previous Soil Borings, February 2023

APPX. SCALE:
1" = 10'
0 — 1" — 10'

NORTH

FIGURE 5: B-10 Associated Step Out Borings

CLIENT: Santa Monica Malibu Unified School District	DRAWN: NS SCALE: 1" = 10'	APPROVED: EF DATE: Aug. 2023
SITE LOCATION: McKinley Elementary School 2401 Santa Monica Boulevard Santa Monica, California 90404	NV5 ALTA ENVIRONMENTAL 3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	
PROJECT #: SMSD-23-11670		

LEGEND:

Approximate Site Boundary

Approximate Step Out Boring Locations, July 2023

Approximate Location of Previous Soil Borings, February 2023

APPX. SCALE:
1" = 10'
0 1" 10'

NORTH

FIGURE 6: B-11 Associated Step Out Borings

CLIENT: Santa Monica
Malibu Unified School District

DRAWN: NS
APPROVED: EF
SCALE: 1" = 10'
DATE: Aug. 2023

SITE LOCATION:
McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, California 90404

PROJECT #: SMSD-23-11670

NV5 ALTA ENVIRONMENTAL
3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807
P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com

APPENDIX A

Soil Sampling Logs

Field Sampling Summary Log

Project Name: McKinley ES Step-Out Borings Project Number: SMSD-23-11670 Sampling Date: 07/25/2023 Logged by: Noah Stevens, Ruta Bandziulis, and Eric Fraske	Driller: Strongarm Enviornmental Field Services, Inc. Drilling Method: Geoprobe Boring Diameter: 2.25 Inches

Soil Boring Location	Ground Surface	Soil Sample Depth (Feet bgs)	Soil Description	Soil Sample ID	Soil Sample Time
B07-WW	Asphalt	2	Medium brown clay	B07WW-2	13:57
		4	Medium brown clay with fine sand	B07WW-4	13:58
		6	Dark brown clay with silt	B07WW-6	14:02
		8	Dark brown clay with silt	B07WW-8	14:03
B07-W	Asphalt	2	Medium brown clay with silt	B07W-2	14:11
		4	Medium brown clay	B07W-4	14:12
		6	Medium brown clay with silt	B07W-6	14:13
		8	Medium brown clay with fine sand	B07W-8	14:14
B07-A	Asphalt	2	Light brown clay with fine sand	B07A-2	14:19
		4	Medium brown clay with fine sand	B07A-4	14:18
		6	Dark brown clay with fine sand	B07A-6 + Dup	14:21
		8	Medium brown clay with fine sand	B07A-8	14:22
B07-E	Asphalt	2	Medium brown clay	B07E-2	14:39
		4	Medium brown clay	B07E-4	14:40
		6	Medium brown clay with fine sand	B07E-6	14:42
		8	Medium brown clay with fine sand	B07E-8	14:43
B07-N	Asphalt	2	Medium brown clay	B07N-2	14:52
		4	Medium brown clay with silt	B07N-4	14:53
		6	Medium brown clay with fine sand	B07N-6	14:54
		8	Medium brown clay with coarse sand	B07N-8	14:55
B07-NN	Asphalt	2	Dark brown clay	B07NN-2	15:05
		4	Medium brown clay	B07NN-4	15:06
		6	Light brown clay with sand	B07NN-6	15:08
		8	Dark brown clay with fine sand	B07NN-8	15:09
B07-EE	Asphalt	2	Dark brown clay with fine sand	B07EE-2	15:23
		4	Dark brown clay with fine sand	B07EE-4	15:25
		6	Light brown clay with silt and fine sand	B07EE-6	15:27
		8	Light brown clay with silt and fine sand	B07EE-8	15:28

Notes:
Groundwater was not encountered at any sampling location
Dup: Duplicate Sample
bgs: Below ground surface

Field Sampling Summary Log

Project Name: McKinley ES Step-Out Borings Project Number: SMSD-23-11670 Sampling Date: 07/25/2023 Logged by: Noah Stevens, Ruta Bandziulis, and Eric Fraske	Driller: Strongarm Enviornmental Field Services, Inc. Drilling Method: Geoprobe Boring Diameter: 2.25 Inches

Soil Boring Location	Ground Surface	Soil Sample Depth (Feet bgs)	Soil Description	Soil Sample ID	Soil Sample Time
B08-WW	Asphalt	2	Brown sandy clay	B08WW-2	11:15
		4	Brown clay with sand	B08WW-4	11:16
		6	Brown clay with sand	B08WW-6	11:17
		8	Brown clayey sand	B08WW-8	11:18
B08-W	Asphalt	2	Brown clay	B08W-2 + Dup	11:19
		4	Brown clay with sand	B08W-4	11:20
		6	Dark brown sandy clay	B08W-6	11:30
		8	Greyish-brown silty clay with gravel	B08W-8	11:31
B08-A	Asphalt	2	Brown clay	B08A-2	11:35
		4	Brown sandy clay	B08A-4	11:37
		6	Brown sandy clay	B08A-6	11:40
		8	Brown sandy clay	B08A-8	11:41
B08-SS	Asphalt	2	Brown sandy clay	B08SS-2	11:47
		4	Brown sandy clay	B08SS-4	11:49
		6	Brown sandy clay	B08SS-6	11:53
		8	Greyish-brown silty sand	B08SS-8	11:55
B08-S	Asphalt	2	Brown clay	B08S-2	11:57
		4	Brown sandy clay	B08S-4	11:58
		6	Brown sandy clay	B08S-6	12:03
		8	Brown clayey sand	B08S-8	12:05
B08-E	Asphalt	2	Dark brown sandy clay	B08E-2	12:10
		4	Brown sandy clay	B08E-4	12:12
		6	Brown sandy clay with gravel	B08E-6	12:14
		8	Light brown sandy clay	B08E-8	12:15
B08-EE	Asphalt	2	Brown clay	B08EE-2	12:20
		4	Brown clay	B08EE-4	12:22
		6	Greyish-brown clayey sand with gravel	B08EE-6	12:25
		8	Olive brown silty sand	B08EE-8	12:27

Notes:
Groundwater was not encountered at any sampling location
Dup: Duplicate Sample
bgs: Below ground surface

Field Sampling Summary Log

Project Name: McKinley ES Step-Out Borings Project Number: SMSD-23-11670 Sampling Date: 07/26/2023 Logged by: Noah Stevens, Ruta Bandziulis, and Eric Fraske	Driller: Strongarm Enviornmental Field Services, Inc. Drilling Method: Geoprobe Boring Diameter: 2.25 Inches

Soil Boring Location	Ground Surface	Soil Sample Depth (Feet bgs)	Soil Description	Soil Sample ID	Soil Sample Time
B10-NN	Asphalt	2	Medium brown clay	B10NN-2	9:05
		4	Medium brown clay	B10NN-4	9:06
		6	Medium brown clay with silt	B10NN-6	9:07
		8	Medium brown clay with sand	B10NN-8	9:08
B10-N	Asphalt	2	Medium brown clay with silt	B10N-2	9:10
		4	Medium brown clay with silt	B10N-4	9:11
		6	Medium brown clay with fine sand	B10N-6	9:13
		8	Medium brown clay with fine sand	B10N-8	9:14
B10-A	Asphalt	2	Medium brown clay	B10A-2	9:19
		4	Medium brown clay with silt	B07A-4	9:20
		6	Medium brown clay with fine sand	B10A-6	9:24
		8	Medium brown clay with sand	B10A-8	9:25
B10-E	Asphalt	2	Medium brown clay	B10E-2 + Dup	9:35
		4	Medium brown clay	B10E-4	9:37
		6	Medium brown clay with sand	B10E-6	9:38
		8	Medium brown clay with fine gravel	B10E-8	9:39
B10-EE	Asphalt	2	Medium brown clay	B10EE-2	9:44
		4	Medium brown clay	B10EE-4	9:45
		6	Dark brown clay with silt	B10EE-6	9:47
		8	Medium brown clay	B10EE-8	9:48
B10-WW	Asphalt	2	Medium brown clay with silt	B10WW-2	10:00
		4	Medium brown clay	B10WW-4	10:01
		6	Medium brown clay with fine sand	B10WW-6	10:03
		8	Medium brown clay	B10WW-8	10:04
B10-W	Asphalt	2	Medium brown clay	B10W-2	10:15
		4	Medium brown clay	B10W-4	10:16
		6	Medium brown clay with silt	B10W-6	10:20
		8	Medium brown clay with fine sand	B10W-8	10:21
B10-S	Asphalt	2	Medium brown clay with silt	B10S-2	10:25
		4	Dark brown clay	B10S-4	10:26
		6	Medium brown clay with fine sand	B10S-6	10:30
		8	Medium brown clay with sand	B10S-8	10:31
B10-SS	Asphalt	2	Medium brown clay with silt	B10SS-2	10:33
		4	Medium brown clay with fine sand	B10SS-4	10:34
		6	Medium brown clay with sand	B10SS-6	10:38
		8	Medium brown clay with coarse sand and gravel	B10SS-8	10:40

Notes:
Groundwater was not encountered at any sampling location
Dup: Duplicate Sample

Field Sampling Summary Log

Project Name: McKinley ES Step-Out Borings Project Number: SMSD-23-11670 Sampling Date: 07/25/2023 Logged by: Noah Stevens, Ruta Bandziulis, and Eric Fraske	Driller: Strongarm Enviornmental Field Services, Inc. Drilling Method: Geoprobe Boring Diameter: 2.25 Inches

Soil Boring Location	Ground Surface	Soil Sample Depth (Feet bgs)	Soil Description	Soil Sample ID	Soil Sample Time
B11-E	Asphalt	2	Brown silty sand	B11E-2	8:47
		4	Light brown clayey sand	B11E-4 + Dup	8:49
		6	Light brown clayey sand	B11E-6	8:50
		8	Light brown silty sand	B11E-8	8:51
B11-EE	Asphalt	2	Brown silty sand	B11EE-2	8:56
		4	Brown silty sand	B11EE-4	8:57
		6	Light brown silty sand	B11EE-6	8:59
		8	Light brown clay	B11EE-8	9:00
B11-SS	Asphalt	2	Dark brown clayey sand	B11SS-2	9:05
		4	Brown clayey sand	B11SS-4	9:06
		6	Light brown sandy silt	B11SS-6	9:10
		8	Brown clayey sand	B11SS-8	9:11
B11-S	Asphalt	2	Brown sandy clay	B11S-2	9:15
		4	Brown sandy clay	B11S-4	9:16
		6	Greyish-brown sandy silt	B11S-6	9:20
		8	Brown silty sand	B11S-8	9:21
B11-WW	Asphalt	2	Brown sandy clay	B11WW-2	9:25
		4	Brown clayey sand	B11WW-4	9:27
		6	Brown sandy clay	B11WW-6	9:30
		8	Brown clay	B11WW-8	9:31
B11-W	Asphalt	2	Brown sandy clay	B11W-2	9:35
		4	Brown sandy clay	B11W-4	9:36
		6	Light brown silty sand	B11W-6	9:40
		8	Brown clayey sand	B11W-8	9:41
B11-N	Asphalt	2	Brown sandy clay	B11N-2	9:46
		4	Light brown sandy silt	B11N-4	9:47
		6	Brown sandy clay	B11N-6	9:49
		8	Brown clayey sand	B11N-8	9:50
B11-NN	Asphalt	2	Brown sandy clay	B11NN-2	9:54
		4	Light brown sandy clay	B11NN-4	9:55
		6	Light brown clay	B11NN-6	10:00
		8	Brown sandy clay	B11NN-8	10:01
B11-A	Asphalt	2	Brown clay with sand	B11A-2	10:04
		4	Brown sandy clay	B11A-4	10:05
		6	Brown sandy clay	B11A-6	10:08
		8	Brown sandy clay	B11A-8	10:10

Notes:
Groundwater was not encountered at any sampling location
Dup: Duplicate Sample
bgs: Below ground surface

APPENDIX B

Laboratory Analytical Results

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Eric Fraske
NV5, Inc
3777 Long Beach Blvd,
Long Beach, California 90807

Generated 7/31/2023 10:05:01 AM

JOB DESCRIPTION

McKinley Elementary School

JOB NUMBER

570-146364-1

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

my EOL

Eurofins Calscience

Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization

Vik Patel

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Authorized for release by
Vikas Patel, Project Manager I
Vikas.Patel@et.eurofinsus.com
(714)895-5494

Table of Contents

Cover Page 1
Table of Contents 3
Definitions/Glossary 4
Case Narrative 5
Detection Summary 6
Client Sample Results 10
QC Sample Results 15
QC Association Summary 17
Lab Chronicle 20
Certification Summary 28
Method Summary 29
Sample Summary 30
Chain of Custody 31
Receipt Checklists 45

Definitions/Glossary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-146364-1

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-146364-1

Comments
No additional comments.

Receipt
The samples were received on 7/26/2023 1:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.9º C, 4.2º C and 4.5º C.

Receipt Exceptions
The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): B11E-6 (570-146364-4). The container labels list B11E-6 (570-146364-4) with a time of 8:58, while the COC lists B11E-6 (570-146364-4) with a time of 8:50.

Metals
No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-1

Client Sample ID: B11E-2 — Lab Sample ID: 570-146364-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.53		0.493	0.0900	mg/Kg	20		6020	Total/NA

Client Sample ID: B11E-4 — Lab Sample ID: 570-146364-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	18.9		0.508	0.0928	mg/Kg	20		6020	Total/NA

Client Sample ID: B11E-4 DUP — Lab Sample ID: 570-146364-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.79		0.500	0.0914	mg/Kg	20		6020	Total/NA

Client Sample ID: B11S-2 — Lab Sample ID: 570-146364-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	9.38		0.495	0.0905	mg/Kg	20		6020	Total/NA

Client Sample ID: B11S-4 — Lab Sample ID: 570-146364-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	17.7		0.508	0.0928	mg/Kg	20		6020	Total/NA

Client Sample ID: B11W-2 — Lab Sample ID: 570-146364-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	9.63		0.495	0.0905	mg/Kg	20		6020	Total/NA

Client Sample ID: B11W-4 — Lab Sample ID: 570-146364-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	16.7		0.500	0.0914	mg/Kg	20		6020	Total/NA

Client Sample ID: B11N-2 — Lab Sample ID: 570-146364-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10.8		0.505	0.0923	mg/Kg	20		6020	Total/NA

Client Sample ID: B11N-4 — Lab Sample ID: 570-146364-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	13.7		0.498	0.0909	mg/Kg	20		6020	Total/NA

Client Sample ID: B11A-6 — Lab Sample ID: 570-146364-36

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	12.7		0.500	0.0914	mg/Kg	20		6020	Total/NA

Client Sample ID: B08W-2 — Lab Sample ID: 570-146364-42

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	16.8		0.500	0.0914	mg/Kg	20		6020	Total/NA

Client Sample ID: B08W-2 DUP — Lab Sample ID: 570-146364-43

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.99		0.495	0.0905	mg/Kg	20		6020	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-1

Client Sample ID: B08W-4 — Lab Sample ID: 570-146364-44

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	14.3		0.510	0.0933	mg/Kg	20		6020	Total/NA

Client Sample ID: B08A-6 — Lab Sample ID: 570-146364-49

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.3		0.498	0.0909	mg/Kg	20		6020	Total/NA

Client Sample ID: B08S-2 — Lab Sample ID: 570-146364-55

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	13.6		0.493	0.0900	mg/Kg	20		6020	Total/NA

Client Sample ID: B08S-4 — Lab Sample ID: 570-146364-56

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	15.7		0.505	0.0923	mg/Kg	20		6020	Total/NA

Client Sample ID: B08E-2 — Lab Sample ID: 570-146364-59

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10.3		0.505	0.0923	mg/Kg	20		6020	Total/NA

Client Sample ID: B08E-4 — Lab Sample ID: 570-146364-60

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	17.3		0.503	0.0919	mg/Kg	20		6020	Total/NA

Client Sample ID: EB072523 — Lab Sample ID: 570-146364-76

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.199	J	1.00	0.132	ug/L	1		6020	Total Recoverable

Client Sample ID: B07E-4 — Lab Sample ID: 570-146364-77

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	16.2		0.503	0.0919	mg/Kg	20		6020	Total/NA

Client Sample ID: B07N-2 — Lab Sample ID: 570-146364-80

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	19.2		0.500	0.0914	mg/Kg	20		6020	Total/NA

Client Sample ID: B07N-4 — Lab Sample ID: 570-146364-81

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	13.2		0.498	0.0909	mg/Kg	20		6020	Total/NA

Client Sample ID: B07W-2 — Lab Sample ID: 570-146364-87

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	16.8		0.500	0.0914	mg/Kg	20		6020	Total/NA

Client Sample ID: B07W-4 — Lab Sample ID: 570-146364-88

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	15.7		0.510	0.0933	mg/Kg	20		6020	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-1

Client Sample ID: B07A-6 — Lab Sample ID: 570-146364-93

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	9.69		0.508	0.0928	mg/Kg	20		6020	Total/NA

Client Sample ID: B07-6 DUP — Lab Sample ID: 570-146364-95

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	18.4		0.495	0.0905	mg/Kg	20		6020	Total/NA

Client Sample ID: B07E-2 — Lab Sample ID: 570-146364-96

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10.6		0.493	0.0900	mg/Kg	20		6020	Total/NA

Client Sample ID: B10N-2 — Lab Sample ID: 570-146364-101

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	16.8		0.503	0.0919	mg/Kg	20		6020	Total/NA

Client Sample ID: B10N-4 — Lab Sample ID: 570-146364-102

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	16.0		0.495	0.0905	mg/Kg	20		6020	Total/NA

Client Sample ID: B10A-6 — Lab Sample ID: 570-146364-107

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	12.6		0.503	0.0919	mg/Kg	20		6020	Total/NA

Client Sample ID: B10E-2 — Lab Sample ID: 570-146364-109

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	6.04		0.500	0.0914	mg/Kg	20		6020	Total/NA

Client Sample ID: B10E-2 DUP — Lab Sample ID: 570-146364-110

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.17		0.495	0.0905	mg/Kg	20		6020	Total/NA

Client Sample ID: B10E-4 — Lab Sample ID: 570-146364-111

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	17.1		0.505	0.0923	mg/Kg	20		6020	Total/NA

Client Sample ID: B10W-2 — Lab Sample ID: 570-146364-118

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10.1		0.503	0.0919	mg/Kg	20		6020	Total/NA

Client Sample ID: B10W-4 — Lab Sample ID: 570-146364-119

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	16.0		0.508	0.0928	mg/Kg	20		6020	Total/NA

Client Sample ID: B10S-2 — Lab Sample ID: 570-146364-126

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	6.83		0.508	0.0928	mg/Kg	20		6020	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-1

Client Sample ID: B10S-4 — Lab Sample ID: 570-146364-127

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	16.0		0.508	0.0928	mg/Kg	20		6020	Total/NA

Client Sample ID: EB072623 — Lab Sample ID: 570-146364-134

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.241	J	1.00	0.132	ug/L	1		6020	Total Recoverable

This Detection Summary does not include radiochemical test results.

Method: SW846 6020 - Metals (ICP/MS)

Client Sample ID: B11E-2 — **Lab Sample ID: 570-146364-1**
Date Collected: 07/25/23 08:47 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.53		0.493	0.0900	mg/Kg		07/27/23 09:38	07/28/23 10:42	20

Client Sample ID: B11E-4 — **Lab Sample ID: 570-146364-2**
Date Collected: 07/25/23 08:49 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	18.9		0.508	0.0928	mg/Kg		07/27/23 09:38	07/28/23 10:52	20

Client Sample ID: B11E-4 DUP — **Lab Sample ID: 570-146364-3**
Date Collected: 07/25/23 08:49 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.79		0.500	0.0914	mg/Kg		07/27/23 09:38	07/28/23 10:54	20

Client Sample ID: B11S-2 — **Lab Sample ID: 570-146364-14**
Date Collected: 07/25/23 09:15 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.38		0.495	0.0905	mg/Kg		07/27/23 09:38	07/28/23 11:01	20

Client Sample ID: B11S-4 — **Lab Sample ID: 570-146364-15**
Date Collected: 07/25/23 09:16 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	17.7		0.508	0.0928	mg/Kg		07/27/23 09:38	07/28/23 11:03	20

Client Sample ID: B11W-2 — **Lab Sample ID: 570-146364-22**
Date Collected: 07/25/23 09:35 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.63		0.495	0.0905	mg/Kg		07/27/23 09:38	07/28/23 11:05	20

Client Sample ID: B11W-4 — **Lab Sample ID: 570-146364-23**
Date Collected: 07/25/23 09:36 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16.7		0.500	0.0914	mg/Kg		07/27/23 09:38	07/28/23 11:07	20

Client Sample ID: B11N-2 — **Lab Sample ID: 570-146364-26**
Date Collected: 07/25/23 09:46 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.8		0.505	0.0923	mg/Kg		07/27/23 09:38	07/28/23 11:09	20

Client Sample ID: B11N-4 — **Lab Sample ID: 570-146364-27**
Date Collected: 07/25/23 09:47 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13.7		0.498	0.0909	mg/Kg		07/27/23 09:38	07/28/23 11:12	20

Method: SW846 6020 - Metals (ICP/MS)

Client Sample ID: B11A-6 — **Lab Sample ID: 570-146364-36**
Date Collected: 07/25/23 10:08 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12.7		0.500	0.0914	mg/Kg		07/27/23 09:38	07/28/23 11:15	20

Client Sample ID: B08W-2 — **Lab Sample ID: 570-146364-42**
Date Collected: 07/25/23 11:19 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16.8		0.500	0.0914	mg/Kg		07/27/23 09:38	07/28/23 11:17	20

Client Sample ID: B08W-2 DUP — **Lab Sample ID: 570-146364-43**
Date Collected: 07/25/23 11:19 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.99		0.495	0.0905	mg/Kg		07/27/23 09:38	07/28/23 11:20	20

Client Sample ID: B08W-4 — **Lab Sample ID: 570-146364-44**
Date Collected: 07/25/23 11:20 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	14.3		0.510	0.0933	mg/Kg		07/27/23 09:38	07/28/23 11:22	20

Client Sample ID: B08A-6 — **Lab Sample ID: 570-146364-49**
Date Collected: 07/25/23 11:40 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.3		0.498	0.0909	mg/Kg		07/27/23 09:38	07/28/23 11:35	20

Client Sample ID: B08S-2 — **Lab Sample ID: 570-146364-55**
Date Collected: 07/25/23 11:57 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13.6		0.493	0.0900	mg/Kg		07/27/23 09:38	07/28/23 11:37	20

Client Sample ID: B08S-4 — **Lab Sample ID: 570-146364-56**
Date Collected: 07/25/23 11:58 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	15.7		0.505	0.0923	mg/Kg		07/27/23 09:38	07/28/23 11:40	20

Client Sample ID: B08E-2 — **Lab Sample ID: 570-146364-59**
Date Collected: 07/25/23 12:10 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.3		0.505	0.0923	mg/Kg		07/27/23 09:38	07/28/23 11:42	20

Client Sample ID: B08E-4 — **Lab Sample ID: 570-146364-60**
Date Collected: 07/25/23 12:12 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	17.3		0.503	0.0919	mg/Kg		07/27/23 09:38	07/28/23 11:44	20

Method: SW846 6020 - Metals (ICP/MS)

Client Sample ID: B07E-4 — **Lab Sample ID: 570-146364-77**
Date Collected: 07/25/23 14:40 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16.2		0.503	0.0919	mg/Kg		07/27/23 09:38	07/28/23 11:46	20

Client Sample ID: B07N-2 — **Lab Sample ID: 570-146364-80**
Date Collected: 07/25/23 14:52 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	19.2		0.500	0.0914	mg/Kg		07/27/23 09:38	07/28/23 11:48	20

Client Sample ID: B07N-4 — **Lab Sample ID: 570-146364-81**
Date Collected: 07/25/23 14:53 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13.2		0.498	0.0909	mg/Kg		07/27/23 09:47	07/28/23 09:52	20

Client Sample ID: B07W-2 — **Lab Sample ID: 570-146364-87**
Date Collected: 07/25/23 14:11 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16.8		0.500	0.0914	mg/Kg		07/27/23 09:47	07/28/23 10:28	20

Client Sample ID: B07W-4 — **Lab Sample ID: 570-146364-88**
Date Collected: 07/25/23 14:12 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	15.7		0.510	0.0933	mg/Kg		07/27/23 09:47	07/28/23 09:36	20

Client Sample ID: B07A-6 — **Lab Sample ID: 570-146364-93**
Date Collected: 07/25/23 14:21 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.69		0.508	0.0928	mg/Kg		07/27/23 09:47	07/28/23 09:38	20

Client Sample ID: B07-6 DUP — **Lab Sample ID: 570-146364-95**
Date Collected: 07/25/23 14:21 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	18.4		0.495	0.0905	mg/Kg		07/27/23 09:47	07/28/23 09:10	20

Client Sample ID: B07E-2 — **Lab Sample ID: 570-146364-96**
Date Collected: 07/25/23 14:39 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.6		0.493	0.0900	mg/Kg		07/27/23 09:47	07/28/23 09:12	20

Client Sample ID: B10N-2 — **Lab Sample ID: 570-146364-101**
Date Collected: 07/25/23 09:10 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16.8		0.503	0.0919	mg/Kg		07/27/23 09:47	07/28/23 10:03	20

Method: SW846 6020 - Metals (ICP/MS)

Client Sample ID: B10N-4 — **Lab Sample ID: 570-146364-102**
Date Collected: 07/25/23 09:11 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16.0		0.495	0.0905	mg/Kg		07/27/23 09:47	07/28/23 10:05	20

Client Sample ID: B10A-6 — **Lab Sample ID: 570-146364-107**
Date Collected: 07/25/23 09:24 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12.6		0.503	0.0919	mg/Kg		07/27/23 09:47	07/28/23 10:11	20

Client Sample ID: B10E-2 — **Lab Sample ID: 570-146364-109**
Date Collected: 07/25/23 09:35 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.04		0.500	0.0914	mg/Kg		07/27/23 09:47	07/28/23 10:14	20

Client Sample ID: B10E-2 DUP — **Lab Sample ID: 570-146364-110**
Date Collected: 07/25/23 09:36 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.17		0.495	0.0905	mg/Kg		07/27/23 09:47	07/28/23 10:16	20

Client Sample ID: B10E-4 — **Lab Sample ID: 570-146364-111**
Date Collected: 07/25/23 09:37 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	17.1		0.505	0.0923	mg/Kg		07/27/23 09:47	07/28/23 10:18	20

Client Sample ID: B10W-2 — **Lab Sample ID: 570-146364-118**
Date Collected: 07/25/23 10:15 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.1		0.503	0.0919	mg/Kg		07/27/23 09:47	07/28/23 10:20	20

Client Sample ID: B10W-4 — **Lab Sample ID: 570-146364-119**
Date Collected: 07/25/23 10:16 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16.0		0.508	0.0928	mg/Kg		07/27/23 09:47	07/28/23 10:22	20

Client Sample ID: B10S-2 — **Lab Sample ID: 570-146364-126**
Date Collected: 07/25/23 10:25 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.83		0.508	0.0928	mg/Kg		07/27/23 09:47	07/28/23 10:24	20

Client Sample ID: B10S-4 — **Lab Sample ID: 570-146364-127**
Date Collected: 07/25/23 10:26 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16.0		0.508	0.0928	mg/Kg		07/27/23 09:47	07/28/23 10:26	20

Client Sample Results

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-1

Method: SW846 6020 - Metals (ICP/MS) - Total Recoverable

Client Sample ID: EB072523
Date Collected: 07/25/23 00:00
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-76
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.199	J	1.00	0.132	ug/L		07/27/23 07:24	07/27/23 10:57	1

Client Sample ID: EB072623
Date Collected: 07/25/23 10:45
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-134
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.241	J	1.00	0.132	ug/L		07/27/23 07:24	07/27/23 11:00	1

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 570-349475/1-A ^20 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 350179 — **Prep Batch: 349475**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.505	0.0923	mg/Kg		07/27/23 09:38	07/28/23 10:35	20

Lab Sample ID: LCS 570-349475/2-A ^20 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 350179 — **Prep Batch: 349475**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	49.5	47.97		mg/Kg		97	80 - 120

Lab Sample ID: LCSD 570-349475/3-A ^20 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 350179 — **Prep Batch: 349475**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	49.0	47.57		mg/Kg		97	80 - 120	1	20

Lab Sample ID: 570-146364-1 MS — **Client Sample ID: B11E-2**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 350179 — **Prep Batch: 349475**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	8.53		50.5	56.51		mg/Kg		95	75 - 125

Lab Sample ID: 570-146364-1 MSD — **Client Sample ID: B11E-2**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 350179 — **Prep Batch: 349475**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	8.53		49.8	53.76		mg/Kg		91	75 - 125	5	20

Lab Sample ID: MB 570-349476/1-A ^20 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 350178 — **Prep Batch: 349476**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.500	0.0914	mg/Kg		07/27/23 09:47	07/28/23 09:45	20

Lab Sample ID: LCS 570-349476/2-A ^20 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 350178 — **Prep Batch: 349476**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	49.5	48.11		mg/Kg		97	80 - 120

Lab Sample ID: LCSD 570-349476/3-A ^20 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 350178 — **Prep Batch: 349476**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	49.3	47.76		mg/Kg		97	80 - 120	1	20

QC Sample Results

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-1

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: 570-146364-81 MS
Matrix: Solid
Analysis Batch: 350178

Client Sample ID: B07N-4
Prep Type: Total/NA
Prep Batch: 349476

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Arsenic	13.2		49.3	62.54		mg/Kg		100	75 - 125		

Lab Sample ID: 570-146364-81 MSD
Matrix: Solid
Analysis Batch: 350178

Client Sample ID: B07N-4
Prep Type: Total/NA
Prep Batch: 349476

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	13.2		49.5	58.19		mg/Kg		91	75 - 125	7	20

Lab Sample ID: MB 570-349402/1-A
Matrix: Water
Analysis Batch: 349618

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 349402

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.00	0.132	ug/L		07/27/23 07:24	07/27/23 14:26	1

Lab Sample ID: LCS 570-349402/2-A
Matrix: Water
Analysis Batch: 349618

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 349402

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Arsenic			80.0	83.09		ug/L		104	80 - 120		

Lab Sample ID: LCSD 570-349402/3-A
Matrix: Water
Analysis Batch: 349618

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 349402

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic			80.0	85.26		ug/L		107	80 - 120	3	20

QC Association Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-1

Metals

Prep Batch: 349402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-146364-76	EB072523	Total Recoverable	Water	3005A	
570-146364-134	EB072623	Total Recoverable	Water	3005A	
MB 570-349402/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 570-349402/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 570-349402/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	

Prep Batch: 349475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-146364-1	B11E-2	Total/NA	Solid	3050B	
570-146364-2	B11E-4	Total/NA	Solid	3050B	
570-146364-3	B11E-4 DUP	Total/NA	Solid	3050B	
570-146364-14	B11S-2	Total/NA	Solid	3050B	
570-146364-15	B11S-4	Total/NA	Solid	3050B	
570-146364-22	B11W-2	Total/NA	Solid	3050B	
570-146364-23	B11W-4	Total/NA	Solid	3050B	
570-146364-26	B11N-2	Total/NA	Solid	3050B	
570-146364-27	B11N-4	Total/NA	Solid	3050B	
570-146364-36	B11A-6	Total/NA	Solid	3050B	
570-146364-42	B08W-2	Total/NA	Solid	3050B	
570-146364-43	B08W-2 DUP	Total/NA	Solid	3050B	
570-146364-44	B08W-4	Total/NA	Solid	3050B	
570-146364-49	B08A-6	Total/NA	Solid	3050B	
570-146364-55	B08S-2	Total/NA	Solid	3050B	
570-146364-56	B08S-4	Total/NA	Solid	3050B	
570-146364-59	B08E-2	Total/NA	Solid	3050B	
570-146364-60	B08E-4	Total/NA	Solid	3050B	
570-146364-77	B07E-4	Total/NA	Solid	3050B	
570-146364-80	B07N-2	Total/NA	Solid	3050B	
MB 570-349475/1-A ^20	Method Blank	Total/NA	Solid	3050B	
LCS 570-349475/2-A ^20	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-349475/3-A ^20	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-146364-1 MS	B11E-2	Total/NA	Solid	3050B	
570-146364-1 MSD	B11E-2	Total/NA	Solid	3050B	

Prep Batch: 349476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-146364-81	B07N-4	Total/NA	Solid	3050B	
570-146364-87	B07W-2	Total/NA	Solid	3050B	
570-146364-88	B07W-4	Total/NA	Solid	3050B	
570-146364-93	B07A-6	Total/NA	Solid	3050B	
570-146364-95	B07-6 DUP	Total/NA	Solid	3050B	
570-146364-96	B07E-2	Total/NA	Solid	3050B	
570-146364-101	B10N-2	Total/NA	Solid	3050B	
570-146364-102	B10N-4	Total/NA	Solid	3050B	
570-146364-107	B10A-6	Total/NA	Solid	3050B	
570-146364-109	B10E-2	Total/NA	Solid	3050B	
570-146364-110	B10E-2 DUP	Total/NA	Solid	3050B	
570-146364-111	B10E-4	Total/NA	Solid	3050B	
570-146364-118	B10W-2	Total/NA	Solid	3050B	
570-146364-119	B10W-4	Total/NA	Solid	3050B	
570-146364-126	B10S-2	Total/NA	Solid	3050B	

Metals (Continued)

Prep Batch: 349476 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-146364-127	B10S-4	Total/NA	Solid	3050B	
MB 570-349476/1-A ^20	Method Blank	Total/NA	Solid	3050B	
LCS 570-349476/2-A ^20	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-349476/3-A ^20	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-146364-81 MS	B07N-4	Total/NA	Solid	3050B	
570-146364-81 MSD	B07N-4	Total/NA	Solid	3050B	

Analysis Batch: 349592

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-146364-76	EB072523	Total Recoverable	Water	6020	349402
570-146364-134	EB072623	Total Recoverable	Water	6020	349402

Analysis Batch: 349618

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-349402/1-A	Method Blank	Total Recoverable	Water	6020	349402
LCS 570-349402/2-A	Lab Control Sample	Total Recoverable	Water	6020	349402
LCSD 570-349402/3-A	Lab Control Sample Dup	Total Recoverable	Water	6020	349402

Analysis Batch: 350178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-146364-81	B07N-4	Total/NA	Solid	6020	349476
570-146364-87	B07W-2	Total/NA	Solid	6020	349476
570-146364-88	B07W-4	Total/NA	Solid	6020	349476
570-146364-93	B07A-6	Total/NA	Solid	6020	349476
570-146364-95	B07-6 DUP	Total/NA	Solid	6020	349476
570-146364-96	B07E-2	Total/NA	Solid	6020	349476
570-146364-101	B10N-2	Total/NA	Solid	6020	349476
570-146364-102	B10N-4	Total/NA	Solid	6020	349476
570-146364-107	B10A-6	Total/NA	Solid	6020	349476
570-146364-109	B10E-2	Total/NA	Solid	6020	349476
570-146364-110	B10E-2 DUP	Total/NA	Solid	6020	349476
570-146364-111	B10E-4	Total/NA	Solid	6020	349476
570-146364-118	B10W-2	Total/NA	Solid	6020	349476
570-146364-119	B10W-4	Total/NA	Solid	6020	349476
570-146364-126	B10S-2	Total/NA	Solid	6020	349476
570-146364-127	B10S-4	Total/NA	Solid	6020	349476
MB 570-349476/1-A ^20	Method Blank	Total/NA	Solid	6020	349476
LCS 570-349476/2-A ^20	Lab Control Sample	Total/NA	Solid	6020	349476
LCSD 570-349476/3-A ^20	Lab Control Sample Dup	Total/NA	Solid	6020	349476
570-146364-81 MS	B07N-4	Total/NA	Solid	6020	349476
570-146364-81 MSD	B07N-4	Total/NA	Solid	6020	349476

Analysis Batch: 350179

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-146364-1	B11E-2	Total/NA	Solid	6020	349475
570-146364-2	B11E-4	Total/NA	Solid	6020	349475
570-146364-3	B11E-4 DUP	Total/NA	Solid	6020	349475
570-146364-14	B11S-2	Total/NA	Solid	6020	349475
570-146364-15	B11S-4	Total/NA	Solid	6020	349475
570-146364-22	B11W-2	Total/NA	Solid	6020	349475
570-146364-23	B11W-4	Total/NA	Solid	6020	349475

Metals (Continued)

Analysis Batch: 350179 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-146364-26	B11N-2	Total/NA	Solid	6020	349475
570-146364-27	B11N-4	Total/NA	Solid	6020	349475
570-146364-36	B11A-6	Total/NA	Solid	6020	349475
570-146364-42	B08W-2	Total/NA	Solid	6020	349475
570-146364-43	B08W-2 DUP	Total/NA	Solid	6020	349475
570-146364-44	B08W-4	Total/NA	Solid	6020	349475
570-146364-49	B08A-6	Total/NA	Solid	6020	349475
570-146364-55	B08S-2	Total/NA	Solid	6020	349475
570-146364-56	B08S-4	Total/NA	Solid	6020	349475
570-146364-59	B08E-2	Total/NA	Solid	6020	349475
570-146364-60	B08E-4	Total/NA	Solid	6020	349475
570-146364-77	B07E-4	Total/NA	Solid	6020	349475
570-146364-80	B07N-2	Total/NA	Solid	6020	349475
MB 570-349475/1-A ^20	Method Blank	Total/NA	Solid	6020	349475
LCS 570-349475/2-A ^20	Lab Control Sample	Total/NA	Solid	6020	349475
LCSD 570-349475/3-A ^20	Lab Control Sample Dup	Total/NA	Solid	6020	349475
570-146364-1 MS	B11E-2	Total/NA	Solid	6020	349475
570-146364-1 MSD	B11E-2	Total/NA	Solid	6020	349475

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-1

Client Sample ID: B11E-2
Date Collected: 07/25/23 08:47
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	50 mL	349475	07/27/23 09:38	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350179	07/28/23 10:42	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11E-4
Date Collected: 07/25/23 08:49
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.97 g	50 mL	349475	07/27/23 09:38	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350179	07/28/23 10:52	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11E-4 DUP
Date Collected: 07/25/23 08:49
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	349475	07/27/23 09:38	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350179	07/28/23 10:54	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11S-2
Date Collected: 07/25/23 09:15
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-14
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	50 mL	349475	07/27/23 09:38	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350179	07/28/23 11:01	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11S-4
Date Collected: 07/25/23 09:16
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-15
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.97 g	50 mL	349475	07/27/23 09:38	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350179	07/28/23 11:03	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-1

Client Sample ID: B11W-2
Date Collected: 07/25/23 09:35
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-22
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	50 mL	349475	07/27/23 09:38	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350179	07/28/23 11:05	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11W-4
Date Collected: 07/25/23 09:36
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-23
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	349475	07/27/23 09:38	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350179	07/28/23 11:07	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11N-2
Date Collected: 07/25/23 09:46
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-26
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.98 g	50 mL	349475	07/27/23 09:38	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350179	07/28/23 11:09	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11N-4
Date Collected: 07/25/23 09:47
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-27
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	50 mL	349475	07/27/23 09:38	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350179	07/28/23 11:12	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11A-6
Date Collected: 07/25/23 10:08
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-36
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	349475	07/27/23 09:38	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350179	07/28/23 11:15	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-1

Client Sample ID: B08W-2
Date Collected: 07/25/23 11:19
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-42
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	349475	07/27/23 09:38	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350179	07/28/23 11:17	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B08W-2 DUP
Date Collected: 07/25/23 11:19
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-43
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	50 mL	349475	07/27/23 09:38	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350179	07/28/23 11:20	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B08W-4
Date Collected: 07/25/23 11:20
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-44
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.96 g	50 mL	349475	07/27/23 09:38	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350179	07/28/23 11:22	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B08A-6
Date Collected: 07/25/23 11:40
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-49
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	50 mL	349475	07/27/23 09:38	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350179	07/28/23 11:35	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B08S-2
Date Collected: 07/25/23 11:57
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-55
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	50 mL	349475	07/27/23 09:38	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350179	07/28/23 11:37	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-1

Client Sample ID: B08S-4
Date Collected: 07/25/23 11:58
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-56
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.98 g	50 mL	349475	07/27/23 09:38	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350179	07/28/23 11:40	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B08E-2
Date Collected: 07/25/23 12:10
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-59
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.98 g	50 mL	349475	07/27/23 09:38	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350179	07/28/23 11:42	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B08E-4
Date Collected: 07/25/23 12:12
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-60
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	50 mL	349475	07/27/23 09:38	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350179	07/28/23 11:44	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: EB072523
Date Collected: 07/25/23 00:00
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-76
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	349402	07/27/23 07:24	JP8N	EET CAL 4
Total Recoverable	Analysis	6020		1			349592	07/27/23 10:57	Y2WS	EET CAL 4
	Instrument ID:	ICPMS09								

Client Sample ID: B07E-4
Date Collected: 07/25/23 14:40
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-77
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	50 mL	349475	07/27/23 09:38	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350179	07/28/23 11:46	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-1

Client Sample ID: B07N-2
Date Collected: 07/25/23 14:52
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-80
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	349475	07/27/23 09:38	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350179	07/28/23 11:48	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B07N-4
Date Collected: 07/25/23 14:53
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-81
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	50 mL	349476	07/27/23 09:47	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350178	07/28/23 09:52	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B07W-2
Date Collected: 07/25/23 14:11
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-87
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	349476	07/27/23 09:47	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350178	07/28/23 10:28	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B07W-4
Date Collected: 07/25/23 14:12
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-88
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.96 g	50 mL	349476	07/27/23 09:47	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350178	07/28/23 09:36	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B07A-6
Date Collected: 07/25/23 14:21
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-93
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.97 g	50 mL	349476	07/27/23 09:47	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350178	07/28/23 09:38	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-1

Client Sample ID: B07-6 DUP
Date Collected: 07/25/23 14:21
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-95
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	50 mL	349476	07/27/23 09:47	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350178	07/28/23 09:10	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B07E-2
Date Collected: 07/25/23 14:39
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-96
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	50 mL	349476	07/27/23 09:47	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350178	07/28/23 09:12	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10N-2
Date Collected: 07/25/23 09:10
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-101
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	50 mL	349476	07/27/23 09:47	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350178	07/28/23 10:03	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10N-4
Date Collected: 07/25/23 09:11
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-102
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	50 mL	349476	07/27/23 09:47	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350178	07/28/23 10:05	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10A-6
Date Collected: 07/25/23 09:24
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-107
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	50 mL	349476	07/27/23 09:47	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350178	07/28/23 10:11	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-1

Client Sample ID: B10E-2
Date Collected: 07/25/23 09:35
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-109
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	349476	07/27/23 09:47	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350178	07/28/23 10:14	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10E-2 DUP
Date Collected: 07/25/23 09:36
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-110
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	50 mL	349476	07/27/23 09:47	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350178	07/28/23 10:16	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10E-4
Date Collected: 07/25/23 09:37
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-111
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.98 g	50 mL	349476	07/27/23 09:47	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350178	07/28/23 10:18	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10W-2
Date Collected: 07/25/23 10:15
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-118
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	50 mL	349476	07/27/23 09:47	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350178	07/28/23 10:20	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10W-4
Date Collected: 07/25/23 10:16
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-119
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.97 g	50 mL	349476	07/27/23 09:47	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350178	07/28/23 10:22	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-1

Client Sample ID: B10S-2

Lab Sample ID: 570-146364-126
Date Collected: 07/25/23 10:25
Matrix: Solid
Date Received: 07/26/23 13:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.97 g	50 mL	349476	07/27/23 09:47	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350178	07/28/23 10:24	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10S-4

Lab Sample ID: 570-146364-127
Date Collected: 07/25/23 10:26
Matrix: Solid
Date Received: 07/26/23 13:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.97 g	50 mL	349476	07/27/23 09:47	GYR8	EET CAL 4
Total/NA	Analysis	6020		20			350178	07/28/23 10:26	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: EB072623

Lab Sample ID: 570-146364-134
Date Collected: 07/25/23 10:45
Matrix: Water
Date Received: 07/26/23 13:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	349402	07/27/23 07:24	JP8N	EET CAL 4
Total Recoverable	Analysis	6020		1			349592	07/27/23 11:00	Y2WS	EET CAL 4
	Instrument ID:	ICPMS09								

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Accreditation/Certification Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-1

Laboratory: Eurofins Calscience

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	3082	07-31-24
Oregon	NELAP	4175	02-02-24

Method Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	EET CAL 4
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CAL 4
3050B	Preparation, Metals	SW846	EET CAL 4

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Sample Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-146364-1	B11E-2	Solid	07/25/23 08:47	07/26/23 13:50
570-146364-2	B11E-4	Solid	07/25/23 08:49	07/26/23 13:50
570-146364-3	B11E-4 DUP	Solid	07/25/23 08:49	07/26/23 13:50
570-146364-14	B11S-2	Solid	07/25/23 09:15	07/26/23 13:50
570-146364-15	B11S-4	Solid	07/25/23 09:16	07/26/23 13:50
570-146364-22	B11W-2	Solid	07/25/23 09:35	07/26/23 13:50
570-146364-23	B11W-4	Solid	07/25/23 09:36	07/26/23 13:50
570-146364-26	B11N-2	Solid	07/25/23 09:46	07/26/23 13:50
570-146364-27	B11N-4	Solid	07/25/23 09:47	07/26/23 13:50
570-146364-36	B11A-6	Solid	07/25/23 10:08	07/26/23 13:50
570-146364-42	B08W-2	Solid	07/25/23 11:19	07/26/23 13:50
570-146364-43	B08W-2 DUP	Solid	07/25/23 11:19	07/26/23 13:50
570-146364-44	B08W-4	Solid	07/25/23 11:20	07/26/23 13:50
570-146364-49	B08A-6	Solid	07/25/23 11:40	07/26/23 13:50
570-146364-55	B08S-2	Solid	07/25/23 11:57	07/26/23 13:50
570-146364-56	B08S-4	Solid	07/25/23 11:58	07/26/23 13:50
570-146364-59	B08E-2	Solid	07/25/23 12:10	07/26/23 13:50
570-146364-60	B08E-4	Solid	07/25/23 12:12	07/26/23 13:50
570-146364-76	EB072523	Water	07/25/23 00:00	07/26/23 13:50
570-146364-77	B07E-4	Solid	07/25/23 14:40	07/26/23 13:50
570-146364-80	B07N-2	Solid	07/25/23 14:52	07/26/23 13:50
570-146364-81	B07N-4	Solid	07/25/23 14:53	07/26/23 13:50
570-146364-87	B07W-2	Solid	07/25/23 14:11	07/26/23 13:50
570-146364-88	B07W-4	Solid	07/25/23 14:12	07/26/23 13:50
570-146364-93	B07A-6	Solid	07/25/23 14:21	07/26/23 13:50
570-146364-95	B07-6 DUP	Solid	07/25/23 14:21	07/26/23 13:50
570-146364-96	B07E-2	Solid	07/25/23 14:39	07/26/23 13:50
570-146364-101	B10N-2	Solid	07/25/23 09:10	07/26/23 13:50
570-146364-102	B10N-4	Solid	07/25/23 09:11	07/26/23 13:50
570-146364-107	B10A-6	Solid	07/25/23 09:24	07/26/23 13:50
570-146364-109	B10E-2	Solid	07/25/23 09:35	07/26/23 13:50
570-146364-110	B10E-2 DUP	Solid	07/25/23 09:36	07/26/23 13:50
570-146364-111	B10E-4	Solid	07/25/23 09:37	07/26/23 13:50
570-146364-118	B10W-2	Solid	07/25/23 10:15	07/26/23 13:50
570-146364-119	B10W-4	Solid	07/25/23 10:16	07/26/23 13:50
570-146364-126	B10S-2	Solid	07/25/23 10:25	07/26/23 13:50
570-146364-127	B10S-4	Solid	07/25/23 10:26	07/26/23 13:50
570-146364-134	EB072623	Water	07/25/23 10:45	07/26/23 13:50

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Loc: 570

146364

FRM51406 Rev. 1.2

570-146364 Chain of Custody

CHAIN-OF-CUSTODY RECORD

DATE: 7/25/2023

PAGE: 1 OF 14

LABORATORY CLIENT: NV5, Inc.	CLIENT PROJECT NAME / NO.: McKinley Step-Out Sampling
ADDRESS: 3777 Long Beach Blvd, Annex Building	P.O. NO.: SMSD-23-11670
CITY: Long Beach STATE: CA ZIP: 90807	PROJECT CONTACT: Eric Fraske
	LAB CONTACT OR QUOTE NO.: 57016144
TEL: 562-544-3977 E-MAIL:	GLOBAL ID: LOG CODE: SAMPLER(S): (PRINT)

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ■ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD:

☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Arsenic EPA Method 6020	Archive and Hold
1	B11E-2	7/25/23	8:47	SOIL	1	X			X	
2	B11E-4	↓	8:49	SOIL	1	X			X	
3	B11E-4 DUP		8:49	SOIL	1	X			X	
4	B11E-6		8:50	SOIL	1	X				X
5	B11E-8		8:51	SOIL	1	X				X
6	B11EE-2		8:56	SOIL	1	X				X
7	B11EE-4		8:57	SOIL	1	X				X
8	B11EE-6		8:59	SOIL	1	X				X
9	B11EE-8		9:00	SOIL	1	X				X
10	B11SS-2	↓	9:05	SOIL	1	X				X

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/26	13:50	[signature] EC	7/26/23	13:50
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:

4.2/4.5 3.9/4.2 3.6/3.9 SC15

146364

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FRM51408 Rev. 1.2

CHAIN-OF-CUSTODY RECORD

DATE: 7/25/2023

PAGE: 2 OF 14

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LABORATORY CLIENT: NV5, Inc.	CLIENT PROJECT NAME / NO.: McKinley Step-Out Sampling
ADDRESS: 3777 Long Beach Blvd, Annex Building	P.O. NO.: SMSD-23-11670
CITY: Long Beach STATE: CA ZIP: 90807	PROJECT CONTACT: Eric Fraske
	LAB CONTACT OR QUOTE NO.: 57016144
TEL: 562-544-3977 E-MAIL:	GLOBAL ID: LOG CODE: SAMPLER(S): (PRINT)

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ■ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD:

☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Arsenic EPA Method 6020	Archive and Hold
11	~~BSS~~ B11SS-4	7/25/23	9:06	Soil	1	X				X
12	B11SS-6	7/25/23	9:10	SOIL	1	X				X
13	B11SS-8	7/25/23	9:11	SOIL	1	X				X
14	B11S~~S~~-2	7/25/23	9:15	SOIL	1	X			X	
15	B11S-4	7/25/23	9:16	SOIL	1	X			X	
16	B11S-6	7/25/23	9:20	SOIL	1	X				X
17	B11S-8	7/25/23	9:21	SOIL	1	X				X
18	B11WW-2	7/25/23	9:25	SOIL	1	X				X
19	B11WW-4	7/25/23	9:27	SOIL	1	X				X
20	B11WW-6	7/25/23	9:30	SOIL	1	X				X

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/26	13:50	[signature] EC	7/26/23	13:50
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:

146364

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FRM51408 Rev. 1.2

CHAIN-OF-CUSTODY RECORD

DATE: 7/25/2023

PAGE: 3 OF 14

2841 Dow Avenue, Suite 100, Tustin, CA 92780 • (714) 895-5494
For courier service / sample drop off information, contact us26_sales@eurofinsus.com or call us.

LABORATORY CLIENT: NV5, Inc.

ADDRESS: 3777 Long Beach Blvd, Annex Building

CITY: Long Beach | STATE: CA | ZIP: 90807

TEL: 562-544-3977 | E-MAIL:

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ■ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD:
☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

CLIENT PROJECT NAME / NO.: McKinley Step-Out Sampling

P.O. NO.: SMSD-23-11670

PROJECT CONTACT: Eric Fraske

LAB CONTACT OR QUOTE NO.: 57016144

GLOBAL ID:

LOG CODE:

SAMPLER(S): (PRINT)

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Arsenic EPA Method 6020	Archive and Hold
21	B11WW-8	7/25/23	9:31	SOIL	1	X				X
22	B11W-2		9:35			X			X	
23	B11W-4		9:36			X			X	
24	B11W-6		9:40			X				X
25	B11W-8		9:41			X				X
26	B11N-2		9:46			X			X	X
27	B11N-4		9:47			X			X	X
28	B11N-6		9:49			X				X
29	B11N-8		9:50			X				X
30	B11NN-2		9:54			X				X

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/26	13:50	[signature] EC	7/26/23	13:50

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31	B11NN-4	7/25	9:55	SOIL	1	X				X
32	B11NN-6	7/25/23	10:00	↓	↓	X				X
33	B11NN-8	7/25/23	10:01			X				X
34	B11A-2	7/25/23	10:04			X				X
35	B11A-4	7/25/23	10:05			X				X
36	B11A-6	7/25/23	10:08			X			X	
37	B11A-8	7/25/23	10:10			X				X
38	B08WW-2	7/25/23	11:15			X				X
39	B08WW-4	7/25/23	11:16			X				X
40	B08WW-6	7/25/23	11:17			X				X

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41	B08WW-8	7/25	11:18	SOIL	1	X				X
42	B08W-2	↓	11:19	↓	↓	X			X	
43	B08W-2DUP	↓	11:19	↓	↓	X			X	
44	B08W-4	↓	11:20	↓	↓	X			X	
45	B08W-6	↓	11:30	↓	↓	X				X
46	B08W-8	↓	11:31	↓	↓	X				X
47	B08A-2	↓	11:35	↓	↓	X				X
48	B08A-4	↓	11:37	↓	↓	X				X
[illegible]	B08A-6	↓	11:40	↓	↓	X			X	
50	B08A-8	↓	11:41	↓	↓	X				X

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51	BØ8SS-2	7/25	11:47	SOIL	1	X				X
52	BØ8SS-4	↓	11:49	↓	↓	X				X
53	BØ8SS-6		11:53			X				X
54	BØ8SS-8		11:55			X				X
55	BØ8S-2		11:57			X			X	
56	BØ8S-4		11:58			X			X	
57	BØ8S-6		12:03			X				X
58	BØ8S-8		12:05			X				X
59	BØ8E-2		12:10			X			X	
60	BØ8E-4	↓	12:12	↓	↓	X			X	

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61	BØ8E-6	7/25	12:14	SOIL	1	X				X
62	BØ8E-8	↓	12:15	↓	↓	X				X
63	BØ8EE-2	↓	12:20	↓	↓	X				X
64	BØ8EE-4	↓	12:22	↓	↓	X				X
65	BØ8EE-6	↓	12:25	↓	↓	X				X
66	BØ8EE-8	↓	12:27	↓	↓	X				X
67	B07EE-2	↓	13:57	↓	↓	X				X
68	B07EE-4	↓	13:58	↓	↓	X				X
69	B07EE-6	↓	14:02	↓	↓	X				X
70	B07EE-8	↓	14:03	↓	↓	X				X

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71	B07NN-8	07/25	15:09	soil	1	X				X
72	B07EE-2	↓	15:23	↓	↓	X				X
73	B07EE-4		15:25			X				X
74	B07EE-6		15:27			X				X
75	B07EE-8		15:28	↓		X				X
	~~EB~~	↓	—	~~W~~	↓	~~X~~			(X)	~~X~~
76	EB072523	07/25		W	1	X			X	

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[signature]	07/25	13:50	[signature] EC	7/26/23	13:50
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77	B07E-4	07/25	14:40	Soil	1	X			X	
78	B07E-6		14:42			X				X
79	B07E-8		14:43			X				X
80	B07N-2		14:52			X			X	
81	B07N-4		14:53			X			X	
82	B07N-6		14:54			X				X
83	B07N-8		14:55			X				X
84	B07NN-2		15:05			X				X
85	B07NN-4		15:06			X				X
86	B07NN-6		15:08			X				X

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[signature]	07/26	13:50	[signature] EC	7/26/23	13:50

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87	B07W-2	07/25	14:12	Soil	1	X			X	
88	B07W-4		14:12			X			X	
89	B07W-6		14:13			X				X
90	B07W-8		14:14			X				X
91	B07A-2		14:19			X				X
92	B07A-4		14:18			X				X
93	B07A-6		14:21			X			X	
94	B07A-8		14:22			X				X
95	B07-6 Dup		14:21			X			X	
96	B07E-2		14:39			X			X	

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97	BIONN-2	7/26	09:05	Soil	1	X				X
98	BIONN-4	↓	09:06	↓	↓	X				X
99	BIONN-6	↓	09:07	↓	↓	X				X
100	BIONN-8	↓	09:08	↓	↓	X				X
101	BION-2	↓	09:10	↓	↓	X			X	
102	BION-4	↓	09:11	↓	↓	X			X	
103	BION-6	↓	09:13	↓	↓	X				X
104	BION-8	↓	09:14	↓	↓	X				X
105	BIOA-2	↓	09:19	↓	↓	X				X
106	BIOA-4	↓	09:20	↓	↓	X				X

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107	B10A-6	07/26	09:24	Soil	1	X			X	
108	B10A-8		09:25			X				X
109	B10E-2		09:36			X			X	
110	B10E-2 Dup		09:36			X			X	
111	B10E-4		09:37			X			X	
112	B10E-6		09:38			X				X
113	B10E-8		09:39			X				X
114	B10EE-2		09:44			X				X
115	B10EE-4		09:45			X				X
116	B10EE-6		09:47			X				X

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117	BIOEE-8	07/26	09:48	Soil	1	X				X
118	BIOW-2	↓	10:15	↓	↓	X			X	
119	BIOW-4		10:16			X			X	
120	BIOW-6		10:20			X				X
121	BIOW-8		10:21			X				X
122	BIOWW-2		10:00			X				X
123	BIOWW-4		10:01			X				X
124	BIOWW-6		10:03			X				X
125	BIOWW-8		10:04			X				X
126	BIOS-2	↓	10:25	↓	↓	X			X	

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[signature]	07/26	13:50	[signature] BC	7/26/23	13:50
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CLIENT PROJECT NAME / NO.:	McKinley Step-Out Sampling
P.O. NO.:	SMSD-23-11670
PROJECT CONTACT:	Eric Fraske
LAB CONTACT OR QUOTE NO.:	57016144
GLOBAL ID:	
LOG CODE:	
SAMPLER(S): (PRINT)	

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ■ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD:
☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Arsenic EPA Method 6020	Archive and Hold
127	BIOS-4	07/26	10:26	Soil	1	X			X	
128	BIOS-6	↓	10:30	↓	↓					X
129	BIOS-8	↓	10:31	↓	↓					X
130	BIOSS-2	↓	10:33	↓	↓				X	X
131	BIOSS-4	↓	10:34	↓	↓				X	X
132	BIOSS-6	↓	10:38	↓	↓					X
133	BIOSS-8	↓	10:40	↓	↓					X
134	EB072623	↓	10:45	W	1	X			X	

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/26	13:50	[signature] EC	7/26/23	13:50

Login Sample Receipt Checklist

Client: NV5, Inc

Job Number: 570-146364-1

Login Number: 146364
List Number: 1
Creator: Hernandez, Richie

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Eric Fraske
NV5, Inc
3777 Long Beach Blvd,
Long Beach, California 90807

Generated 8/3/2023 3:30:24 PM

JOB DESCRIPTION

McKinley Elementary School

JOB NUMBER

570-146364-2

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

my EOL

Eurofins Calscience

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Calscience Project Manager.

Authorization

Vik Patel

Generated
8/3/2023 3:30:24 PM

Authorized for release by
Vikas Patel, Project Manager I
Vikas.Patel@et.eurofinsus.com
(714)895-5494

Table of Contents

Cover Page 1
Table of Contents 3
Definitions/Glossary 4
Case Narrative 5
Detection Summary 6
Client Sample Results 10
QC Sample Results 15
QC Association Summary 17
Lab Chronicle 20
Certification Summary 29
Method Summary 30
Sample Summary 31
Chain of Custody 32
Receipt Checklists 48

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-146364-2

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-146364-2

Comments
No additional comments.

Receipt
The samples were received on 7/26/2023 1:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.9º C, 4.2º C and 4.5º C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-2

Client Sample ID: B11E-6 — Lab Sample ID: 570-146364-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	16.3		0.493	0.0900	mg/Kg	20		6020	Total/NA

Client Sample ID: B11EE-2 — Lab Sample ID: 570-146364-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	13.5		0.490	0.0896	mg/Kg	20		6020	Total/NA

Client Sample ID: B11EE-4 — Lab Sample ID: 570-146364-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	19.0		0.493	0.0900	mg/Kg	20		6020	Total/NA

Client Sample ID: B11SS-2 — Lab Sample ID: 570-146364-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10.1		0.495	0.0905	mg/Kg	20		6020	Total/NA

Client Sample ID: B11SS-4 — Lab Sample ID: 570-146364-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	18.3		0.495	0.0905	mg/Kg	20		6020	Total/NA

Client Sample ID: B11S-6 — Lab Sample ID: 570-146364-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	15.7		0.498	0.0909	mg/Kg	20		6020	Total/NA

Client Sample ID: B11WW-2 — Lab Sample ID: 570-146364-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	14.7		0.490	0.0896	mg/Kg	20		6020	Total/NA

Client Sample ID: B11WW-4 — Lab Sample ID: 570-146364-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	18.9		0.490	0.0896	mg/Kg	20		6020	Total/NA

Client Sample ID: B11W-6 — Lab Sample ID: 570-146364-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	16.0		0.495	0.0905	mg/Kg	20		6020	Total/NA

Client Sample ID: B11N-6 — Lab Sample ID: 570-146364-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	17.6		0.493	0.0900	mg/Kg	20		6020	Total/NA

Client Sample ID: B11NN-2 — Lab Sample ID: 570-146364-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	9.96		0.500	0.0914	mg/Kg	20		6020	Total/NA

Client Sample ID: B11NN-4 — Lab Sample ID: 570-146364-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	15.3		0.488	0.0892	mg/Kg	20		6020	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-2

Client Sample ID: B11A-8 — Lab Sample ID: 570-146364-37

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	14.6		0.500	0.0914	mg/Kg	20		6020	Total/NA

Client Sample ID: B08WW-2 — Lab Sample ID: 570-146364-38

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	15.3		0.493	0.0900	mg/Kg	20		6020	Total/NA

Client Sample ID: B08WW-4 — Lab Sample ID: 570-146364-39

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	15.9		0.495	0.0905	mg/Kg	20		6020	Total/NA

Client Sample ID: B08W-6 — Lab Sample ID: 570-146364-45

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.4		0.490	0.0896	mg/Kg	20		6020	Total/NA

Client Sample ID: B08SS-2 — Lab Sample ID: 570-146364-51

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	13.8		0.493	0.0900	mg/Kg	20		6020	Total/NA

Client Sample ID: B08SS-4 — Lab Sample ID: 570-146364-52

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	17.2		0.495	0.0905	mg/Kg	20		6020	Total/NA

Client Sample ID: B08S-6 — Lab Sample ID: 570-146364-57

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	14.6		0.500	0.0914	mg/Kg	20		6020	Total/NA

Client Sample ID: B08EE-2 — Lab Sample ID: 570-146364-63

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	14.4		0.495	0.0905	mg/Kg	20		6020	Total/NA

Client Sample ID: B08EE-4 — Lab Sample ID: 570-146364-64

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	16.9		0.493	0.0900	mg/Kg	20		6020	Total/NA

Client Sample ID: B07WW-2 — Lab Sample ID: 570-146364-67

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	20.9		0.488	0.0892	mg/Kg	20		6020	Total/NA

Client Sample ID: B07WW-4 — Lab Sample ID: 570-146364-68

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	13.8		0.493	0.0900	mg/Kg	20		6020	Total/NA

Client Sample ID: B07EE-2 — Lab Sample ID: 570-146364-72

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	9.96		0.488	0.0892	mg/Kg	20		6020	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-2

Client Sample ID: B07EE-4 — Lab Sample ID: 570-146364-73

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	17.4		0.498	0.0909	mg/Kg	20		6020	Total/NA

Client Sample ID: B07E-6 — Lab Sample ID: 570-146364-78

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.7		0.505	0.0923	mg/Kg	20		6020	Total/NA

Client Sample ID: B07N-6 — Lab Sample ID: 570-146364-82

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.5		0.488	0.0892	mg/Kg	20		6020	Total/NA

Client Sample ID: B07NN-2 — Lab Sample ID: 570-146364-84

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	17.1		0.495	0.0905	mg/Kg	20		6020	Total/NA

Client Sample ID: B07NN-4 — Lab Sample ID: 570-146364-85

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	15.6		0.500	0.0914	mg/Kg	20		6020	Total/NA

Client Sample ID: B07W-6 — Lab Sample ID: 570-146364-89

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.0		0.500	0.0914	mg/Kg	20		6020	Total/NA

Client Sample ID: B10NN-2 — Lab Sample ID: 570-146364-97

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	19.6		0.490	0.0896	mg/Kg	20		6020	Total/NA

Client Sample ID: B10NN-4 — Lab Sample ID: 570-146364-98

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	16.0		0.495	0.0905	mg/Kg	20		6020	Total/NA

Client Sample ID: B10N-6 — Lab Sample ID: 570-146364-103

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10.8		0.493	0.0900	mg/Kg	20		6020	Total/NA

Client Sample ID: B10A-8 — Lab Sample ID: 570-146364-108

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	12.4		0.488	0.0892	mg/Kg	20		6020	Total/NA

Client Sample ID: B10E-6 — Lab Sample ID: 570-146364-112

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.9		0.488	0.0892	mg/Kg	20		6020	Total/NA

Client Sample ID: B10EE-2 — Lab Sample ID: 570-146364-114

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.80		0.500	0.0914	mg/Kg	20		6020	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-2

Client Sample ID: B10EE-4 — Lab Sample ID: 570-146364-115

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	14.8		0.493	0.0900	mg/Kg	20		6020	Total/NA

Client Sample ID: B10W-6 — Lab Sample ID: 570-146364-120

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	12.5		0.493	0.0900	mg/Kg	20		6020	Total/NA

Client Sample ID: B10WW-2 — Lab Sample ID: 570-146364-122

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	14.6		0.493	0.0900	mg/Kg	20		6020	Total/NA

Client Sample ID: B10WW-4 — Lab Sample ID: 570-146364-123

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	16.0		0.495	0.0905	mg/Kg	20		6020	Total/NA

Client Sample ID: B10S-6 — Lab Sample ID: 570-146364-128

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.5		0.500	0.0914	mg/Kg	20		6020	Total/NA

Client Sample ID: B10SS-2 — Lab Sample ID: 570-146364-130

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	12.9		0.498	0.0909	mg/Kg	20		6020	Total/NA

Client Sample ID: B10SS-4 — Lab Sample ID: 570-146364-131

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	16.1		0.498	0.0909	mg/Kg	20		6020	Total/NA

This Detection Summary does not include radiochemical test results.

Method: SW846 6020 - Metals (ICP/MS)

Client Sample ID: B11E-6 — **Lab Sample ID: 570-146364-4**
Date Collected: 07/25/23 08:50 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16.3		0.493	0.0900	mg/Kg		08/01/23 06:05	08/02/23 10:47	20

Client Sample ID: B11EE-2 — **Lab Sample ID: 570-146364-6**
Date Collected: 07/25/23 08:56 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13.5		0.490	0.0896	mg/Kg		08/01/23 06:05	08/02/23 10:49	20

Client Sample ID: B11EE-4 — **Lab Sample ID: 570-146364-7**
Date Collected: 07/25/23 08:57 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	19.0		0.493	0.0900	mg/Kg		08/01/23 06:05	08/02/23 10:51	20

Client Sample ID: B11SS-2 — **Lab Sample ID: 570-146364-10**
Date Collected: 07/25/23 09:05 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.1		0.495	0.0905	mg/Kg		08/01/23 06:05	08/02/23 10:53	20

Client Sample ID: B11SS-4 — **Lab Sample ID: 570-146364-11**
Date Collected: 07/25/23 09:06 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	18.3		0.495	0.0905	mg/Kg		08/01/23 06:05	08/02/23 10:55	20

Client Sample ID: B11S-6 — **Lab Sample ID: 570-146364-16**
Date Collected: 07/25/23 09:02 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	15.7		0.498	0.0909	mg/Kg		08/01/23 06:05	08/02/23 11:19	20

Client Sample ID: B11WW-2 — **Lab Sample ID: 570-146364-18**
Date Collected: 07/25/23 09:25 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	14.7		0.490	0.0896	mg/Kg		08/01/23 06:05	08/02/23 11:21	20

Client Sample ID: B11WW-4 — **Lab Sample ID: 570-146364-19**
Date Collected: 07/25/23 09:27 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	18.9		0.490	0.0896	mg/Kg		08/01/23 06:05	08/02/23 11:28	20

Client Sample ID: B11W-6 — **Lab Sample ID: 570-146364-24**
Date Collected: 07/25/23 09:40 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16.0		0.495	0.0905	mg/Kg		08/01/23 06:05	08/02/23 11:30	20

Method: SW846 6020 - Metals (ICP/MS)

Client Sample ID: B11N-6 — **Lab Sample ID: 570-146364-28**
Date Collected: 07/25/23 09:49 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	17.6		0.493	0.0900	mg/Kg		08/01/23 06:05	08/02/23 11:32	20

Client Sample ID: B11NN-2 — **Lab Sample ID: 570-146364-30**
Date Collected: 07/25/23 09:54 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.96		0.500	0.0914	mg/Kg		08/01/23 06:05	08/02/23 11:34	20

Client Sample ID: B11NN-4 — **Lab Sample ID: 570-146364-31**
Date Collected: 07/25/23 09:55 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	15.3		0.488	0.0892	mg/Kg		08/01/23 06:05	08/02/23 11:36	20

Client Sample ID: B11A-8 — **Lab Sample ID: 570-146364-37**
Date Collected: 07/25/23 10:10 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	14.6		0.500	0.0914	mg/Kg		08/01/23 06:05	08/02/23 11:39	20

Client Sample ID: B08WW-2 — **Lab Sample ID: 570-146364-38**
Date Collected: 07/25/23 11:15 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	15.3		0.493	0.0900	mg/Kg		08/01/23 06:02	08/02/23 14:42	20

Client Sample ID: B08WW-4 — **Lab Sample ID: 570-146364-39**
Date Collected: 07/25/23 11:16 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	15.9		0.495	0.0905	mg/Kg		08/01/23 06:02	08/02/23 14:44	20

Client Sample ID: B08W-6 — **Lab Sample ID: 570-146364-45**
Date Collected: 07/25/23 11:30 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.4		0.490	0.0896	mg/Kg		08/01/23 06:02	08/02/23 14:53	20

Client Sample ID: B08SS-2 — **Lab Sample ID: 570-146364-51**
Date Collected: 07/25/23 11:47 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13.8		0.493	0.0900	mg/Kg		08/01/23 06:02	08/02/23 14:55	20

Client Sample ID: B08SS-4 — **Lab Sample ID: 570-146364-52**
Date Collected: 07/25/23 11:49 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	17.2		0.495	0.0905	mg/Kg		08/01/23 06:02	08/02/23 14:57	20

Method: SW846 6020 - Metals (ICP/MS)

Client Sample ID: B08S-6 — **Lab Sample ID: 570-146364-57**
Date Collected: 07/25/23 12:03 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	14.6		0.500	0.0914	mg/Kg		08/01/23 06:02	08/02/23 14:59	20

Client Sample ID: B08EE-2 — **Lab Sample ID: 570-146364-63**
Date Collected: 07/25/23 12:20 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	14.4		0.495	0.0905	mg/Kg		08/01/23 06:02	08/02/23 15:01	20

Client Sample ID: B08EE-4 — **Lab Sample ID: 570-146364-64**
Date Collected: 07/25/23 12:22 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16.9		0.493	0.0900	mg/Kg		08/01/23 06:02	08/02/23 15:03	20

Client Sample ID: B07WW-2 — **Lab Sample ID: 570-146364-67**
Date Collected: 07/25/23 13:57 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20.9		0.488	0.0892	mg/Kg		08/01/23 06:02	08/02/23 15:05	20

Client Sample ID: B07WW-4 — **Lab Sample ID: 570-146364-68**
Date Collected: 07/25/23 13:58 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13.8		0.493	0.0900	mg/Kg		08/01/23 06:02	08/02/23 15:07	20

Client Sample ID: B07EE-2 — **Lab Sample ID: 570-146364-72**
Date Collected: 07/25/23 15:23 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.96		0.488	0.0892	mg/Kg		08/01/23 06:02	08/02/23 15:10	20

Client Sample ID: B07EE-4 — **Lab Sample ID: 570-146364-73**
Date Collected: 07/25/23 15:25 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	17.4		0.498	0.0909	mg/Kg		08/01/23 06:02	08/02/23 15:12	20

Client Sample ID: B07E-6 — **Lab Sample ID: 570-146364-78**
Date Collected: 07/25/23 14:42 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.7		0.505	0.0923	mg/Kg		08/01/23 06:02	08/02/23 14:31	20

Client Sample ID: B07N-6 — **Lab Sample ID: 570-146364-82**
Date Collected: 07/25/23 14:54 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.5		0.488	0.0892	mg/Kg		08/01/23 06:02	08/02/23 15:22	20

Method: SW846 6020 - Metals (ICP/MS)

Client Sample ID: B07NN-2 — **Lab Sample ID: 570-146364-84**
Date Collected: 07/25/23 15:05 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	17.1		0.495	0.0905	mg/Kg		08/01/23 06:02	08/02/23 15:24	20

Client Sample ID: B07NN-4 — **Lab Sample ID: 570-146364-85**
Date Collected: 07/25/23 15:06 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	15.6		0.500	0.0914	mg/Kg		08/01/23 06:02	08/02/23 15:27	20

Client Sample ID: B07W-6 — **Lab Sample ID: 570-146364-89**
Date Collected: 07/25/23 14:13 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.0		0.500	0.0914	mg/Kg		08/01/23 06:02	08/02/23 15:29	20

Client Sample ID: B10NN-2 — **Lab Sample ID: 570-146364-97**
Date Collected: 07/25/23 09:05 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	19.6		0.490	0.0896	mg/Kg		08/01/23 06:02	08/02/23 15:31	20

Client Sample ID: B10NN-4 — **Lab Sample ID: 570-146364-98**
Date Collected: 07/25/23 09:06 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16.0		0.495	0.0905	mg/Kg		08/01/23 06:02	08/02/23 15:33	20

Client Sample ID: B10N-6 — **Lab Sample ID: 570-146364-103**
Date Collected: 07/25/23 09:13 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.8		0.493	0.0900	mg/Kg		08/01/23 06:02	08/02/23 15:35	20

Client Sample ID: B10A-8 — **Lab Sample ID: 570-146364-108**
Date Collected: 07/25/23 09:25 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12.4		0.488	0.0892	mg/Kg		08/01/23 05:56	08/02/23 16:59	20

Client Sample ID: B10E-6 — **Lab Sample ID: 570-146364-112**
Date Collected: 07/25/23 09:38 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.9		0.488	0.0892	mg/Kg		08/01/23 05:56	08/02/23 17:10	20

Client Sample ID: B10EE-2 — **Lab Sample ID: 570-146364-114**
Date Collected: 07/25/23 09:44 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.80		0.500	0.0914	mg/Kg		08/01/23 05:56	08/02/23 17:12	20

Method: SW846 6020 - Metals (ICP/MS)

Client Sample ID: B10EE-4 — **Lab Sample ID: 570-146364-115**
Date Collected: 07/25/23 09:45 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	14.8		0.493	0.0900	mg/Kg		08/01/23 05:56	08/02/23 17:19	20

Client Sample ID: B10W-6 — **Lab Sample ID: 570-146364-120**
Date Collected: 07/25/23 10:20 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12.5		0.493	0.0900	mg/Kg		08/01/23 05:56	08/02/23 17:21	20

Client Sample ID: B10WW-2 — **Lab Sample ID: 570-146364-122**
Date Collected: 07/25/23 10:00 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	14.6		0.493	0.0900	mg/Kg		08/01/23 05:56	08/02/23 17:23	20

Client Sample ID: B10WW-4 — **Lab Sample ID: 570-146364-123**
Date Collected: 07/25/23 10:01 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16.0		0.495	0.0905	mg/Kg		08/01/23 05:56	08/02/23 17:25	20

Client Sample ID: B10S-6 — **Lab Sample ID: 570-146364-128**
Date Collected: 07/25/23 10:30 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.5		0.500	0.0914	mg/Kg		08/01/23 05:56	08/02/23 17:27	20

Client Sample ID: B10SS-2 — **Lab Sample ID: 570-146364-130**
Date Collected: 07/25/23 10:33 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12.9		0.498	0.0909	mg/Kg		08/01/23 05:56	08/02/23 17:29	20

Client Sample ID: B10SS-4 — **Lab Sample ID: 570-146364-131**
Date Collected: 07/25/23 10:34 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16.1		0.498	0.0909	mg/Kg		08/01/23 05:56	08/02/23 17:31	20

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 570-350627/1-A ^20 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 351214 — **Prep Batch: 350627**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.500	0.0914	mg/Kg		08/01/23 06:05	08/02/23 11:02	20

Lab Sample ID: LCS 570-350627/2-A ^20 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 351214 — **Prep Batch: 350627**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	50.3	50.75		mg/Kg		101	80 - 120

Lab Sample ID: LCSD 570-350627/3-A ^20 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 351214 — **Prep Batch: 350627**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	50.5	51.63		mg/Kg		102	80 - 120	2	20

Lab Sample ID: MB 570-350629/1-A ^20 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 351502 — **Prep Batch: 350629**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.500	0.0914	mg/Kg		08/01/23 06:02	08/02/23 14:25	20

Lab Sample ID: LCS 570-350629/2-A ^20 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 351502 — **Prep Batch: 350629**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	49.8	50.96		mg/Kg		102	80 - 120

Lab Sample ID: LCSD 570-350629/3-A ^20 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 351502 — **Prep Batch: 350629**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	49.5	49.65		mg/Kg		100	80 - 120	3	20

Lab Sample ID: 570-146364-78 MS — **Client Sample ID: B07E-6**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 351502 — **Prep Batch: 350629**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	11.7		49.8	61.62		mg/Kg		100	75 - 125

Lab Sample ID: 570-146364-78 MSD — **Client Sample ID: B07E-6**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 351502 — **Prep Batch: 350629**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	11.7		49.3	60.63		mg/Kg		99	75 - 125	2	20

QC Sample Results

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-2

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 570-350631/1-A ^20
Matrix: Solid
Analysis Batch: 351503

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 350631

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.498	0.0909	mg/Kg		08/01/23 05:56	08/02/23 16:53	20

Lab Sample ID: LCS 570-350631/2-A ^20
Matrix: Solid
Analysis Batch: 351503

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 350631

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	50.0	50.64		mg/Kg		101	80 - 120

Lab Sample ID: LCSD 570-350631/3-A ^20
Matrix: Solid
Analysis Batch: 351503

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 350631

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	49.5	49.55		mg/Kg		100	80 - 120	2	20

Lab Sample ID: 570-146364-108 MS
Matrix: Solid
Analysis Batch: 351503

Client Sample ID: B10A-8
Prep Type: Total/NA
Prep Batch: 350631

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	12.4		49.8	62.87		mg/Kg		101	75 - 125

Lab Sample ID: 570-146364-108 MSD
Matrix: Solid
Analysis Batch: 351503

Client Sample ID: B10A-8
Prep Type: Total/NA
Prep Batch: 350631

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	12.4		48.8	53.69		mg/Kg		85	75 - 125	16	20

QC Association Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-2

Metals

Prep Batch: 350627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-146364-4	B11E-6	Total/NA	Solid	3050B	
570-146364-6	B11EE-2	Total/NA	Solid	3050B	
570-146364-7	B11EE-4	Total/NA	Solid	3050B	
570-146364-10	B11SS-2	Total/NA	Solid	3050B	
570-146364-11	B11SS-4	Total/NA	Solid	3050B	
570-146364-16	B11S-6	Total/NA	Solid	3050B	
570-146364-18	B11WW-2	Total/NA	Solid	3050B	
570-146364-19	B11WW-4	Total/NA	Solid	3050B	
570-146364-24	B11W-6	Total/NA	Solid	3050B	
570-146364-28	B11N-6	Total/NA	Solid	3050B	
570-146364-30	B11NN-2	Total/NA	Solid	3050B	
570-146364-31	B11NN-4	Total/NA	Solid	3050B	
570-146364-37	B11A-8	Total/NA	Solid	3050B	
MB 570-350627/1-A ^20	Method Blank	Total/NA	Solid	3050B	
LCS 570-350627/2-A ^20	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-350627/3-A ^20	Lab Control Sample Dup	Total/NA	Solid	3050B	

Prep Batch: 350629

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-146364-38	B08WW-2	Total/NA	Solid	3050B	
570-146364-39	B08WW-4	Total/NA	Solid	3050B	
570-146364-45	B08W-6	Total/NA	Solid	3050B	
570-146364-51	B08SS-2	Total/NA	Solid	3050B	
570-146364-52	B08SS-4	Total/NA	Solid	3050B	
570-146364-57	B08S-6	Total/NA	Solid	3050B	
570-146364-63	B08EE-2	Total/NA	Solid	3050B	
570-146364-64	B08EE-4	Total/NA	Solid	3050B	
570-146364-67	B07WW-2	Total/NA	Solid	3050B	
570-146364-68	B07WW-4	Total/NA	Solid	3050B	
570-146364-72	B07EE-2	Total/NA	Solid	3050B	
570-146364-73	B07EE-4	Total/NA	Solid	3050B	
570-146364-78	B07E-6	Total/NA	Solid	3050B	
570-146364-82	B07N-6	Total/NA	Solid	3050B	
570-146364-84	B07NN-2	Total/NA	Solid	3050B	
570-146364-85	B07NN-4	Total/NA	Solid	3050B	
570-146364-89	B07W-6	Total/NA	Solid	3050B	
570-146364-97	B10NN-2	Total/NA	Solid	3050B	
570-146364-98	B10NN-4	Total/NA	Solid	3050B	
570-146364-103	B10N-6	Total/NA	Solid	3050B	
MB 570-350629/1-A ^20	Method Blank	Total/NA	Solid	3050B	
LCS 570-350629/2-A ^20	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-350629/3-A ^20	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-146364-78 MS	B07E-6	Total/NA	Solid	3050B	
570-146364-78 MSD	B07E-6	Total/NA	Solid	3050B	

Prep Batch: 350631

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-146364-108	B10A-8	Total/NA	Solid	3050B	
570-146364-112	B10E-6	Total/NA	Solid	3050B	
570-146364-114	B10EE-2	Total/NA	Solid	3050B	
570-146364-115	B10EE-4	Total/NA	Solid	3050B	

Metals (Continued)

Prep Batch: 350631 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-146364-120	B10W-6	Total/NA	Solid	3050B	
570-146364-122	B10WW-2	Total/NA	Solid	3050B	
570-146364-123	B10WW-4	Total/NA	Solid	3050B	
570-146364-128	B10S-6	Total/NA	Solid	3050B	
570-146364-130	B10SS-2	Total/NA	Solid	3050B	
570-146364-131	B10SS-4	Total/NA	Solid	3050B	
MB 570-350631/1-A ^20	Method Blank	Total/NA	Solid	3050B	
LCS 570-350631/2-A ^20	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-350631/3-A ^20	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-146364-108 MS	B10A-8	Total/NA	Solid	3050B	
570-146364-108 MSD	B10A-8	Total/NA	Solid	3050B	

Analysis Batch: 351214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-146364-4	B11E-6	Total/NA	Solid	6020	350627
570-146364-6	B11EE-2	Total/NA	Solid	6020	350627
570-146364-7	B11EE-4	Total/NA	Solid	6020	350627
570-146364-10	B11SS-2	Total/NA	Solid	6020	350627
570-146364-11	B11SS-4	Total/NA	Solid	6020	350627
570-146364-16	B11S-6	Total/NA	Solid	6020	350627
570-146364-18	B11WW-2	Total/NA	Solid	6020	350627
570-146364-19	B11WW-4	Total/NA	Solid	6020	350627
570-146364-24	B11W-6	Total/NA	Solid	6020	350627
570-146364-28	B11N-6	Total/NA	Solid	6020	350627
570-146364-30	B11NN-2	Total/NA	Solid	6020	350627
570-146364-31	B11NN-4	Total/NA	Solid	6020	350627
570-146364-37	B11A-8	Total/NA	Solid	6020	350627
MB 570-350627/1-A ^20	Method Blank	Total/NA	Solid	6020	350627
LCS 570-350627/2-A ^20	Lab Control Sample	Total/NA	Solid	6020	350627
LCSD 570-350627/3-A ^20	Lab Control Sample Dup	Total/NA	Solid	6020	350627

Analysis Batch: 351502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-146364-38	B08WW-2	Total/NA	Solid	6020	350629
570-146364-39	B08WW-4	Total/NA	Solid	6020	350629
570-146364-45	B08W-6	Total/NA	Solid	6020	350629
570-146364-51	B08SS-2	Total/NA	Solid	6020	350629
570-146364-52	B08SS-4	Total/NA	Solid	6020	350629
570-146364-57	B08S-6	Total/NA	Solid	6020	350629
570-146364-63	B08EE-2	Total/NA	Solid	6020	350629
570-146364-64	B08EE-4	Total/NA	Solid	6020	350629
570-146364-67	B07WW-2	Total/NA	Solid	6020	350629
570-146364-68	B07WW-4	Total/NA	Solid	6020	350629
570-146364-72	B07EE-2	Total/NA	Solid	6020	350629
570-146364-73	B07EE-4	Total/NA	Solid	6020	350629
570-146364-78	B07E-6	Total/NA	Solid	6020	350629
570-146364-82	B07N-6	Total/NA	Solid	6020	350629
570-146364-84	B07NN-2	Total/NA	Solid	6020	350629
570-146364-85	B07NN-4	Total/NA	Solid	6020	350629
570-146364-89	B07W-6	Total/NA	Solid	6020	350629
570-146364-97	B10NN-2	Total/NA	Solid	6020	350629

Metals (Continued)

Analysis Batch: 351502 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-146364-98	B10NN-4	Total/NA	Solid	6020	350629
570-146364-103	B10N-6	Total/NA	Solid	6020	350629
MB 570-350629/1-A ^20	Method Blank	Total/NA	Solid	6020	350629
LCS 570-350629/2-A ^20	Lab Control Sample	Total/NA	Solid	6020	350629
LCSD 570-350629/3-A ^20	Lab Control Sample Dup	Total/NA	Solid	6020	350629
570-146364-78 MS	B07E-6	Total/NA	Solid	6020	350629
570-146364-78 MSD	B07E-6	Total/NA	Solid	6020	350629

Analysis Batch: 351503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-146364-108	B10A-8	Total/NA	Solid	6020	350631
570-146364-112	B10E-6	Total/NA	Solid	6020	350631
570-146364-114	B10EE-2	Total/NA	Solid	6020	350631
570-146364-115	B10EE-4	Total/NA	Solid	6020	350631
570-146364-120	B10W-6	Total/NA	Solid	6020	350631
570-146364-122	B10WW-2	Total/NA	Solid	6020	350631
570-146364-123	B10WW-4	Total/NA	Solid	6020	350631
570-146364-128	B10S-6	Total/NA	Solid	6020	350631
570-146364-130	B10SS-2	Total/NA	Solid	6020	350631
570-146364-131	B10SS-4	Total/NA	Solid	6020	350631
MB 570-350631/1-A ^20	Method Blank	Total/NA	Solid	6020	350631
LCS 570-350631/2-A ^20	Lab Control Sample	Total/NA	Solid	6020	350631
LCSD 570-350631/3-A ^20	Lab Control Sample Dup	Total/NA	Solid	6020	350631
570-146364-108 MS	B10A-8	Total/NA	Solid	6020	350631
570-146364-108 MSD	B10A-8	Total/NA	Solid	6020	350631

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-2

Client Sample ID: B11E-6
Date Collected: 07/25/23 08:50
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	50 mL	350627	08/01/23 06:05	TL	EET CAL 4
Total/NA	Analysis	6020		20			351214	08/02/23 10:47	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11EE-2
Date Collected: 07/25/23 08:56
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	50 mL	350627	08/01/23 06:05	TL	EET CAL 4
Total/NA	Analysis	6020		20			351214	08/02/23 10:49	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11EE-4
Date Collected: 07/25/23 08:57
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	50 mL	350627	08/01/23 06:05	TL	EET CAL 4
Total/NA	Analysis	6020		20			351214	08/02/23 10:51	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11SS-2
Date Collected: 07/25/23 09:05
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	50 mL	350627	08/01/23 06:05	TL	EET CAL 4
Total/NA	Analysis	6020		20			351214	08/02/23 10:53	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11SS-4
Date Collected: 07/25/23 09:06
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	50 mL	350627	08/01/23 06:05	TL	EET CAL 4
Total/NA	Analysis	6020		20			351214	08/02/23 10:55	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-2

Client Sample ID: B11S-6
Date Collected: 07/25/23 09:02
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-16
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	50 mL	350627	08/01/23 06:05	TL	EET CAL 4
Total/NA	Analysis	6020		20			351214	08/02/23 11:19	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11WW-2
Date Collected: 07/25/23 09:25
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-18
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	50 mL	350627	08/01/23 06:05	TL	EET CAL 4
Total/NA	Analysis	6020		20			351214	08/02/23 11:21	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11WW-4
Date Collected: 07/25/23 09:27
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-19
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	50 mL	350627	08/01/23 06:05	TL	EET CAL 4
Total/NA	Analysis	6020		20			351214	08/02/23 11:28	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11W-6
Date Collected: 07/25/23 09:40
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-24
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	50 mL	350627	08/01/23 06:05	TL	EET CAL 4
Total/NA	Analysis	6020		20			351214	08/02/23 11:30	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11N-6
Date Collected: 07/25/23 09:49
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-28
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	50 mL	350627	08/01/23 06:05	TL	EET CAL 4
Total/NA	Analysis	6020		20			351214	08/02/23 11:32	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-2

Client Sample ID: B11NN-2
Date Collected: 07/25/23 09:54
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-30
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	350627	08/01/23 06:05	TL	EET CAL 4
Total/NA	Analysis	6020		20			351214	08/02/23 11:34	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11NN-4
Date Collected: 07/25/23 09:55
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-31
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.05 g	50 mL	350627	08/01/23 06:05	TL	EET CAL 4
Total/NA	Analysis	6020		20			351214	08/02/23 11:36	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11A-8
Date Collected: 07/25/23 10:10
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-37
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	350627	08/01/23 06:05	TL	EET CAL 4
Total/NA	Analysis	6020		20			351214	08/02/23 11:39	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B08WW-2
Date Collected: 07/25/23 11:15
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-38
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	50 mL	350629	08/01/23 06:02	TL	EET CAL 4
Total/NA	Analysis	6020		20			351502	08/02/23 14:42	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B08WW-4
Date Collected: 07/25/23 11:16
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-39
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	50 mL	350629	08/01/23 06:02	TL	EET CAL 4
Total/NA	Analysis	6020		20			351502	08/02/23 14:44	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-2

Client Sample ID: B08W-6
Date Collected: 07/25/23 11:30
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-45
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	50 mL	350629	08/01/23 06:02	TL	EET CAL 4
Total/NA	Analysis	6020		20			351502	08/02/23 14:53	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B08SS-2
Date Collected: 07/25/23 11:47
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-51
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	50 mL	350629	08/01/23 06:02	TL	EET CAL 4
Total/NA	Analysis	6020		20			351502	08/02/23 14:55	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B08SS-4
Date Collected: 07/25/23 11:49
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-52
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	50 mL	350629	08/01/23 06:02	TL	EET CAL 4
Total/NA	Analysis	6020		20			351502	08/02/23 14:57	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B08S-6
Date Collected: 07/25/23 12:03
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-57
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	350629	08/01/23 06:02	TL	EET CAL 4
Total/NA	Analysis	6020		20			351502	08/02/23 14:59	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B08EE-2
Date Collected: 07/25/23 12:20
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-63
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	50 mL	350629	08/01/23 06:02	TL	EET CAL 4
Total/NA	Analysis	6020		20			351502	08/02/23 15:01	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-2

Client Sample ID: B08EE-4
Date Collected: 07/25/23 12:22
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-64
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	50 mL	350629	08/01/23 06:02	TL	EET CAL 4
Total/NA	Analysis	6020		20			351502	08/02/23 15:03	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B07WW-2
Date Collected: 07/25/23 13:57
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-67
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.05 g	50 mL	350629	08/01/23 06:02	TL	EET CAL 4
Total/NA	Analysis	6020		20			351502	08/02/23 15:05	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B07WW-4
Date Collected: 07/25/23 13:58
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-68
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	50 mL	350629	08/01/23 06:02	TL	EET CAL 4
Total/NA	Analysis	6020		20			351502	08/02/23 15:07	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B07EE-2
Date Collected: 07/25/23 15:23
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-72
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.05 g	50 mL	350629	08/01/23 06:02	TL	EET CAL 4
Total/NA	Analysis	6020		20			351502	08/02/23 15:10	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B07EE-4
Date Collected: 07/25/23 15:25
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-73
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	50 mL	350629	08/01/23 06:02	TL	EET CAL 4
Total/NA	Analysis	6020		20			351502	08/02/23 15:12	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-2

Client Sample ID: B07E-6
Date Collected: 07/25/23 14:42
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-78
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.98 g	50 mL	350629	08/01/23 06:02	TL	EET CAL 4
Total/NA	Analysis	6020		20			351502	08/02/23 14:31	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B07N-6
Date Collected: 07/25/23 14:54
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-82
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.05 g	50 mL	350629	08/01/23 06:02	TL	EET CAL 4
Total/NA	Analysis	6020		20			351502	08/02/23 15:22	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B07NN-2
Date Collected: 07/25/23 15:05
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-84
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	50 mL	350629	08/01/23 06:02	TL	EET CAL 4
Total/NA	Analysis	6020		20			351502	08/02/23 15:24	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B07NN-4
Date Collected: 07/25/23 15:06
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-85
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	350629	08/01/23 06:02	TL	EET CAL 4
Total/NA	Analysis	6020		20			351502	08/02/23 15:27	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B07W-6
Date Collected: 07/25/23 14:13
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-89
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	350629	08/01/23 06:02	TL	EET CAL 4
Total/NA	Analysis	6020		20			351502	08/02/23 15:29	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-2

Client Sample ID: B10NN-2
Date Collected: 07/25/23 09:05
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-97
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	50 mL	350629	08/01/23 06:02	TL	EET CAL 4
Total/NA	Analysis	6020		20			351502	08/02/23 15:31	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10NN-4
Date Collected: 07/25/23 09:06
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-98
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	50 mL	350629	08/01/23 06:02	TL	EET CAL 4
Total/NA	Analysis	6020		20			351502	08/02/23 15:33	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10N-6
Date Collected: 07/25/23 09:13
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-103
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	50 mL	350629	08/01/23 06:02	TL	EET CAL 4
Total/NA	Analysis	6020		20			351502	08/02/23 15:35	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10A-8
Date Collected: 07/25/23 09:25
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-108
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.05 g	50 mL	350631	08/01/23 05:56	TL	EET CAL 4
Total/NA	Analysis	6020		20			351503	08/02/23 16:59	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10E-6
Date Collected: 07/25/23 09:38
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-112
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.05 g	50 mL	350631	08/01/23 05:56	TL	EET CAL 4
Total/NA	Analysis	6020		20			351503	08/02/23 17:10	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-2

Client Sample ID: B10EE-2
Date Collected: 07/25/23 09:44
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-114
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	350631	08/01/23 05:56	TL	EET CAL 4
Total/NA	Analysis	6020		20			351503	08/02/23 17:12	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10EE-4
Date Collected: 07/25/23 09:45
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-115
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	50 mL	350631	08/01/23 05:56	TL	EET CAL 4
Total/NA	Analysis	6020		20			351503	08/02/23 17:19	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10W-6
Date Collected: 07/25/23 10:20
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-120
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	50 mL	350631	08/01/23 05:56	TL	EET CAL 4
Total/NA	Analysis	6020		20			351503	08/02/23 17:21	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10WW-2
Date Collected: 07/25/23 10:00
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-122
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	50 mL	350631	08/01/23 05:56	TL	EET CAL 4
Total/NA	Analysis	6020		20			351503	08/02/23 17:23	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10WW-4
Date Collected: 07/25/23 10:01
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-123
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	50 mL	350631	08/01/23 05:56	TL	EET CAL 4
Total/NA	Analysis	6020		20			351503	08/02/23 17:25	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-2

Client Sample ID: B10S-6

Lab Sample ID: 570-146364-128
Date Collected: 07/25/23 10:30
Matrix: Solid
Date Received: 07/26/23 13:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	350631	08/01/23 05:56	TL	EET CAL 4
Total/NA	Analysis	6020		20			351503	08/02/23 17:27	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10SS-2

Lab Sample ID: 570-146364-130
Date Collected: 07/25/23 10:33
Matrix: Solid
Date Received: 07/26/23 13:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	50 mL	350631	08/01/23 05:56	TL	EET CAL 4
Total/NA	Analysis	6020		20			351503	08/02/23 17:29	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10SS-4

Lab Sample ID: 570-146364-131
Date Collected: 07/25/23 10:34
Matrix: Solid
Date Received: 07/26/23 13:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	50 mL	350631	08/01/23 05:56	TL	EET CAL 4
Total/NA	Analysis	6020		20			351503	08/02/23 17:31	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Accreditation/Certification Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-2

Laboratory: Eurofins Calscience

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	3082	07-31-24
Oregon	NELAP	4175	02-02-24

Method Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-2

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	EET CAL 4
3050B	Preparation, Metals	SW846	EET CAL 4

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Sample Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-146364-4	B11E-6	Solid	07/25/23 08:50	07/26/23 13:50
570-146364-6	B11EE-2	Solid	07/25/23 08:56	07/26/23 13:50
570-146364-7	B11EE-4	Solid	07/25/23 08:57	07/26/23 13:50
570-146364-10	B11SS-2	Solid	07/25/23 09:05	07/26/23 13:50
570-146364-11	B11SS-4	Solid	07/25/23 09:06	07/26/23 13:50
570-146364-16	B11S-6	Solid	07/25/23 09:02	07/26/23 13:50
570-146364-18	B11WW-2	Solid	07/25/23 09:25	07/26/23 13:50
570-146364-19	B11WW-4	Solid	07/25/23 09:27	07/26/23 13:50
570-146364-24	B11W-6	Solid	07/25/23 09:40	07/26/23 13:50
570-146364-28	B11N-6	Solid	07/25/23 09:49	07/26/23 13:50
570-146364-30	B11NN-2	Solid	07/25/23 09:54	07/26/23 13:50
570-146364-31	B11NN-4	Solid	07/25/23 09:55	07/26/23 13:50
570-146364-37	B11A-8	Solid	07/25/23 10:10	07/26/23 13:50
570-146364-38	B08WW-2	Solid	07/25/23 11:15	07/26/23 13:50
570-146364-39	B08WW-4	Solid	07/25/23 11:16	07/26/23 13:50
570-146364-45	B08W-6	Solid	07/25/23 11:30	07/26/23 13:50
570-146364-51	B08SS-2	Solid	07/25/23 11:47	07/26/23 13:50
570-146364-52	B08SS-4	Solid	07/25/23 11:49	07/26/23 13:50
570-146364-57	B08S-6	Solid	07/25/23 12:03	07/26/23 13:50
570-146364-63	B08EE-2	Solid	07/25/23 12:20	07/26/23 13:50
570-146364-64	B08EE-4	Solid	07/25/23 12:22	07/26/23 13:50
570-146364-67	B07WW-2	Solid	07/25/23 13:57	07/26/23 13:50
570-146364-68	B07WW-4	Solid	07/25/23 13:58	07/26/23 13:50
570-146364-72	B07EE-2	Solid	07/25/23 15:23	07/26/23 13:50
570-146364-73	B07EE-4	Solid	07/25/23 15:25	07/26/23 13:50
570-146364-78	B07E-6	Solid	07/25/23 14:42	07/26/23 13:50
570-146364-82	B07N-6	Solid	07/25/23 14:54	07/26/23 13:50
570-146364-84	B07NN-2	Solid	07/25/23 15:05	07/26/23 13:50
570-146364-85	B07NN-4	Solid	07/25/23 15:06	07/26/23 13:50
570-146364-89	B07W-6	Solid	07/25/23 14:13	07/26/23 13:50
570-146364-97	B10NN-2	Solid	07/25/23 09:05	07/26/23 13:50
570-146364-98	B10NN-4	Solid	07/25/23 09:06	07/26/23 13:50
570-146364-103	B10N-6	Solid	07/25/23 09:13	07/26/23 13:50
570-146364-108	B10A-8	Solid	07/25/23 09:25	07/26/23 13:50
570-146364-112	B10E-6	Solid	07/25/23 09:38	07/26/23 13:50
570-146364-114	B10EE-2	Solid	07/25/23 09:44	07/26/23 13:50
570-146364-115	B10EE-4	Solid	07/25/23 09:45	07/26/23 13:50
570-146364-120	B10W-6	Solid	07/25/23 10:20	07/26/23 13:50
570-146364-122	B10WW-2	Solid	07/25/23 10:00	07/26/23 13:50
570-146364-123	B10WW-4	Solid	07/25/23 10:01	07/26/23 13:50
570-146364-128	B10S-6	Solid	07/25/23 10:30	07/26/23 13:50
570-146364-130	B10SS-2	Solid	07/25/23 10:33	07/26/23 13:50
570-146364-131	B10SS-4	Solid	07/25/23 10:34	07/26/23 13:50

Vikas Patel

From: Eric Fraske <eric.fraske@nv5.com>
Sent: Monday, July 31, 2023 10:52 AM
To: Vikas Patel
Subject: RE: Eurofins Calscience EDD, report and invoice files from 570-146364-1 McKinley Elementary School

Thanks Vik,

I need the following samples also analyzed for arsenic by USEPA Method 6020. Is a two-day TAT possible?

- B11A-8
- B11N-6
- B11S-6
- B11E-6
- B11W-6
- B11NN-2
- B11NN-4
- B11SS-2
- B11SS-4
- B11EE-2
- B11EE-4
- B11WW-2
- B11WW-4
- B10A-8
- B10N-6
- B10S-6
- B10E-6
- B10W-6
- B10EE-2
- B10EE-4
- B10WW-2
- B10WW-4
- B10NN-2
- B10NN-4
- B10SS-2
- B10SS-4
- B07N-6
- B07W-6
- B07E-6
- B07EE-2
- B07EE-4
- B07NN-2
- B07NN-4
- B07WW-2
- B07WW-4
- B08S-6
- B08E-6

- B08W-6
- B08EE-2
- B08EE-4
- B08SS-2
- B08SS-4
- B08WW-2
- B08WW-4

Also, please change the name of sample B07-6 DUP to "B07A-6 DUP". It's LAB sample ID 570-146364-95

Thank you,

Eric Fraske | Senior Engineer III | **NV5** | Site Assessment and Remediation
3777 Long Beach Boulevard, Annex Building | Long Beach, CA 90807 | P: 562.495.5777 | C: 562.544.3910
eric.fraske@nv5.com | www.altaenviron.com | www.nv5.com | Electronic Communications Disclaimer

I am working remotely and can be reached via cell at 562.544.3910.

Alta Environmental is now NV5.

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Loc: 570

146364

FRM51406 Rev. 1.2

570-146364 Chain of Custody

CHAIN-OF-CUSTODY RECORD

DATE: 7/25/2023

PAGE: 1 OF 14

LABORATORY CLIENT: NV5, Inc.	CLIENT PROJECT NAME / NO.: McKinley Step-Out Sampling
ADDRESS: 3777 Long Beach Blvd, Annex Building	P.O. NO.: SMSD-23-11670
CITY: Long Beach STATE: CA ZIP: 90807	PROJECT CONTACT: Eric Fraske
	LAB CONTACT OR QUOTE NO.: 57016144
TEL: 562-544-3977 E-MAIL:	GLOBAL ID: LOG CODE: SAMPLER(S): (PRINT)

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ■ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD:

☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Arsenic EPA Method 6020	Archive and Hold
1	B11E-2	7/25/23	8:47	SOIL	1	X			X	
2	B11E-4	↓	8:49	SOIL	1	X			X	
3	B11E-4 DUP		8:49	SOIL	1	X			X	
4	B11E-6		8:50	SOIL	1	X				X
5	B11E-8		8:51	SOIL	1	X				X
6	B11EE-2		8:56	SOIL	1	X				X
7	B11EE-4		8:57	SOIL	1	X				X
8	B11EE-6		8:59	SOIL	1	X				X
9	B11EE-8		9:00	SOIL	1	X				X
10	B11SS-2	↓	9:05	SOIL	1	X				X

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/26	13:50	[signature] EC	7/26/23	13:50
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:

4.2/4.5 3.9/4.2 3.6/3.9 SC15

8/3/2023

146364

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FRM51408 Rev. 1.2

CHAIN-OF-CUSTODY RECORD

DATE: 7/25/2023

PAGE: 2 OF 14

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For courier service / sample drop off information, contact us26_sales@eurofinsus.com or call us.

LABORATORY CLIENT: NV5, Inc.

ADDRESS: 3777 Long Beach Blvd, Annex Building

CITY: Long Beach STATE: CA ZIP: 90807

TEL: 562-544-3977 E-MAIL:

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ■ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD:
☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

CLIENT PROJECT NAME / NO.: McKinley Step-Out Sampling

P.O. NO.: SMSD-23-11670

PROJECT CONTACT: Eric Fraske

LAB CONTACT OR QUOTE NO.: 57016144

GLOBAL ID:

LOG CODE:

SAMPLER(S): (PRINT)

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Arsenic EPA Method 6020	Archive and Hold
11	~~BSS~~ B11SS-4	7/25/23	9:06	Soil	1	X				X
12	B11SS-6	7/25/23	9:10	SOIL	1	X				X
13	B11SS-8	7/25/23	9:11	SOIL	1	X				X
14	B11S~~S~~-2	7/25/23	9:15	SOIL	1	X			X	
15	B11S-4	7/25/23	9:16	SOIL	1	X			X	
16	B11S-6	7/25/23	9:20	SOIL	1	X				X
17	B11S-8	7/25/23	9:21	SOIL	1	X				X
18	B11WW-2	7/25/23	9:25	SOIL	1	X				X
19	B11WW-4	7/25/23	9:27	SOIL	1	X				X
20	B11WW-6	7/25/23	9:30	SOIL	1	X				X

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/26	13:50	[signature] EC	7/26/23	13:50

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FRM51408 Rev. 1.2

CHAIN-OF-CUSTODY RECORD

DATE: 7/25/2023

PAGE: 3 OF 14

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LABORATORY CLIENT: NV5, Inc.

ADDRESS: 3777 Long Beach Blvd, Annex Building

CITY: Long Beach STATE: CA ZIP: 90807

TEL: 562-544-3977 E-MAIL:

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

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EDD:

☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

CLIENT PROJECT NAME / NO.: McKinley Step-Out Sampling

P.O. NO.: SMSD-23-11670

PROJECT CONTACT: Eric Fraske

LAB CONTACT OR QUOTE NO.: 57016144

GLOBAL ID:

LOG CODE:

SAMPLER(S): (PRINT)

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Arsenic EPA Method 6020	Archive and Hold
21	B11WW-8	7/25/23	9:31	SOIL	1	X				X
22	B11W-2		9:35			X			X	
23	B11W-4		9:36			X			X	
24	B11W-6		9:40			X				X
25	B11W-8		9:41			X				X
26	B11N-2		9:46			X			X	X
27	B11N-4		9:47			X			X	X
28	B11N-6		9:49			X				X
29	B11N-8		9:50			X				X
30	B11NN-2		9:54			X				X

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/26	13:50	[signature] EC	7/26/23	13:50

8/3/2023

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FRM51408 Rev. 1.2

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CHAIN-OF-CUSTODY RECORD

DATE: 7/25/23

PAGE: 4 OF 14

LABORATORY CLIENT: NV5, Inc.

ADDRESS: 3777 Long Beach Blvd, Annex Building

CITY: Long Beach STATE: CA ZIP: 90807

TEL: 562-544-3977 E-MAIL:

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"): ☐ SAME DAY ☐ 24 HR ■ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD: ☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

CLIENT PROJECT NAME / NO.: McKinley Step-Out Sampling

P.O. NO.: SMSD-23-11670

PROJECT CONTACT: Eric Fraske

LAB CONTACT OR QUOTE NO.: 57016144

GLOBAL ID:

LOG CODE:

SAMPLER(S): (PRINT)

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Arsenic EPA Method 6020	Archive and Hold
31	B11NN-4	7/25	9:55	SOIL	1	X				X
32	B11NN-6	7/25/23	10:00			X				X
33	B11NN-8	7/25/23	10:01			X				X
34	B11A-2	7/25/23	10:04			X				X
35	B11A-4	7/25/23	10:05			X				X
36	B11A-6	7/25/23	10:08			X			X	
37	B11A-8	7/25/23	10:10			X				X
38	B08WW-2	7/25/23	11:15			X				X
39	B08WW-4	7/25/23	11:16			X				X
40	B08WW-6	7/25/23	11:17			X				X

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/25	13:50	[signature] EC	7/26/23	13:50

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FRM51408 Rev. 1.2

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CHAIN-OF-CUSTODY RECORD

DATE: 7/25/2023

PAGE: 5 OF 14

LABORATORY CLIENT: NV5, Inc.

ADDRESS: 3777 Long Beach Blvd, Annex Building

CITY: Long Beach STATE: CA ZIP: 90807

TEL: 562-544-3977 E-MAIL:

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ■ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD:

☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

CLIENT PROJECT NAME / NO.: McKinley Step-Out Sampling

P.O. NO.: SMSD-23-11670

PROJECT CONTACT: Eric Fraske

LAB CONTACT OR QUOTE NO.: 57016144

GLOBAL ID:

LOG CODE:

SAMPLER(S): (PRINT)

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Arsenic EPA Method 6020	Archive and Hold
41	B08WW-8	7/25	11:18	SOIL	1	X				X
42	B08W-2	↓	11:19	↓	↓	X			X	
43	B08W-2DUP	↓	11:19	↓	↓	X			X	
44	B08W-4	↓	11:20	↓	↓	X			X	
45	B08W-6	↓	11:30	↓	↓	X				X
46	B08W-8	↓	11:31	↓	↓	X				X
47	B08A-2	↓	11:35	↓	↓	X				X
48	B08A-4	↓	11:37	↓	↓	X				X
[illegible]	B08A-6	↓	11:40	↓	↓	X			X	
50	B08A-8	↓	11:41	↓	↓	X				X

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/26	13:50	[signature] EC	7/26/23	13:50

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FRM51408 Rev. 1.2

CHAIN-OF-CUSTODY RECORD

DATE: 7/25/2023

PAGE: 6 OF 14

LABORATORY CLIENT: NV5, Inc.

ADDRESS: 3777 Long Beach Blvd, Annex Building

CITY: Long Beach STATE: CA ZIP: 90807

TEL: 562-544-3977 E-MAIL:

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ■ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD:

☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

CLIENT PROJECT NAME / NO.: McKinley Step-Out Sampling

P.O. NO.: SMSD-23-11670

PROJECT CONTACT: Eric Fraske

LAB CONTACT OR QUOTE NO.: 57016144

GLOBAL ID:

LOG CODE:

SAMPLER(S): (PRINT)

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Arsenic EPA Method 6020	Archive and Hold
51	BØ8SS-2	7/25	11:47	SOIL	1	X				X
52	BØ8SS-4	↓	11:49	↓	↓	X				X
53	BØ8SS-6		11:53			X				X
54	BØ8SS-8		11:55			X				X
55	BØ8S-2		11:57			X			X	
56	BØ8S-4		11:58			X			X	
57	BØ8S-6		12:03			X				X
58	BØ8S-8		12:05			X				X
59	BØ8E-2		12:10			X			X	
60	BØ8E-4	↓	12:12	↓	↓	X			X	

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/25	13:50	[signature] IEC	7/26/23	13:50
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:

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FRM51408 Rev. 1.2

146364

CHAIN-OF-CUSTODY RECORD

DATE: 7/25/23

PAGE: 7 OF 14

LABORATORY CLIENT: NV5, Inc.

ADDRESS: 3777 Long Beach Blvd, Annex Building

CITY: Long Beach STATE: CA ZIP: 90807

TEL: 562-544-3977 E-MAIL:

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ■ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD:

☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

CLIENT PROJECT NAME / NO.: McKinley Step-Out Sampling

P.O. NO.: SMSD-23-11670

PROJECT CONTACT: Eric Fraske

LAB CONTACT OR QUOTE NO.: 57016144

GLOBAL ID:

LOG CODE:

SAMPLER(S): (PRINT)

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Arsenic EPA Method 6020	Archive and Hold
61	BØ8E-6	7/25	12:14	SOIL	1	X				X
62	BØ8E-8	↓	12:15	↓	↓	X				X
63	BØ8EE-2	↓	12:20	↓	↓	X				X
64	BØ8EE-4	↓	12:22	↓	↓	X				X
65	BØ8EE-6	↓	12:25	↓	↓	X				X
66	BØ8EE-8	↓	12:27	↓	↓	X				X
67	B07EE-2	↓	13:57	↓	↓	X				X
68	B07EE-4	↓	13:58	↓	↓	X				X
69	B07EE-6	↓	14:02	↓	↓	X				X
70	B07EE-8	↓	14:03	↓	↓	X				X

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/25	13:50	[signature] EC	7/26/23	13:50

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146364

CHAIN-OF-CUSTODY RECORD

DATE: 07/25

PAGE: 8 OF 14

LABORATORY CLIENT: NV5, Inc.

ADDRESS: 3777 Long Beach Blvd, Annex Building

CITY: Long Beach STATE: CA ZIP: 90807

TEL: 562-544-3977 E-MAIL:

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ■ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD:

☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

CLIENT PROJECT NAME / NO.: McKinley Step-Out Sampling

P.O. NO.: SMSD-23-11670

PROJECT CONTACT: Eric Fraske

LAB CONTACT OR QUOTE NO.: 57016144

GLOBAL ID:

LOG CODE:

SAMPLER(S): (PRINT)

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Arsenic EPA Method 6020	Archive and Hold
71	B07NN-8	07/25	15:09	soil	1	X				X
72	B07EE-2	↓	15:23	↓	↓	X				X
73	B07EE-4		15:25			X				X
74	B07EE-6		15:27			X				X
75	B07EE-8		15:28	↓		X				X
	~~EB~~	↓	—	~~W~~	↓	~~X~~			(X)	~~X~~
76	EB072523	07/25		W	1	X			X	

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/25	13:50	[signature] EC	7/26/23	13:50
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:

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CHAIN-OF-CUSTODY RECORD

DATE: 07/25

PAGE: 9 OF 14

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LABORATORY CLIENT:	NV5, Inc.
ADDRESS:	3777 Long Beach Blvd, Annex Building
CITY:	Long Beach
STATE:	CA
ZIP:	90807
TEL:	562-544-3977
E-MAIL:	
CLIENT PROJECT NAME / NO.:	McKinley Step-Out Sampling
P.O. NO.:	SMSD-23-11670
PROJECT CONTACT:	Eric Fraske
LAB CONTACT OR QUOTE NO.:	57016144
GLOBAL ID:	
LOG CODE:	
SAMPLER(S): (PRINT)	

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ■ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD:
☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Arsenic EPA Method 6020	Archive and Hold
77	B07E-4	07/25	14:40	Soil	1	X			X	
78	B07E-6	↓	14:42	↓	↓	X				X
79	B07E-8	↓	14:43	↓	↓	X				X
80	B07N-2	↓	14:52	↓	↓	X			X	
81	B07N-4	↓	14:53	↓	↓	X			X	
82	B07N-6	↓	14:54	↓	↓	X				X
83	B07N-8	↓	14:55	↓	↓	X				X
84	B07NN-2	↓	15:05	↓	↓	X				X
85	B07NN-4	↓	15:06	↓	↓	X				X
86	B07NN-6	↓	15:08	↓	↓	X				X

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/26	13:50	[signature] EC	7/26/23	13:50

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DATE: 07/25

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LABORATORY CLIENT: NV5, Inc.

ADDRESS: 3777 Long Beach Blvd, Annex Building

CITY: Long Beach STATE: CA ZIP: 90807

TEL: 562-544-3977 E-MAIL:

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ■ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD:

☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

CLIENT PROJECT NAME / NO.: McKinley Step-Out Sampling

P.O. NO.: SMSD-23-11670

PROJECT CONTACT: Eric Fraske

LAB CONTACT OR QUOTE NO.: 57016144

GLOBAL ID:

LOG CODE:

SAMPLER(S): (PRINT)

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Arsenic EPA Method 6020	Archive and Hold
87	B07W-2	07/25	14:12	Soil	1	X			X	
88	B07W-4		14:12			X			X	
89	B07W-6		14:13			X				X
90	B07W-8		14:14			X				X
91	B07A-2		14:19			X				X
92	B07A-4		14:18			X				X
93	B07A-6		14:21			X			X	
94	B07A-8		14:22			X				X
95	B07-6 Dup		14:21			X			X	
96	B07E-2		14:39			X			X	

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/26	13:50	[signature] EC	7/26/23	13:50
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:

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DATE: 07/26

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LABORATORY CLIENT: NV5, Inc.	CLIENT PROJECT NAME / NO.: McKinley Step-Out Sampling
ADDRESS: 3777 Long Beach Blvd, Annex Building	P.O. NO.: SMSD-23-11670
CITY: Long Beach STATE: CA ZIP: 90807	PROJECT CONTACT: Eric Fraske
TEL: 562-544-3977 E-MAIL:	LAB CONTACT OR QUOTE NO.: 57016144
	GLOBAL ID: LOG CODE: SAMPLER(S): (PRINT)

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ■ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD:

☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Arsenic EPA Method 6020	Archive and Hold
97	BIONN-2	7/26	09:05	Soil	1	X				X
98	BIONN-4	↓	09:06	↓	↓	X				X
99	BIONN-6	↓	09:07	↓	↓	X				X
100	BIONN-8	↓	09:08	↓	↓	X				X
101	BION-2	↓	09:10	↓	↓	X			X	
102	BION-4	↓	09:11	↓	↓	X			X	
103	BION-6	↓	09:13	↓	↓	X				X
104	BION-8	↓	09:14	↓	↓	X				X
105	BIOA-2	↓	09:19	↓	↓	X				X
106	BIOA-4	↓	09:20	↓	↓	X				X

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/26	13:50	[signature] EC	7/26/23	13:50
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:

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CHAIN-OF-CUSTODY RECORD

DATE: 07/26

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LABORATORY CLIENT: NV5, Inc.

ADDRESS: 3777 Long Beach Blvd, Annex Building

CITY: Long Beach STATE: CA ZIP: 90807

TEL: 562-544-3977 E-MAIL:

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ■ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD:

☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

CLIENT PROJECT NAME / NO.: McKinley Step-Out Sampling

P.O. NO.: SMSD-23-11670

PROJECT CONTACT: Eric Fraske

LAB CONTACT OR QUOTE NO.: 57016144

GLOBAL ID:

LOG CODE:

SAMPLER(S): (PRINT)

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Arsenic EPA Method 6020	Archive and Hold
107	B10A-6	07/26	09:24	Soil	1	X			X	
108	B10A-8		09:25			X				X
109	B10E-2		09:36			X			X	
110	B10E-2 Dup		09:36			X			X	
111	B10E-4		09:37			X			X	
112	B10E-6		09:38			X				X
113	B10E-8		09:39			X				X
114	B10EE-2		09:44			X				X
115	B10EE-4		09:45			X				X
116	B10EE-6		09:47			X				X

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/26	13:50	[signature] EC	7/26/23	13:50

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CHAIN-OF-CUSTODY RECORD

DATE: 07/26

PAGE: 13 OF 14

LABORATORY CLIENT: NV5, Inc.	CLIENT PROJECT NAME / NO.: McKinley Step-Out Sampling
ADDRESS: 3777 Long Beach Blvd, Annex Building	P.O. NO.: SMSD-23-11670
CITY: Long Beach STATE: CA ZIP: 90807	PROJECT CONTACT: Eric Fraske
TEL: 562-544-3977 E-MAIL:	LAB CONTACT OR QUOTE NO.: 57016144
	GLOBAL ID: LOG CODE: SAMPLER(S): (PRINT)

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ■ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD:

☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Arsenic EPA Method 6020	Archive and Hold
117	BIOEE-8	07/26	09:48	Soil	1	X				X
118	BIOW-2	↓	10:15	↓	↓	X			X	
119	BIOW-4		10:16			X			X	
120	BIOW-6		10:20			X				X
121	BIOW-8		10:21			X				X
122	BIOWW-2		10:00			X				X
123	BIOWW-4		10:01			X				X
124	BIOWW-6		10:03			X				X
125	BIOWW-8		10:04			X				X
126	BIOS-2	↓	10:25	↓	↓	X			X	

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/26	13:50	[signature] BC	7/26/23	13:50

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CHAIN-OF-CUSTODY RECORD

DATE: 07/26

PAGE: 14 OF 14

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LABORATORY CLIENT:	NV5, Inc.
ADDRESS:	3777 Long Beach Blvd, Annex Building
CITY:	Long Beach
STATE:	CA
ZIP:	90807
TEL:	562-544-3977
E-MAIL:	
CLIENT PROJECT NAME / NO.:	McKinley Step-Out Sampling
P.O. NO.:	SMSD-23-11670
PROJECT CONTACT:	Eric Fraske
LAB CONTACT OR QUOTE NO.:	57016144
GLOBAL ID:	
LOG CODE:	
SAMPLER(S): (PRINT)	

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ■ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD:
☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Arsenic EPA Method 6020	Archive and Hold
127	BIOS-4	07/26	10:26	Soil	1	X			X	
128	BIOS-6	↓	10:30	↓	↓					X
129	BIOS-8	↓	10:31	↓	↓					X
130	BIOSS-2	↓	10:33	↓	↓				X	X
131	BIOSS-4	↓	10:34	↓	↓				X	X
132	BIOSS-6	↓	10:38	↓	↓					X
133	BIOSS-8	↓	10:40	↓	↓					X
134	EB072623	↓	10:45	W	1	X			X	

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/26	13:50	[signature] EC	7/26/23	13:50

Login Sample Receipt Checklist

Client: NV5, Inc

Job Number: 570-146364-2

Login Number: 146364
List Number: 1
Creator: Hernandez, Richie

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Eric Fraske
NV5, Inc
3777 Long Beach Blvd,
Long Beach, California 90807

Generated 8/8/2023 5:15:47 PM

JOB DESCRIPTION

McKinley Elementary School

JOB NUMBER

570-146364-3

Eurofins Calscience
2841 Dow Avenue, Suite 100
Tustin CA 92780

See page two for job notes and contact information.

my EOL

Eurofins Calscience

Job Notes

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Authorization

Vik Patel

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Authorized for release by
Vikas Patel, Project Manager I
Vikas.Patel@et.eurofinsus.com
(714)895-5494

Table of Contents

Cover Page 1
Table of Contents 3
Definitions/Glossary 4
Case Narrative 5
Detection Summary 6
Client Sample Results 11
QC Sample Results 17
QC Association Summary 20
Lab Chronicle 24
Certification Summary 35
Method Summary 36
Sample Summary 37
Chain of Custody 38
Receipt Checklists 53

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 570-146364-3

Laboratory: Eurofins Calscience

Narrative

Job Narrative
570-146364-3

Comments
No additional comments.

Receipt
The samples were received on 7/26/2023 1:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.9º C, 4.2º C and 4.5º C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-3

Client Sample ID: B11E-8 — Lab Sample ID: 570-146364-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	12.9		0.493	0.0900	mg/Kg	20		6020	Total/NA

Client Sample ID: B11EE-6 — Lab Sample ID: 570-146364-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	12.9		0.495	0.0905	mg/Kg	20		6020	Total/NA

Client Sample ID: B11EE-8 — Lab Sample ID: 570-146364-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.6		0.500	0.0914	mg/Kg	20		6020	Total/NA

Client Sample ID: B11SS-6 — Lab Sample ID: 570-146364-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	15.4		0.493	0.0900	mg/Kg	20		6020	Total/NA

Client Sample ID: B11SS-8 — Lab Sample ID: 570-146364-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	13.9		0.493	0.0900	mg/Kg	20		6020	Total/NA

Client Sample ID: B11S-8 — Lab Sample ID: 570-146364-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	16.5		0.503	0.0919	mg/Kg	20		6020	Total/NA

Client Sample ID: B11WW-6 — Lab Sample ID: 570-146364-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	15.3		0.490	0.0896	mg/Kg	20		6020	Total/NA

Client Sample ID: B11WW-8 — Lab Sample ID: 570-146364-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	14.8		0.498	0.0909	mg/Kg	20		6020	Total/NA

Client Sample ID: B11W-8 — Lab Sample ID: 570-146364-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	12.3		0.500	0.0914	mg/Kg	20		6020	Total/NA

Client Sample ID: B11N-8 — Lab Sample ID: 570-146364-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	13.0		0.490	0.0896	mg/Kg	20		6020	Total/NA

Client Sample ID: B11NN-6 — Lab Sample ID: 570-146364-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	14.1		0.493	0.0900	mg/Kg	20		6020	Total/NA

Client Sample ID: B11NN-8 — Lab Sample ID: 570-146364-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.2		0.500	0.0914	mg/Kg	20		6020	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-3

Client Sample ID: B11A-2 — Lab Sample ID: 570-146364-34

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10.8		0.498	0.0909	mg/Kg	20		6020	Total/NA

Client Sample ID: B11A-4 — Lab Sample ID: 570-146364-35

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.9		0.493	0.0900	mg/Kg	20		6020	Total/NA

Client Sample ID: B08WW-6 — Lab Sample ID: 570-146364-40

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10.9		0.500	0.0914	mg/Kg	20		6020	Total/NA

Client Sample ID: B08WW-8 — Lab Sample ID: 570-146364-41

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.55		0.500	0.0914	mg/Kg	20		6020	Total/NA

Client Sample ID: B08W-8 — Lab Sample ID: 570-146364-46

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	9.74		0.503	0.0919	mg/Kg	20		6020	Total/NA

Client Sample ID: B08A-2 — Lab Sample ID: 570-146364-47

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	16.0		0.495	0.0905	mg/Kg	20		6020	Total/NA

Client Sample ID: B08A-4 — Lab Sample ID: 570-146364-48

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.95		0.500	0.0914	mg/Kg	20		6020	Total/NA

Client Sample ID: B08A-8 — Lab Sample ID: 570-146364-50

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10.8		0.498	0.0909	mg/Kg	20		6020	Total/NA

Client Sample ID: B08SS-6 — Lab Sample ID: 570-146364-53

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.5		0.503	0.0919	mg/Kg	20		6020	Total/NA

Client Sample ID: B08SS-8 — Lab Sample ID: 570-146364-54

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10.5		0.505	0.0923	mg/Kg	20		6020	Total/NA

Client Sample ID: B08S-8 — Lab Sample ID: 570-146364-58

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.8		0.503	0.0919	mg/Kg	20		6020	Total/NA

Client Sample ID: B08E-6 — Lab Sample ID: 570-146364-61

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10.6		0.498	0.0909	mg/Kg	20		6020	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-3

Client Sample ID: B08E-8 — Lab Sample ID: 570-146364-62

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10.1		0.500	0.0914	mg/Kg	20		6020	Total/NA

Client Sample ID: B08EE-6 — Lab Sample ID: 570-146364-65

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10.1		0.503	0.0919	mg/Kg	20		6020	Total/NA

Client Sample ID: B08EE-8 — Lab Sample ID: 570-146364-66

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	9.14		0.498	0.0909	mg/Kg	20		6020	Total/NA

Client Sample ID: B07WW-6 — Lab Sample ID: 570-146364-69

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.07		0.495	0.0905	mg/Kg	20		6020	Total/NA

Client Sample ID: B07WW-8 — Lab Sample ID: 570-146364-70

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	6.68		0.503	0.0919	mg/Kg	20		6020	Total/NA

Client Sample ID: B07NN-8 — Lab Sample ID: 570-146364-71

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.50		0.500	0.0914	mg/Kg	20		6020	Total/NA

Client Sample ID: B07EE-6 — Lab Sample ID: 570-146364-74

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.90		0.498	0.0909	mg/Kg	20		6020	Total/NA

Client Sample ID: B07EE-8 — Lab Sample ID: 570-146364-75

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	9.96		0.503	0.0919	mg/Kg	20		6020	Total/NA

Client Sample ID: B07E-8 — Lab Sample ID: 570-146364-79

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10.3		0.503	0.0919	mg/Kg	20		6020	Total/NA

Client Sample ID: B07N-8 — Lab Sample ID: 570-146364-83

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.85		0.503	0.0919	mg/Kg	20		6020	Total/NA

Client Sample ID: B07NN-6 — Lab Sample ID: 570-146364-86

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10.1		0.490	0.0896	mg/Kg	20		6020	Total/NA

Client Sample ID: B07W-8 — Lab Sample ID: 570-146364-90

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.84		0.500	0.0914	mg/Kg	20		6020	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-3

Client Sample ID: B07A-2 — Lab Sample ID: 570-146364-91

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	16.9		0.500	0.0914	mg/Kg	20		6020	Total/NA

Client Sample ID: B07A-4 — Lab Sample ID: 570-146364-92

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	13.8		0.500	0.0914	mg/Kg	20		6020	Total/NA

Client Sample ID: B07A-8 — Lab Sample ID: 570-146364-94

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	9.42		0.493	0.0900	mg/Kg	20		6020	Total/NA

Client Sample ID: B10NN-6 — Lab Sample ID: 570-146364-99

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.0		0.498	0.0909	mg/Kg	20		6020	Total/NA

Client Sample ID: B10NN-8 — Lab Sample ID: 570-146364-100

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.6		0.500	0.0914	mg/Kg	20		6020	Total/NA

Client Sample ID: B10N-8 — Lab Sample ID: 570-146364-104

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	12.2		0.493	0.0900	mg/Kg	20		6020	Total/NA

Client Sample ID: B10A-2 — Lab Sample ID: 570-146364-105

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	9.66		0.500	0.0914	mg/Kg	20		6020	Total/NA

Client Sample ID: B10A-4 — Lab Sample ID: 570-146364-106

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	13.8		0.500	0.0914	mg/Kg	20		6020	Total/NA

Client Sample ID: B10E-8 — Lab Sample ID: 570-146364-113

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.3		0.495	0.0905	mg/Kg	20		6020	Total/NA

Client Sample ID: B10EE-6 — Lab Sample ID: 570-146364-116

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.10		0.500	0.0914	mg/Kg	20		6020	Total/NA

Client Sample ID: B10EE-8 — Lab Sample ID: 570-146364-117

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.6		0.500	0.0914	mg/Kg	20		6020	Total/NA

Client Sample ID: B10W-8 — Lab Sample ID: 570-146364-121

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	13.5		0.500	0.0914	mg/Kg	20		6020	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-3

Client Sample ID: B10WW-6 — Lab Sample ID: 570-146364-124

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10.3		0.493	0.0900	mg/Kg	20		6020	Total/NA

Client Sample ID: B10WW-8 — Lab Sample ID: 570-146364-125

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	10.1		0.495	0.0905	mg/Kg	20		6020	Total/NA

Client Sample ID: B10S-8 — Lab Sample ID: 570-146364-129

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.9		0.500	0.0914	mg/Kg	20		6020	Total/NA

Client Sample ID: B10SS-6 — Lab Sample ID: 570-146364-132

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11.1		0.498	0.0909	mg/Kg	20		6020	Total/NA

Client Sample ID: B10SS-8 — Lab Sample ID: 570-146364-133

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	12.7		0.493	0.0900	mg/Kg	20		6020	Total/NA

This Detection Summary does not include radiochemical test results.

Method: SW846 6020 - Metals (ICP/MS)

Client Sample ID: B11E-8 — **Lab Sample ID: 570-146364-5**
Date Collected: 07/25/23 08:51 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12.9		0.493	0.0900	mg/Kg		08/04/23 06:17	08/08/23 10:11	20

Client Sample ID: B11EE-6 — **Lab Sample ID: 570-146364-8**
Date Collected: 07/25/23 08:59 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12.9		0.495	0.0905	mg/Kg		08/04/23 06:17	08/08/23 10:22	20

Client Sample ID: B11EE-8 — **Lab Sample ID: 570-146364-9**
Date Collected: 07/25/23 09:00 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.6		0.500	0.0914	mg/Kg		08/04/23 06:17	08/08/23 10:24	20

Client Sample ID: B11SS-6 — **Lab Sample ID: 570-146364-12**
Date Collected: 07/25/23 09:10 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	15.4		0.493	0.0900	mg/Kg		08/04/23 06:17	08/08/23 10:46	20

Client Sample ID: B11SS-8 — **Lab Sample ID: 570-146364-13**
Date Collected: 07/25/23 09:11 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13.9		0.493	0.0900	mg/Kg		08/04/23 06:17	08/07/23 14:43	20

Client Sample ID: B11S-8 — **Lab Sample ID: 570-146364-17**
Date Collected: 07/25/23 09:21 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16.5		0.503	0.0919	mg/Kg		08/04/23 06:17	08/07/23 14:45	20

Client Sample ID: B11WW-6 — **Lab Sample ID: 570-146364-20**
Date Collected: 07/25/23 09:30 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	15.3		0.490	0.0896	mg/Kg		08/04/23 06:17	08/07/23 14:47	20

Client Sample ID: B11WW-8 — **Lab Sample ID: 570-146364-21**
Date Collected: 07/25/23 09:31 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	14.8		0.498	0.0909	mg/Kg		08/04/23 06:17	08/07/23 14:49	20

Client Sample ID: B11W-8 — **Lab Sample ID: 570-146364-25**
Date Collected: 07/25/23 09:41 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12.3		0.500	0.0914	mg/Kg		08/04/23 06:17	08/07/23 14:51	20

Method: SW846 6020 - Metals (ICP/MS)

Client Sample ID: B11N-8 — **Lab Sample ID: 570-146364-29**
Date Collected: 07/25/23 09:50 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13.0		0.490	0.0896	mg/Kg		08/04/23 06:17	08/07/23 14:54	20

Client Sample ID: B11NN-6 — **Lab Sample ID: 570-146364-32**
Date Collected: 07/25/23 10:00 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	14.1		0.493	0.0900	mg/Kg		08/04/23 06:17	08/07/23 14:56	20

Client Sample ID: B11NN-8 — **Lab Sample ID: 570-146364-33**
Date Collected: 07/25/23 10:01 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.2		0.500	0.0914	mg/Kg		08/04/23 06:17	08/08/23 10:48	20

Client Sample ID: B11A-2 — **Lab Sample ID: 570-146364-34**
Date Collected: 07/25/23 10:04 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.8		0.498	0.0909	mg/Kg		08/04/23 08:16	08/07/23 11:37	20

Client Sample ID: B11A-4 — **Lab Sample ID: 570-146364-35**
Date Collected: 07/25/23 10:05 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.9		0.493	0.0900	mg/Kg		08/04/23 08:16	08/07/23 11:48	20

Client Sample ID: B08WW-6 — **Lab Sample ID: 570-146364-40**
Date Collected: 07/25/23 11:17 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.9		0.500	0.0914	mg/Kg		08/04/23 08:16	08/07/23 11:50	20

Client Sample ID: B08WW-8 — **Lab Sample ID: 570-146364-41**
Date Collected: 07/25/23 11:18 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.55		0.500	0.0914	mg/Kg		08/04/23 08:16	08/07/23 11:56	20

Client Sample ID: B08W-8 — **Lab Sample ID: 570-146364-46**
Date Collected: 07/25/23 11:31 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.74		0.503	0.0919	mg/Kg		08/04/23 08:16	08/07/23 11:59	20

Client Sample ID: B08A-2 — **Lab Sample ID: 570-146364-47**
Date Collected: 07/25/23 11:35 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16.0		0.495	0.0905	mg/Kg		08/04/23 08:16	08/07/23 12:01	20

Method: SW846 6020 - Metals (ICP/MS)

Client Sample ID: B08A-4 — **Lab Sample ID: 570-146364-48**
Date Collected: 07/25/23 11:37 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.95		0.500	0.0914	mg/Kg		08/04/23 08:16	08/07/23 12:03	20

Client Sample ID: B08A-8 — **Lab Sample ID: 570-146364-50**
Date Collected: 07/25/23 11:41 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.8		0.498	0.0909	mg/Kg		08/04/23 08:16	08/07/23 12:05	20

Client Sample ID: B08SS-6 — **Lab Sample ID: 570-146364-53**
Date Collected: 07/25/23 11:53 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.5		0.503	0.0919	mg/Kg		08/04/23 08:16	08/07/23 12:07	20

Client Sample ID: B08SS-8 — **Lab Sample ID: 570-146364-54**
Date Collected: 07/25/23 11:55 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.5		0.505	0.0923	mg/Kg		08/04/23 08:16	08/07/23 12:09	20

Client Sample ID: B08S-8 — **Lab Sample ID: 570-146364-58**
Date Collected: 07/25/23 12:05 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.8		0.503	0.0919	mg/Kg		08/04/23 08:16	08/07/23 12:11	20

Client Sample ID: B08E-6 — **Lab Sample ID: 570-146364-61**
Date Collected: 07/25/23 12:14 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.6		0.498	0.0909	mg/Kg		08/04/23 08:16	08/07/23 12:13	20

Client Sample ID: B08E-8 — **Lab Sample ID: 570-146364-62**
Date Collected: 07/25/23 12:15 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.1		0.500	0.0914	mg/Kg		08/04/23 08:16	08/07/23 12:15	20

Client Sample ID: B08EE-6 — **Lab Sample ID: 570-146364-65**
Date Collected: 07/25/23 12:25 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.1		0.503	0.0919	mg/Kg		08/04/23 08:16	08/07/23 12:22	20

Client Sample ID: B08EE-8 — **Lab Sample ID: 570-146364-66**
Date Collected: 07/25/23 12:27 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.14		0.498	0.0909	mg/Kg		08/04/23 08:16	08/07/23 12:24	20

Method: SW846 6020 - Metals (ICP/MS)

Client Sample ID: B07WW-6 — **Lab Sample ID: 570-146364-69**
Date Collected: 07/25/23 14:02 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.07		0.495	0.0905	mg/Kg		08/04/23 08:16	08/07/23 12:26	20

Client Sample ID: B07WW-8 — **Lab Sample ID: 570-146364-70**
Date Collected: 07/25/23 14:03 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.68		0.503	0.0919	mg/Kg		08/04/23 08:16	08/07/23 12:28	20

Client Sample ID: B07NN-8 — **Lab Sample ID: 570-146364-71**
Date Collected: 07/25/23 15:09 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.50		0.500	0.0914	mg/Kg		08/04/23 08:16	08/07/23 12:30	20

Client Sample ID: B07EE-6 — **Lab Sample ID: 570-146364-74**
Date Collected: 07/25/23 15:27 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.90		0.498	0.0909	mg/Kg		08/04/23 08:16	08/07/23 12:33	20

Client Sample ID: B07EE-8 — **Lab Sample ID: 570-146364-75**
Date Collected: 07/25/23 15:28 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.96		0.503	0.0919	mg/Kg		08/04/23 08:16	08/07/23 12:35	20

Client Sample ID: B07E-8 — **Lab Sample ID: 570-146364-79**
Date Collected: 07/25/23 14:43 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.3		0.503	0.0919	mg/Kg		08/04/23 09:07	08/07/23 12:50	20

Client Sample ID: B07N-8 — **Lab Sample ID: 570-146364-83**
Date Collected: 07/25/23 14:55 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.85		0.503	0.0919	mg/Kg		08/04/23 09:07	08/07/23 13:00	20

Client Sample ID: B07NN-6 — **Lab Sample ID: 570-146364-86**
Date Collected: 07/25/23 15:08 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.1		0.490	0.0896	mg/Kg		08/04/23 09:07	08/07/23 13:02	20

Client Sample ID: B07W-8 — **Lab Sample ID: 570-146364-90**
Date Collected: 07/25/23 14:14 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.84		0.500	0.0914	mg/Kg		08/04/23 09:07	08/07/23 13:10	20

Method: SW846 6020 - Metals (ICP/MS)

Client Sample ID: B07A-2 — **Lab Sample ID: 570-146364-91**
Date Collected: 07/25/23 14:19 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16.9		0.500	0.0914	mg/Kg		08/04/23 09:07	08/07/23 13:12	20

Client Sample ID: B07A-4 — **Lab Sample ID: 570-146364-92**
Date Collected: 07/25/23 14:18 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13.8		0.500	0.0914	mg/Kg		08/04/23 09:07	08/07/23 13:14	20

Client Sample ID: B07A-8 — **Lab Sample ID: 570-146364-94**
Date Collected: 07/25/23 14:22 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.42		0.493	0.0900	mg/Kg		08/04/23 09:07	08/07/23 13:16	20

Client Sample ID: B10NN-6 — **Lab Sample ID: 570-146364-99**
Date Collected: 07/25/23 09:07 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.0		0.498	0.0909	mg/Kg		08/04/23 09:07	08/07/23 13:18	20

Client Sample ID: B10NN-8 — **Lab Sample ID: 570-146364-100**
Date Collected: 07/25/23 09:08 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.6		0.500	0.0914	mg/Kg		08/04/23 09:07	08/07/23 13:20	20

Client Sample ID: B10N-8 — **Lab Sample ID: 570-146364-104**
Date Collected: 07/25/23 09:14 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12.2		0.493	0.0900	mg/Kg		08/04/23 09:07	08/07/23 13:22	20

Client Sample ID: B10A-2 — **Lab Sample ID: 570-146364-105**
Date Collected: 07/25/23 09:19 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.66		0.500	0.0914	mg/Kg		08/04/23 09:07	08/07/23 13:24	20

Client Sample ID: B10A-4 — **Lab Sample ID: 570-146364-106**
Date Collected: 07/25/23 09:20 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13.8		0.500	0.0914	mg/Kg		08/04/23 09:07	08/07/23 13:27	20

Client Sample ID: B10E-8 — **Lab Sample ID: 570-146364-113**
Date Collected: 07/25/23 09:39 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.3		0.495	0.0905	mg/Kg		08/04/23 09:07	08/07/23 13:29	20

Method: SW846 6020 - Metals (ICP/MS)

Client Sample ID: B10EE-6 — **Lab Sample ID: 570-146364-116**
Date Collected: 07/25/23 09:47 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.10		0.500	0.0914	mg/Kg		08/04/23 09:07	08/07/23 13:35	20

Client Sample ID: B10EE-8 — **Lab Sample ID: 570-146364-117**
Date Collected: 07/25/23 09:48 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.6		0.500	0.0914	mg/Kg		08/04/23 09:07	08/07/23 13:37	20

Client Sample ID: B10W-8 — **Lab Sample ID: 570-146364-121**
Date Collected: 07/25/23 10:21 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13.5		0.500	0.0914	mg/Kg		08/04/23 09:07	08/07/23 13:39	20

Client Sample ID: B10WW-6 — **Lab Sample ID: 570-146364-124**
Date Collected: 07/25/23 10:03 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.3		0.493	0.0900	mg/Kg		08/04/23 09:07	08/07/23 13:42	20

Client Sample ID: B10WW-8 — **Lab Sample ID: 570-146364-125**
Date Collected: 07/25/23 10:04 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10.1		0.495	0.0905	mg/Kg		08/04/23 09:07	08/07/23 13:44	20

Client Sample ID: B10S-8 — **Lab Sample ID: 570-146364-129**
Date Collected: 07/25/23 10:31 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.9		0.500	0.0914	mg/Kg		08/04/23 09:07	08/07/23 13:46	20

Client Sample ID: B10SS-6 — **Lab Sample ID: 570-146364-132**
Date Collected: 07/25/23 10:38 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11.1		0.498	0.0909	mg/Kg		08/04/23 09:07	08/07/23 13:48	20

Client Sample ID: B10SS-8 — **Lab Sample ID: 570-146364-133**
Date Collected: 07/25/23 10:40 — **Matrix: Solid**
Date Received: 07/26/23 13:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12.7		0.493	0.0900	mg/Kg		08/04/23 10:29	08/07/23 11:22	20

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 570-351907/1-A ^20 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 352942 — **Prep Batch: 351907**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.493	0.0900	mg/Kg		08/04/23 06:17	08/08/23 10:04	20

Lab Sample ID: LCS 570-351907/2-A ^20 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 352942 — **Prep Batch: 351907**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	50.3	51.91		mg/Kg		103	80 - 120

Lab Sample ID: LCSD 570-351907/3-A ^20 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 352942 — **Prep Batch: 351907**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	49.8	50.76		mg/Kg		102	80 - 120	2	20

Lab Sample ID: 570-146364-5 MS — **Client Sample ID: B11E-8**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 352942 — **Prep Batch: 351907**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	12.9		50.0	53.63		mg/Kg		81	75 - 125

Lab Sample ID: 570-146364-5 MSD — **Client Sample ID: B11E-8**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 352942 — **Prep Batch: 351907**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	12.9		49.8	55.91		mg/Kg		86	75 - 125	4	20

Lab Sample ID: MB 570-351944/1-A ^20 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 352602 — **Prep Batch: 351944**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.498	0.0909	mg/Kg		08/04/23 08:16	08/07/23 11:31	20

Lab Sample ID: LCS 570-351944/2-A ^20 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 352602 — **Prep Batch: 351944**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	49.3	46.47		mg/Kg		94	80 - 120

Lab Sample ID: LCSD 570-351944/3-A ^20 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 352602 — **Prep Batch: 351944**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	50.0	46.58		mg/Kg		93	80 - 120	0	20

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: 570-146364-34 MS — **Client Sample ID: B11A-2**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 352602 — **Prep Batch: 351944**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	10.8		49.3	57.37		mg/Kg		94	75 - 125

Lab Sample ID: 570-146364-34 MSD — **Client Sample ID: B11A-2**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 352602 — **Prep Batch: 351944**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	10.8		49.3	59.35		mg/Kg		99	75 - 125	3	20

Lab Sample ID: MB 570-351980/1-A ^20 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 352626 — **Prep Batch: 351980**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.493	0.0900	mg/Kg		08/04/23 09:07	08/07/23 12:43	20

Lab Sample ID: LCS 570-351980/2-A ^20 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 352626 — **Prep Batch: 351980**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	50.3	47.67		mg/Kg		95	80 - 120

Lab Sample ID: LCSD 570-351980/3-A ^20 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 352626 — **Prep Batch: 351980**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	49.8	47.11		mg/Kg		95	80 - 120	1	20

Lab Sample ID: 570-146364-79 MS — **Client Sample ID: B07E-8**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 352626 — **Prep Batch: 351980**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	10.3		49.8	54.89		mg/Kg		90	75 - 125

Lab Sample ID: 570-146364-79 MSD — **Client Sample ID: B07E-8**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 352626 — **Prep Batch: 351980**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	10.3		49.8	55.92		mg/Kg		92	75 - 125	2	20

Lab Sample ID: MB 570-352029/1-A ^20 — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 352562 — **Prep Batch: 352029**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.500	0.0914	mg/Kg		08/04/23 10:29	08/07/23 11:05	20

QC Sample Results

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-3

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: LCS 570-352029/2-A ^20
Matrix: Solid
Analysis Batch: 352562

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 352029

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Arsenic			49.8	48.92		mg/Kg		98	80 - 120		

Lab Sample ID: LCSD 570-352029/3-A ^20
Matrix: Solid
Analysis Batch: 352562

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 352029

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic			50.5	50.07		mg/Kg		99	80 - 120	2	20

QC Association Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-3

Metals

Prep Batch: 351907

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-146364-5	B11E-8	Total/NA	Solid	3050B	
570-146364-8	B11EE-6	Total/NA	Solid	3050B	
570-146364-9	B11EE-8	Total/NA	Solid	3050B	
570-146364-12	B11SS-6	Total/NA	Solid	3050B	
570-146364-13	B11SS-8	Total/NA	Solid	3050B	
570-146364-17	B11S-8	Total/NA	Solid	3050B	
570-146364-20	B11WW-6	Total/NA	Solid	3050B	
570-146364-21	B11WW-8	Total/NA	Solid	3050B	
570-146364-25	B11W-8	Total/NA	Solid	3050B	
570-146364-29	B11N-8	Total/NA	Solid	3050B	
570-146364-32	B11NN-6	Total/NA	Solid	3050B	
570-146364-33	B11NN-8	Total/NA	Solid	3050B	
MB 570-351907/1-A ^20	Method Blank	Total/NA	Solid	3050B	
LCS 570-351907/2-A ^20	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-351907/3-A ^20	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-146364-5 MS	B11E-8	Total/NA	Solid	3050B	
570-146364-5 MSD	B11E-8	Total/NA	Solid	3050B	

Prep Batch: 351944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-146364-34	B11A-2	Total/NA	Solid	3050B	
570-146364-35	B11A-4	Total/NA	Solid	3050B	
570-146364-40	B08WW-6	Total/NA	Solid	3050B	
570-146364-41	B08WW-8	Total/NA	Solid	3050B	
570-146364-46	B08W-8	Total/NA	Solid	3050B	
570-146364-47	B08A-2	Total/NA	Solid	3050B	
570-146364-48	B08A-4	Total/NA	Solid	3050B	
570-146364-50	B08A-8	Total/NA	Solid	3050B	
570-146364-53	B08SS-6	Total/NA	Solid	3050B	
570-146364-54	B08SS-8	Total/NA	Solid	3050B	
570-146364-58	B08S-8	Total/NA	Solid	3050B	
570-146364-61	B08E-6	Total/NA	Solid	3050B	
570-146364-62	B08E-8	Total/NA	Solid	3050B	
570-146364-65	B08EE-6	Total/NA	Solid	3050B	
570-146364-66	B08EE-8	Total/NA	Solid	3050B	
570-146364-69	B07WW-6	Total/NA	Solid	3050B	
570-146364-70	B07WW-8	Total/NA	Solid	3050B	
570-146364-71	B07NN-8	Total/NA	Solid	3050B	
570-146364-74	B07EE-6	Total/NA	Solid	3050B	
570-146364-75	B07EE-8	Total/NA	Solid	3050B	
MB 570-351944/1-A ^20	Method Blank	Total/NA	Solid	3050B	
LCS 570-351944/2-A ^20	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-351944/3-A ^20	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-146364-34 MS	B11A-2	Total/NA	Solid	3050B	
570-146364-34 MSD	B11A-2	Total/NA	Solid	3050B	

Prep Batch: 351980

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-146364-79	B07E-8	Total/NA	Solid	3050B	
570-146364-83	B07N-8	Total/NA	Solid	3050B	
570-146364-86	B07NN-6	Total/NA	Solid	3050B	

Metals (Continued)

Prep Batch: 351980 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-146364-90	B07W-8	Total/NA	Solid	3050B	
570-146364-91	B07A-2	Total/NA	Solid	3050B	
570-146364-92	B07A-4	Total/NA	Solid	3050B	
570-146364-94	B07A-8	Total/NA	Solid	3050B	
570-146364-99	B10NN-6	Total/NA	Solid	3050B	
570-146364-100	B10NN-8	Total/NA	Solid	3050B	
570-146364-104	B10N-8	Total/NA	Solid	3050B	
570-146364-105	B10A-2	Total/NA	Solid	3050B	
570-146364-106	B10A-4	Total/NA	Solid	3050B	
570-146364-113	B10E-8	Total/NA	Solid	3050B	
570-146364-116	B10EE-6	Total/NA	Solid	3050B	
570-146364-117	B10EE-8	Total/NA	Solid	3050B	
570-146364-121	B10W-8	Total/NA	Solid	3050B	
570-146364-124	B10WW-6	Total/NA	Solid	3050B	
570-146364-125	B10WW-8	Total/NA	Solid	3050B	
570-146364-129	B10S-8	Total/NA	Solid	3050B	
570-146364-132	B10SS-6	Total/NA	Solid	3050B	
MB 570-351980/1-A ^20	Method Blank	Total/NA	Solid	3050B	
LCS 570-351980/2-A ^20	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-351980/3-A ^20	Lab Control Sample Dup	Total/NA	Solid	3050B	
570-146364-79 MS	B07E-8	Total/NA	Solid	3050B	
570-146364-79 MSD	B07E-8	Total/NA	Solid	3050B	

Prep Batch: 352029

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-146364-133	B10SS-8	Total/NA	Solid	3050B	
MB 570-352029/1-A ^20	Method Blank	Total/NA	Solid	3050B	
LCS 570-352029/2-A ^20	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 570-352029/3-A ^20	Lab Control Sample Dup	Total/NA	Solid	3050B	

Analysis Batch: 352562

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-146364-133	B10SS-8	Total/NA	Solid	6020	352029
MB 570-352029/1-A ^20	Method Blank	Total/NA	Solid	6020	352029
LCS 570-352029/2-A ^20	Lab Control Sample	Total/NA	Solid	6020	352029
LCSD 570-352029/3-A ^20	Lab Control Sample Dup	Total/NA	Solid	6020	352029

Analysis Batch: 352602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-146364-34	B11A-2	Total/NA	Solid	6020	351944
570-146364-35	B11A-4	Total/NA	Solid	6020	351944
570-146364-40	B08WW-6	Total/NA	Solid	6020	351944
570-146364-41	B08WW-8	Total/NA	Solid	6020	351944
570-146364-46	B08W-8	Total/NA	Solid	6020	351944
570-146364-47	B08A-2	Total/NA	Solid	6020	351944
570-146364-48	B08A-4	Total/NA	Solid	6020	351944
570-146364-50	B08A-8	Total/NA	Solid	6020	351944
570-146364-53	B08SS-6	Total/NA	Solid	6020	351944
570-146364-54	B08SS-8	Total/NA	Solid	6020	351944
570-146364-58	B08S-8	Total/NA	Solid	6020	351944
570-146364-61	B08E-6	Total/NA	Solid	6020	351944

Metals (Continued)

Analysis Batch: 352602 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-146364-62	B08E-8	Total/NA	Solid	6020	351944
570-146364-65	B08EE-6	Total/NA	Solid	6020	351944
570-146364-66	B08EE-8	Total/NA	Solid	6020	351944
570-146364-69	B07WW-6	Total/NA	Solid	6020	351944
570-146364-70	B07WW-8	Total/NA	Solid	6020	351944
570-146364-71	B07NN-8	Total/NA	Solid	6020	351944
570-146364-74	B07EE-6	Total/NA	Solid	6020	351944
570-146364-75	B07EE-8	Total/NA	Solid	6020	351944
MB 570-351944/1-A ^20	Method Blank	Total/NA	Solid	6020	351944
LCS 570-351944/2-A ^20	Lab Control Sample	Total/NA	Solid	6020	351944
LCSD 570-351944/3-A ^20	Lab Control Sample Dup	Total/NA	Solid	6020	351944
570-146364-34 MS	B11A-2	Total/NA	Solid	6020	351944
570-146364-34 MSD	B11A-2	Total/NA	Solid	6020	351944

Analysis Batch: 352626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-146364-79	B07E-8	Total/NA	Solid	6020	351980
570-146364-83	B07N-8	Total/NA	Solid	6020	351980
570-146364-86	B07NN-6	Total/NA	Solid	6020	351980
570-146364-90	B07W-8	Total/NA	Solid	6020	351980
570-146364-91	B07A-2	Total/NA	Solid	6020	351980
570-146364-92	B07A-4	Total/NA	Solid	6020	351980
570-146364-94	B07A-8	Total/NA	Solid	6020	351980
570-146364-99	B10NN-6	Total/NA	Solid	6020	351980
570-146364-100	B10NN-8	Total/NA	Solid	6020	351980
570-146364-104	B10N-8	Total/NA	Solid	6020	351980
570-146364-105	B10A-2	Total/NA	Solid	6020	351980
570-146364-106	B10A-4	Total/NA	Solid	6020	351980
570-146364-113	B10E-8	Total/NA	Solid	6020	351980
570-146364-116	B10EE-6	Total/NA	Solid	6020	351980
570-146364-117	B10EE-8	Total/NA	Solid	6020	351980
570-146364-121	B10W-8	Total/NA	Solid	6020	351980
570-146364-124	B10WW-6	Total/NA	Solid	6020	351980
570-146364-125	B10WW-8	Total/NA	Solid	6020	351980
570-146364-129	B10S-8	Total/NA	Solid	6020	351980
570-146364-132	B10SS-6	Total/NA	Solid	6020	351980
MB 570-351980/1-A ^20	Method Blank	Total/NA	Solid	6020	351980
LCS 570-351980/2-A ^20	Lab Control Sample	Total/NA	Solid	6020	351980
LCSD 570-351980/3-A ^20	Lab Control Sample Dup	Total/NA	Solid	6020	351980
570-146364-79 MS	B07E-8	Total/NA	Solid	6020	351980
570-146364-79 MSD	B07E-8	Total/NA	Solid	6020	351980

Analysis Batch: 352658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-146364-13	B11SS-8	Total/NA	Solid	6020	351907
570-146364-17	B11S-8	Total/NA	Solid	6020	351907
570-146364-20	B11WW-6	Total/NA	Solid	6020	351907
570-146364-21	B11WW-8	Total/NA	Solid	6020	351907
570-146364-25	B11W-8	Total/NA	Solid	6020	351907
570-146364-29	B11N-8	Total/NA	Solid	6020	351907
570-146364-32	B11NN-6	Total/NA	Solid	6020	351907

QC Association Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-3

Metals

Analysis Batch: 352942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-146364-5	B11E-8	Total/NA	Solid	6020	351907
570-146364-8	B11EE-6	Total/NA	Solid	6020	351907
570-146364-9	B11EE-8	Total/NA	Solid	6020	351907
570-146364-12	B11SS-6	Total/NA	Solid	6020	351907
570-146364-33	B11NN-8	Total/NA	Solid	6020	351907
MB 570-351907/1-A ^20	Method Blank	Total/NA	Solid	6020	351907
LCS 570-351907/2-A ^20	Lab Control Sample	Total/NA	Solid	6020	351907
LCSD 570-351907/3-A ^20	Lab Control Sample Dup	Total/NA	Solid	6020	351907
570-146364-5 MS	B11E-8	Total/NA	Solid	6020	351907
570-146364-5 MSD	B11E-8	Total/NA	Solid	6020	351907

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-3

Client Sample ID: B11E-8
Date Collected: 07/25/23 08:51
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	50 mL	351907	08/04/23 06:17	TL	EET CAL 4
Total/NA	Analysis	6020		20			352942	08/08/23 10:11	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11EE-6
Date Collected: 07/25/23 08:59
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	50 mL	351907	08/04/23 06:17	TL	EET CAL 4
Total/NA	Analysis	6020		20			352942	08/08/23 10:22	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11EE-8
Date Collected: 07/25/23 09:00
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	351907	08/04/23 06:17	TL	EET CAL 4
Total/NA	Analysis	6020		20			352942	08/08/23 10:24	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11SS-6
Date Collected: 07/25/23 09:10
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	50 mL	351907	08/04/23 06:17	TL	EET CAL 4
Total/NA	Analysis	6020		20			352942	08/08/23 10:46	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11SS-8
Date Collected: 07/25/23 09:11
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-13
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	50 mL	351907	08/04/23 06:17	TL	EET CAL 4
Total/NA	Analysis	6020		20			352658	08/07/23 14:43	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-3

Client Sample ID: B11S-8
Date Collected: 07/25/23 09:21
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-17
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	50 mL	351907	08/04/23 06:17	TL	EET CAL 4
Total/NA	Analysis	6020		20			352658	08/07/23 14:45	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11WW-6
Date Collected: 07/25/23 09:30
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-20
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	50 mL	351907	08/04/23 06:17	TL	EET CAL 4
Total/NA	Analysis	6020		20			352658	08/07/23 14:47	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11WW-8
Date Collected: 07/25/23 09:31
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-21
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	50 mL	351907	08/04/23 06:17	TL	EET CAL 4
Total/NA	Analysis	6020		20			352658	08/07/23 14:49	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11W-8
Date Collected: 07/25/23 09:41
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-25
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	351907	08/04/23 06:17	TL	EET CAL 4
Total/NA	Analysis	6020		20			352658	08/07/23 14:51	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11N-8
Date Collected: 07/25/23 09:50
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-29
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	50 mL	351907	08/04/23 06:17	TL	EET CAL 4
Total/NA	Analysis	6020		20			352658	08/07/23 14:54	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-3

Client Sample ID: B11NN-6
Date Collected: 07/25/23 10:00
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-32
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	50 mL	351907	08/04/23 06:17	TL	EET CAL 4
Total/NA	Analysis	6020		20			352658	08/07/23 14:56	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11NN-8
Date Collected: 07/25/23 10:01
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-33
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	351907	08/04/23 06:17	TL	EET CAL 4
Total/NA	Analysis	6020		20			352942	08/08/23 10:48	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11A-2
Date Collected: 07/25/23 10:04
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-34
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	50 mL	351944	08/04/23 08:16	TL	EET CAL 4
Total/NA	Analysis	6020		20			352602	08/07/23 11:37	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B11A-4
Date Collected: 07/25/23 10:05
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-35
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	50 mL	351944	08/04/23 08:16	TL	EET CAL 4
Total/NA	Analysis	6020		20			352602	08/07/23 11:48	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B08WW-6
Date Collected: 07/25/23 11:17
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-40
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	351944	08/04/23 08:16	TL	EET CAL 4
Total/NA	Analysis	6020		20			352602	08/07/23 11:50	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-3

Client Sample ID: B08WW-8
Date Collected: 07/25/23 11:18
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-41
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	351944	08/04/23 08:16	TL	EET CAL 4
Total/NA	Analysis	6020		20			352602	08/07/23 11:56	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B08W-8
Date Collected: 07/25/23 11:31
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-46
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	50 mL	351944	08/04/23 08:16	TL	EET CAL 4
Total/NA	Analysis	6020		20			352602	08/07/23 11:59	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B08A-2
Date Collected: 07/25/23 11:35
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-47
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	50 mL	351944	08/04/23 08:16	TL	EET CAL 4
Total/NA	Analysis	6020		20			352602	08/07/23 12:01	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B08A-4
Date Collected: 07/25/23 11:37
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-48
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	351944	08/04/23 08:16	TL	EET CAL 4
Total/NA	Analysis	6020		20			352602	08/07/23 12:03	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B08A-8
Date Collected: 07/25/23 11:41
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-50
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	50 mL	351944	08/04/23 08:16	TL	EET CAL 4
Total/NA	Analysis	6020		20			352602	08/07/23 12:05	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-3

Client Sample ID: B08SS-6
Date Collected: 07/25/23 11:53
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-53
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	50 mL	351944	08/04/23 08:16	TL	EET CAL 4
Total/NA	Analysis	6020		20			352602	08/07/23 12:07	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B08SS-8
Date Collected: 07/25/23 11:55
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-54
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.98 g	50 mL	351944	08/04/23 08:16	TL	EET CAL 4
Total/NA	Analysis	6020		20			352602	08/07/23 12:09	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B08S-8
Date Collected: 07/25/23 12:05
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-58
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	50 mL	351944	08/04/23 08:16	TL	EET CAL 4
Total/NA	Analysis	6020		20			352602	08/07/23 12:11	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B08E-6
Date Collected: 07/25/23 12:14
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-61
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	50 mL	351944	08/04/23 08:16	TL	EET CAL 4
Total/NA	Analysis	6020		20			352602	08/07/23 12:13	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B08E-8
Date Collected: 07/25/23 12:15
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-62
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	351944	08/04/23 08:16	TL	EET CAL 4
Total/NA	Analysis	6020		20			352602	08/07/23 12:15	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-3

Client Sample ID: B08EE-6
Date Collected: 07/25/23 12:25
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-65
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	50 mL	351944	08/04/23 08:16	TL	EET CAL 4
Total/NA	Analysis	6020		20			352602	08/07/23 12:22	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B08EE-8
Date Collected: 07/25/23 12:27
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-66
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	50 mL	351944	08/04/23 08:16	TL	EET CAL 4
Total/NA	Analysis	6020		20			352602	08/07/23 12:24	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B07WW-6
Date Collected: 07/25/23 14:02
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-69
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	50 mL	351944	08/04/23 08:16	TL	EET CAL 4
Total/NA	Analysis	6020		20			352602	08/07/23 12:26	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B07WW-8
Date Collected: 07/25/23 14:03
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-70
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	50 mL	351944	08/04/23 08:16	TL	EET CAL 4
Total/NA	Analysis	6020		20			352602	08/07/23 12:28	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B07NN-8
Date Collected: 07/25/23 15:09
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-71
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	351944	08/04/23 08:16	TL	EET CAL 4
Total/NA	Analysis	6020		20			352602	08/07/23 12:30	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-3

Client Sample ID: B07EE-6
Date Collected: 07/25/23 15:27
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-74
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	50 mL	351944	08/04/23 08:16	TL	EET CAL 4
Total/NA	Analysis	6020		20			352602	08/07/23 12:33	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B07EE-8
Date Collected: 07/25/23 15:28
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-75
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	50 mL	351944	08/04/23 08:16	TL	EET CAL 4
Total/NA	Analysis	6020		20			352602	08/07/23 12:35	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B07E-8
Date Collected: 07/25/23 14:43
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-79
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	50 mL	351980	08/04/23 09:07	TL	EET CAL 4
Total/NA	Analysis	6020		20			352626	08/07/23 12:50	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B07N-8
Date Collected: 07/25/23 14:55
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-83
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.99 g	50 mL	351980	08/04/23 09:07	TL	EET CAL 4
Total/NA	Analysis	6020		20			352626	08/07/23 13:00	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B07NN-6
Date Collected: 07/25/23 15:08
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-86
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.04 g	50 mL	351980	08/04/23 09:07	TL	EET CAL 4
Total/NA	Analysis	6020		20			352626	08/07/23 13:02	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-3

Client Sample ID: B07W-8
Date Collected: 07/25/23 14:14
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-90
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	351980	08/04/23 09:07	TL	EET CAL 4
Total/NA	Analysis	6020		20			352626	08/07/23 13:10	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B07A-2
Date Collected: 07/25/23 14:19
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-91
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	351980	08/04/23 09:07	TL	EET CAL 4
Total/NA	Analysis	6020		20			352626	08/07/23 13:12	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B07A-4
Date Collected: 07/25/23 14:18
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-92
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	351980	08/04/23 09:07	TL	EET CAL 4
Total/NA	Analysis	6020		20			352626	08/07/23 13:14	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B07A-8
Date Collected: 07/25/23 14:22
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-94
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	50 mL	351980	08/04/23 09:07	TL	EET CAL 4
Total/NA	Analysis	6020		20			352626	08/07/23 13:16	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10NN-6
Date Collected: 07/25/23 09:07
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-99
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	50 mL	351980	08/04/23 09:07	TL	EET CAL 4
Total/NA	Analysis	6020		20			352626	08/07/23 13:18	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-3

Client Sample ID: B10NN-8
Date Collected: 07/25/23 09:08
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-100
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	351980	08/04/23 09:07	TL	EET CAL 4
Total/NA	Analysis	6020		20			352626	08/07/23 13:20	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10N-8
Date Collected: 07/25/23 09:14
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-104
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	50 mL	351980	08/04/23 09:07	TL	EET CAL 4
Total/NA	Analysis	6020		20			352626	08/07/23 13:22	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10A-2
Date Collected: 07/25/23 09:19
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-105
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	351980	08/04/23 09:07	TL	EET CAL 4
Total/NA	Analysis	6020		20			352626	08/07/23 13:24	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10A-4
Date Collected: 07/25/23 09:20
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-106
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	351980	08/04/23 09:07	TL	EET CAL 4
Total/NA	Analysis	6020		20			352626	08/07/23 13:27	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10E-8
Date Collected: 07/25/23 09:39
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-113
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	50 mL	351980	08/04/23 09:07	TL	EET CAL 4
Total/NA	Analysis	6020		20			352626	08/07/23 13:29	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-3

Client Sample ID: B10EE-6
Date Collected: 07/25/23 09:47
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-116
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	351980	08/04/23 09:07	TL	EET CAL 4
Total/NA	Analysis	6020		20			352626	08/07/23 13:35	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10EE-8
Date Collected: 07/25/23 09:48
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-117
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	351980	08/04/23 09:07	TL	EET CAL 4
Total/NA	Analysis	6020		20			352626	08/07/23 13:37	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10W-8
Date Collected: 07/25/23 10:21
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-121
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	351980	08/04/23 09:07	TL	EET CAL 4
Total/NA	Analysis	6020		20			352626	08/07/23 13:39	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10WW-6
Date Collected: 07/25/23 10:03
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-124
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	50 mL	351980	08/04/23 09:07	TL	EET CAL 4
Total/NA	Analysis	6020		20			352626	08/07/23 13:42	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10WW-8
Date Collected: 07/25/23 10:04
Date Received: 07/26/23 13:50

Lab Sample ID: 570-146364-125
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.02 g	50 mL	351980	08/04/23 09:07	TL	EET CAL 4
Total/NA	Analysis	6020		20			352626	08/07/23 13:44	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Lab Chronicle

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-3

Client Sample ID: B10S-8

Lab Sample ID: 570-146364-129
Date Collected: 07/25/23 10:31
Matrix: Solid
Date Received: 07/26/23 13:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.00 g	50 mL	351980	08/04/23 09:07	TL	EET CAL 4
Total/NA	Analysis	6020		20			352626	08/07/23 13:46	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10SS-6

Lab Sample ID: 570-146364-132
Date Collected: 07/25/23 10:38
Matrix: Solid
Date Received: 07/26/23 13:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.01 g	50 mL	351980	08/04/23 09:07	TL	EET CAL 4
Total/NA	Analysis	6020		20			352626	08/07/23 13:48	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Client Sample ID: B10SS-8

Lab Sample ID: 570-146364-133
Date Collected: 07/25/23 10:40
Matrix: Solid
Date Received: 07/26/23 13:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			2.03 g	50 mL	352029	08/04/23 10:29	TL	EET CAL 4
Total/NA	Analysis	6020		20			352562	08/07/23 11:22	Y2WS	EET CAL 4
	Instrument ID:	ICPMS10								

Laboratory References:
EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Accreditation/Certification Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-3

Laboratory: Eurofins Calscience

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	3082	07-31-24
Oregon	NELAP	4175	02-02-24

Method Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-3

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	EET CAL 4
3050B	Preparation, Metals	SW846	EET CAL 4

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

Sample Summary

Client: NV5, Inc
Project/Site: McKinley Elementary School

Job ID: 570-146364-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
570-146364-5	B11E-8	Solid	07/25/23 08:51	07/26/23 13:50
570-146364-8	B11EE-6	Solid	07/25/23 08:59	07/26/23 13:50
570-146364-9	B11EE-8	Solid	07/25/23 09:00	07/26/23 13:50
570-146364-12	B11SS-6	Solid	07/25/23 09:10	07/26/23 13:50
570-146364-13	B11SS-8	Solid	07/25/23 09:11	07/26/23 13:50
570-146364-17	B11S-8	Solid	07/25/23 09:21	07/26/23 13:50
570-146364-20	B11WW-6	Solid	07/25/23 09:30	07/26/23 13:50
570-146364-21	B11WW-8	Solid	07/25/23 09:31	07/26/23 13:50
570-146364-25	B11W-8	Solid	07/25/23 09:41	07/26/23 13:50
570-146364-29	B11N-8	Solid	07/25/23 09:50	07/26/23 13:50
570-146364-32	B11NN-6	Solid	07/25/23 10:00	07/26/23 13:50
570-146364-33	B11NN-8	Solid	07/25/23 10:01	07/26/23 13:50
570-146364-34	B11A-2	Solid	07/25/23 10:04	07/26/23 13:50
570-146364-35	B11A-4	Solid	07/25/23 10:05	07/26/23 13:50
570-146364-40	B08WW-6	Solid	07/25/23 11:17	07/26/23 13:50
570-146364-41	B08WW-8	Solid	07/25/23 11:18	07/26/23 13:50
570-146364-46	B08W-8	Solid	07/25/23 11:31	07/26/23 13:50
570-146364-47	B08A-2	Solid	07/25/23 11:35	07/26/23 13:50
570-146364-48	B08A-4	Solid	07/25/23 11:37	07/26/23 13:50
570-146364-50	B08A-8	Solid	07/25/23 11:41	07/26/23 13:50
570-146364-53	B08SS-6	Solid	07/25/23 11:53	07/26/23 13:50
570-146364-54	B08SS-8	Solid	07/25/23 11:55	07/26/23 13:50
570-146364-58	B08S-8	Solid	07/25/23 12:05	07/26/23 13:50
570-146364-61	B08E-6	Solid	07/25/23 12:14	07/26/23 13:50
570-146364-62	B08E-8	Solid	07/25/23 12:15	07/26/23 13:50
570-146364-65	B08EE-6	Solid	07/25/23 12:25	07/26/23 13:50
570-146364-66	B08EE-8	Solid	07/25/23 12:27	07/26/23 13:50
570-146364-69	B07WW-6	Solid	07/25/23 14:02	07/26/23 13:50
570-146364-70	B07WW-8	Solid	07/25/23 14:03	07/26/23 13:50
570-146364-71	B07NN-8	Solid	07/25/23 15:09	07/26/23 13:50
570-146364-74	B07EE-6	Solid	07/25/23 15:27	07/26/23 13:50
570-146364-75	B07EE-8	Solid	07/25/23 15:28	07/26/23 13:50
570-146364-79	B07E-8	Solid	07/25/23 14:43	07/26/23 13:50
570-146364-83	B07N-8	Solid	07/25/23 14:55	07/26/23 13:50
570-146364-86	B07NN-6	Solid	07/25/23 15:08	07/26/23 13:50
570-146364-90	B07W-8	Solid	07/25/23 14:14	07/26/23 13:50
570-146364-91	B07A-2	Solid	07/25/23 14:19	07/26/23 13:50
570-146364-92	B07A-4	Solid	07/25/23 14:18	07/26/23 13:50
570-146364-94	B07A-8	Solid	07/25/23 14:22	07/26/23 13:50
570-146364-99	B10NN-6	Solid	07/25/23 09:07	07/26/23 13:50
570-146364-100	B10NN-8	Solid	07/25/23 09:08	07/26/23 13:50
570-146364-104	B10N-8	Solid	07/25/23 09:14	07/26/23 13:50
570-146364-105	B10A-2	Solid	07/25/23 09:19	07/26/23 13:50
570-146364-106	B10A-4	Solid	07/25/23 09:20	07/26/23 13:50
570-146364-113	B10E-8	Solid	07/25/23 09:39	07/26/23 13:50
570-146364-116	B10EE-6	Solid	07/25/23 09:47	07/26/23 13:50
570-146364-117	B10EE-8	Solid	07/25/23 09:48	07/26/23 13:50
570-146364-121	B10W-8	Solid	07/25/23 10:21	07/26/23 13:50
570-146364-124	B10WW-6	Solid	07/25/23 10:03	07/26/23 13:50
570-146364-125	B10WW-8	Solid	07/25/23 10:04	07/26/23 13:50
570-146364-129	B10S-8	Solid	07/25/23 10:31	07/26/23 13:50
570-146364-132	B10SS-6	Solid	07/25/23 10:38	07/26/23 13:50
570-146364-133	B10SS-8	Solid	07/25/23 10:40	07/26/23 13:50

Vikas Patel

From: Eric Fraske <eric.fraske@nv5.com>
Sent: Thursday, August 3, 2023 4:18 PM
To: Vikas Patel
Subject: RE: Eurofins Calscience report, EDD and invoice files from 570-146364-2 McKinley Elementary School

Hi Vikas,

Per our discussion just now, for job 570-146364, please run all remaining archived soil samples associated with this project number for Arsenic by USEPA Method 6020 on 3-day TAT.

Thank you,

Eric Fraske | Senior Engineer III | **NV5** | Site Assessment and Remediation
3777 Long Beach Boulevard, Annex Building | Long Beach, CA 90807 | P: 562.495.5777 | C: 562.544.3910
eric.fraske@nv5.com | www.altaenviron.com | www.nv5.com | Electronic Communications Disclaimer

I am working remotely and can be reached via cell at 562.544.3910.

Alta Environmental is now NV5.

From: Vikas Patel <Vikas.Patel@et.eurofinsus.com>
Sent: Thursday, August 3, 2023 3:36 PM
To: Alta-Accounting <alta-accounting@nv5.com>; Eric Fraske <eric.fraske@nv5.com>
Subject: Eurofins Calscience report, EDD and invoice files from 570-146364-2 McKinley Elementary School

Hello,

Attached please find the report, EDD and invoice files for job 570-146364-2; McKinley Elementary School

Please feel free to contact me if you have any questions.

Thank you.

Vikas Patel
Project Manager

Eurofins Calscience
Phone: 714-895-5494

eurofins | Environment Testing Calscience

2841 Dow Avenue, Suite 100, Tustin, CA 92780 • (714) 895-5494

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Loc: 570

146364

FRM51406 Rev. 1.2

570-146364 Chain of Custody

CHAIN-OF-CUSTODY RECORD

DATE: 7/25/2023

PAGE: 1 OF 14

LABORATORY CLIENT: NV5, Inc.	CLIENT PROJECT NAME / NO.: McKinley Step-Out Sampling
ADDRESS: 3777 Long Beach Blvd, Annex Building	P.O. NO.: SMSD-23-11670
CITY: Long Beach STATE: CA ZIP: 90807	PROJECT CONTACT: Eric Fraske
	LAB CONTACT OR QUOTE NO.: 57016144
TEL: 562-544-3977 E-MAIL:	GLOBAL ID: LOG CODE: SAMPLER(S): (PRINT)

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ■ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD:

☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Arsenic EPA Method 6020	Archive and Hold
1	B11E-2	7/25/23	8:47	SOIL	1	X			X	
2	B11E-4	↓	8:49	SOIL	1	X			X	
3	B11E-4 DUP		8:49	SOIL	1	X			X	
4	B11E-6		8:50	SOIL	1	X				X
5	B11E-8		8:51	SOIL	1	X				X
6	B11EE-2		8:56	SOIL	1	X				X
7	B11EE-4		8:57	SOIL	1	X				X
8	B11EE-6		8:59	SOIL	1	X				X
9	B11EE-8		9:00	SOIL	1	X				X
10	B11SS-2	↓	9:05	SOIL	1	X				X

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/26	13:50	[signature] EC	7/26/23	13:50
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:

4.2/4.5 3.9/4.2 3.6/3.9 SO15

8/8/2023

146364

eurofins | Environment Testing Calscience

FRM51408 Rev. 1.2

CHAIN-OF-CUSTODY RECORD

DATE: 7/25/2023

PAGE: 2 OF 14

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For courier service / sample drop off information, contact us26_sales@eurofinsus.com or call us.

LABORATORY CLIENT: NV5, Inc.

ADDRESS: 3777 Long Beach Blvd, Annex Building

CITY: Long Beach STATE: CA ZIP: 90807

TEL: 562-544-3977 E-MAIL:

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):
☐ SAME DAY ☐ 24 HR ■ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD:
☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

CLIENT PROJECT NAME / NO.: McKinley Step-Out Sampling

P.O. NO.: SMSD-23-11670

PROJECT CONTACT: Eric Fraske

LAB CONTACT OR QUOTE NO.: 57016144

GLOBAL ID:

LOG CODE:

SAMPLER(S): (PRINT)

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Arsenic EPA Method 6020	Archive and Hold
11	~~BSS~~ B11SS-4	7/25/23	9:06	Soil	1	X				X
12	B11SS-6	7/25/23	9:10	SOIL	1	X				X
13	B11SS-8	7/25/23	9:11	SOIL	1	X				X
14	B11S~~S~~-2	7/25/23	9:15	SOIL	1	X			X	
15	B11S-4	7/25/23	9:16	SOIL	1	X			X	
16	B11S-6	7/25/23	9:20	SOIL	1	X				X
17	B11S-8	7/25/23	9:21	SOIL	1	X				X
18	B11WW-2	7/25/23	9:25	SOIL	1	X				X
19	B11WW-4	7/25/23	9:27	SOIL	1	X				X
20	B11WW-6	7/25/23	9:30	SOIL	1	X				X

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/26	13:50	[signature] EC	7/26/23	13:50

146364

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FRM51408 Rev. 1.2

CHAIN-OF-CUSTODY RECORD

DATE: 7/25/2023

PAGE: 3 OF 14

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LABORATORY CLIENT: NV5, Inc.

ADDRESS: 3777 Long Beach Blvd, Annex Building

CITY: Long Beach STATE: CA ZIP: 90807

TEL: 562-544-3977 E-MAIL:

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ■ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD:

☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

CLIENT PROJECT NAME / NO.: McKinley Step-Out Sampling

P.O. NO.: SMSD-23-11670

PROJECT CONTACT: Eric Fraske

LAB CONTACT OR QUOTE NO.: 57016144

GLOBAL ID:

LOG CODE:

SAMPLER(S): (PRINT)

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Arsenic EPA Method 6020	Archive and Hold
21	B11WW-8	7/25/23	9:31	SOIL	1	X				X
22	B11W-2		9:35			X			X	
23	B11W-4		9:36			X			X	
24	B11W-6		9:40			X				X
25	B11W-8		9:41			X				X
26	B11N-2		9:46			X			X	X
27	B11N-4		9:47			X			X	X
28	B11N-6		9:49			X				X
29	B11N-8		9:50			X				X
30	B11NN-2		9:54			X				X

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/26	13:50	[signature] EC	7/26/23	13:50

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FRM51408 Rev. 1.2

146364

CHAIN-OF-CUSTODY RECORD

DATE: 7/25/23

PAGE: 4 OF 14

LABORATORY CLIENT: NV5, Inc.

ADDRESS: 3777 Long Beach Blvd, Annex Building

CITY: Long Beach STATE: CA ZIP: 90807

TEL: 562-544-3977 E-MAIL:

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"): ☐ SAME DAY ☐ 24 HR ■ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD: ☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

CLIENT PROJECT NAME / NO.: McKinley Step-Out Sampling

P.O. NO.: SMSD-23-11670

PROJECT CONTACT: Eric Fraske

LAB CONTACT OR QUOTE NO.: 57016144

GLOBAL ID:

LOG CODE:

SAMPLER(S): (PRINT)

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Arsenic EPA Method 6020	Archive and Hold
31	B11NN-4	7/25	9:55	SOIL	1	X				X
32	B11NN-6	7/25/23	10:00	↓	↓	X				X
33	B11NN-8	7/25/23	10:01			X				X
34	B11A-2	7/25/23	10:04			X				X
35	B11A-4	7/25/23	10:05			X				X
36	B11A-6	7/25/23	10:08			X			X	
37	B11A-8	7/25/23	10:10			X				X
38	B08WW-2	7/25/23	11:15			X				X
39	B08WW-4	7/25/23	11:16			X				X
40	B08WW-6	7/25/23	11:17	↓	↓	X				X

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/25	13:50	[signature] EC	7/26/23	13:50

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CHAIN-OF-CUSTODY RECORD

DATE: 7/25/2023

PAGE: 5 OF 14

LABORATORY CLIENT: NV5, Inc.

ADDRESS: 3777 Long Beach Blvd, Annex Building

CITY: Long Beach STATE: CA ZIP: 90807

TEL: 562-544-3977 E-MAIL:

TURNAROUND TIME (Rush surcharges may apply to any TAT not "STANDARD"):

☐ SAME DAY ☐ 24 HR ■ 48 HR ☐ 72 HR ☐ 5 DAYS ☐ STANDARD

EDD:

☐ COELT EDF ☐ OTHER

SPECIAL INSTRUCTIONS:

CLIENT PROJECT NAME / NO.: McKinley Step-Out Sampling

P.O. NO.: SMSD-23-11670

PROJECT CONTACT: Eric Fraske

LAB CONTACT OR QUOTE NO.: 57016144

GLOBAL ID:

LOG CODE:

SAMPLER(S): (PRINT)

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Arsenic EPA Method 6020	Archive and Hold
41	B08WW-8	7/25	11:18	SOIL	1	X				X
42	B08W-2	↓	11:19	↓	↓	X			X	
43	B08W-2DUP	↓	11:19	↓	↓	X			X	
44	B08W-4	↓	11:20	↓	↓	X			X	
45	B08W-6	↓	11:30	↓	↓	X				X
46	B08W-8	↓	11:31	↓	↓	X				X
47	B08A-2	↓	11:35	↓	↓	X				X
48	B08A-4	↓	11:37	↓	↓	X				X
[illegible]	B08A-6	↓	11:40	↓	↓	X			X	
50	B08A-8	↓	11:41	↓	↓	X				X

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/26	13:50	[signature] EC	7/26/23	13:50

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51	BØ8SS-2	7/25	11:47	SOIL	1	X				X
52	BØ8SS-4	↓	11:49	↓	↓	X				X
53	BØ8SS-6		11:53			X				X
54	BØ8SS-8		11:55			X				X
55	BØ8S-2		11:57			X			X	
56	BØ8S-4		11:58			X			X	
57	BØ8S-6		12:03			X				X
58	BØ8S-8		12:05			X				X
59	BØ8E-2		12:10			X			X	
60	BØ8E-4	↓	12:12	↓	↓	X			X	

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/25	13:50	[signature] IEC	7/26/23	13:50
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:

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LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Arsenic EPA Method 6020	Archive and Hold
61	BØ8E-6	7/25	12:14	SOIL	1	X				X
62	BØ8E-8	↓	12:15	↓	↓	X				X
63	BØ8EE-2	↓	12:20	↓	↓	X				X
64	BØ8EE-4	↓	12:22	↓	↓	X				X
65	BØ8EE-6	↓	12:25	↓	↓	X				X
66	BØ8EE-8	↓	12:27	↓	↓	X				X
67	B07EE-2	↓	13:57	↓	↓	X				X
68	B07EE-4	↓	13:58	↓	↓	X				X
69	B07EE-6	↓	14:02	↓	↓	X				X
70	B07EE-8	↓	14:03	↓	↓	X				X

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/25	13:50	[signature] EC	7/26/23	13:50

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REQUESTED ANALYSES

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LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Arsenic EPA Method 6020	Archive and Hold
71	B07NN-8	07/25	15:09	soil	1	X				X
72	B07EE-2	↓	15:23	↓	↓	X				X
73	B07EE-4		15:25			X				X
74	B07EE-6		15:27			X				X
75	B07EE-8		15:28	↓		X				X
	~~EB~~	↓	—	~~W~~	↓	~~X~~			(X)	~~X~~
76	EB072523	07/25		W	1	X			X	

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/25	13:50	[signature] EC	7/26/23	13:50
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:

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GLOBAL ID:

LOG CODE:

SAMPLER(S): (PRINT)

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Arsenic EPA Method 6020	Archive and Hold
77	BOTE-4	07/25	14:40	Soil	1	X			X	
78	BOTE-6		14:42			X				X
79	BOTE-8		14:43			X				X
80	BOTN-2		14:52			X			X	
81	BOTN-4		14:53			X			X	
82	BOTN-6		14:54			X				X
83	BOTN-8		14:55			X				X
84	BOTNN-2		15:05			X				X
85	BOTNN-4		15:06			X				X
86	BOTNN-6		15:08			X				X

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/26	13:50	[signature] EC	7/26/23	13:50

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ADDRESS: 3777 Long Beach Blvd, Annex Building	P.O. NO.: SMSD-23-11670
CITY: Long Beach STATE: CA ZIP: 90807	PROJECT CONTACT: Eric Fraske
TEL: 562-544-3977 E-MAIL:	LAB CONTACT OR QUOTE NO.: 57016144
	GLOBAL ID: LOG CODE: SAMPLER(S): (PRINT)

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87	B07W-2	07/25	14:12	Soil	1	X			X	
88	B07W-4		14:12			X			X	
89	B07W-6		14:13			X				X
90	B07W-8		14:14			X				X
91	B07A-2		14:19			X				X
92	B07A-4		14:18			X				X
93	B07A-6		14:21			X			X	
94	B07A-8		14:22			X				X
95	B07-6 Dup		14:21			X			X	
96	B07E-2		14:39			X			X	

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/26	13:50	[signature] EC	7/26/23	13:50
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:

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ADDRESS: 3777 Long Beach Blvd, Annex Building	P.O. NO.: SMSD-23-11670
CITY: Long Beach STATE: CA ZIP: 90807	PROJECT CONTACT: Eric Fraske
TEL: 562-544-3977 E-MAIL:	LAB CONTACT OR QUOTE NO.: 57016144
	GLOBAL ID: LOG CODE: SAMPLER(S): (PRINT)

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LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Arsenic EPA Method 6020	Archive and Hold
97	BIONN-2	7/26	09:05	Soil	1	X				X
98	BIONN-4	↓	09:06	↓	↓	X				X
99	BIONN-6	↓	09:07	↓	↓	X				X
100	BIONN-8	↓	09:08	↓	↓	X				X
101	BION-2	↓	09:10	↓	↓	X			X	
102	BION-4	↓	09:11	↓	↓	X			X	
103	BION-6	↓	09:13	↓	↓	X				X
104	BION-8	↓	09:14	↓	↓	X				X
105	BIOA-2	↓	09:19	↓	↓	X				X
106	BIOA-4	↓	09:20	↓	↓	X				X

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/26	13:50	[signature] EC	7/26/23	13:50
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:

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ADDRESS: 3777 Long Beach Blvd, Annex Building	P.O. NO.: SMSD-23-11670
CITY: Long Beach; STATE: CA; ZIP: 90807	PROJECT CONTACT: Eric Fraske
TEL: 562-544-3977; E-MAIL:	LAB CONTACT OR QUOTE NO.: 57016144
	GLOBAL ID: ; LOG CODE: ; SAMPLER(S): (PRINT)

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LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Arsenic EPA Method 6020	Archive and Hold
107	B10A-6	07/26	09:24	Soil	1	X			X	
108	B10A-8		09:25			X				X
109	B10E-2		09:36			X			X	
110	B10E-2 Dup		09:36			X			X	
111	B10E-4		09:37			X			X	
112	B10E-6		09:38			X				X
113	B10E-8		09:39			X				X
114	B10EE-2		09:44			X				X
115	B10EE-4		09:45			X				X
116	B10EE-6		09:47			X				X

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/26	13:50	[signature] EC	7/26/23	13:50

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117	BIOEE-8	07/26	09:48	Soil	1	X				X
118	BIOW-2	↓	10:15	↓	↓	X			X	
119	BIOW-4		10:16			X			X	
120	BIOW-6		10:20			X				X
121	BIOW-8		10:21			X				X
122	BIOWW-2		10:00			X				X
123	BIOWW-4		10:01			X				X
124	BIOWW-6		10:03			X				X
125	BIOWW-8		10:04			X				X
126	BIOS-2	↓	10:25	↓	↓	X			X	

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/26	13:50	[signature] BC	7/26/23	13:50
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
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ADDRESS:	3777 Long Beach Blvd, Annex Building
CITY:	Long Beach
STATE:	CA
ZIP:	90807
TEL:	562-544-3977
E-MAIL:	
CLIENT PROJECT NAME / NO.:	McKinley Step-Out Sampling
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127	B10S-4	07/26	10:26	Soil	1	X			X	
128	B10S-6	↓	10:30	↓	↓					X
129	B10S-8		10:31							X
130	B10SS-2		10:33						X	X
131	B10SS-4		10:34						X	X
132	B10SS-6		10:38							X
133	B10SS-8		10:40	↓	↓					X
134	EB072623	↓	10:45	W	1	X			X	

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature/Affiliation)	Date:	Time:
[signature]	07/26	13:50	[signature] EC	7/26/23	13:50

Login Sample Receipt Checklist

Client: NV5, Inc

Job Number: 570-146364-3

Login Number: 146364
List Number: 1
Creator: Hernandez, Richie

List Source: Eurofins Calscience

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

APPENDIX C

Waste Manifest

NO. 771069

NON-HAZARDOUS WASTE DATA FORM

BESI # 357578

GENERATOR

Generator's Name and Mailing Address
SANTA MONICA-MALIBU UNIFIED SCHOOL DISTRICT
FACILITIES IMPROVEMENTS PROJECTS
2828 FOURTH STREET
SANTA MONICA, CA 90405

Generator's Site Address (if different than mailing address)
MCKINLEY ELEMENTARY SCHOOL
2401 SANTA MONICA BLVD.
SANTA MONICA, CA 90404

Generator's Phone: 310-390-5885

Container type removed from site:

XX ☐ Drums ☐ Vacuum Truck ☐ Roll-off Truck ☐ Dump Truck

☐ Other _____

Quantity 1 DM

Container type transported to receiving facility:

☐ Drums ☐ Vacuum Truck ☐ Roll-off Truck ☐ Dump Truck

☐ Other _____

Quantity _____ Volume _____

WASTE DESCRIPTION NON-HAZARDOUS SOLID

GENERATING PROCESS ENVIRONMENTAL SAMPLING

COMPONENTS OF WASTE	PPM	%	COMPONENTS OF WASTE	PPM	%
1. Soil		90%	3.		
2. PPE		0-10%	4.		

Waste Profile 070128043-17880

PROPERTIES: pH ____ ☐ SOLID ☐ LIQUID ☐ SLUDGE ☐ SLURRY ☐ OTHER _____

HANDLING INSTRUCTIONS: WEAR ALL APPROPRIATE PERSONAL PROTECTIVE CLOTHING.

Generator Printed/Typed Name: Eric Forster NVS for SMMUSD
Signature: [signature]
Month 08 Day 14 Year 23

The Generator certifies that the waste as described is 100% non-hazardous

TRANSPORTER

Transporter 1 Company Name: BELSHIRE
Phone#: 949-460-5200

Transporter 1 Printed/Typed Name: Chris Macias
Signature: [signature]
Month 8 Day 14 Year 23

Transporter Acknowledgment of Receipt of Materials

Transporter 2 Company Name:
Phone#:

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

Transporter Acknowledgment of Receipt of Materials

RECEIVING FACILITY

Designated Facility Name and Site Address
U.S. ECOLOGY, NEVADA OPERATIONS
HIGHWAY 95, 11 MILES S. OF BEATTY
BEATTY, NV 89003

Phone#: 775-553-2201

Printed/Typed Name:
Signature:
Month Day Year

Designated Facility Owner or Operator: Certification of receipt of materials covered by this data form.

APPENDIX D

Statistical Analysis of Soil Arsenic Data

Technical Memorandum

Date: August 28, 2023

To: Mr. Eric Fraske
Senior Engineer III
NV5
3777 Long Beach Boulevard, Annex Building
Long Beach, California 90807

From: Heriberto Robles, Ph.D., D.A.B.T.

Subject: ***Statistical Analysis of Soil Arsenic Data***
McKinley Elementary School
Santa Monica, California

At the request of NV5, Enviro-Tox Services, Inc. (Enviro-Tox) conducted a statistical analysis of soil arsenic data collected at the McKinley Elementary School located at 2401 Santa Monica Boulevard in Santa Monica, California (the Site). The objective of the statistical analyses was to determine the upper limit concentration for naturally occurring arsenic in soil at the Site. In accordance with California Department of Toxic Substances Control (DTSC; 2009) guidance, all available soil arsenic data for the Site (Table 1) were included in the statistical analyses.

The purpose of the statistical analysis was to determine the upper limit background concentration of local arsenic in soil. The statistical methods used in the data evaluation were taken directly from the guidance for setting arsenic soil cleanup goals (DTSC, 2009). The first objective of the statistical analysis is to determine if the soil arsenic data are likely to be drawn from the same population (i.e., all samples collected from a non-contaminated site). For this type of analysis, the DTSC recommends to "construct a table showing the frequency of detection, range of detected values, range of sample quantitation limits, arithmetic means, standard deviations, and coefficients of variation. Typically, data drawn from just one population will display a range of detected values of no more than 2 orders of magnitude and a coefficient of variation of no greater than 1. When either of these conditions is not met, one must suspect that values representative of contamination have been included in the population" (DTSC, 1997, Section 4.3, page 4). The table recommended by the DTSC has been constructed for this analysis and is presented below.

Statistical Parameter	**Arsenic**
Number of Samples	159
Number of Non-Detected	1
Detection Frequency	99.37
Minimum detected value	2.50 milligrams per kilogram (mg/Kg)
Maximum detected value	20.90 mg/Kg
Mean concentration	12.56 mg/Kg
First quartile (Q1)	9.96 mg/Kg

Median	11.90 mg/Kg
Third quartile (Q3)	15.90 mg/Kg
Standard deviation	3.67
Coefficient of variation	0.29
Order of magnitude difference between minimum and maximum value	1.45

The next step in the analysis was to determine whether there are any data that are outside the norm (possible outliers). The potential presence of outliers in the data was evaluated using a "Fourth Spread" analysis as recommended by DTSC (2009). The Fourth Spread (Fs) of the soil arsenic data was obtained using the following formula:

$$Fs = (Q3 - Q1)$$

Where:

Fs	=	Fourth spread (mg/Kg)
Q3	=	Third quartile (mg/Kg)
Q1	=	First quartile (mg/Kg)

The estimated Fs for the soil arsenic data is 5.94 mg/Kg.

Outliers for the upper bound of the site-specific soil arsenic concentration are defined as:

All data points greater than Q3 + [1.5 x Fs]

or

15.90 mg/Kg + [1.5 x 5.94 mg/Kg] = 24.81 mg/Kg

According to these calculations, any soil arsenic concentrations higher than 24.81 mg/Kg are considered to be outliers. Since the maximum detected concentration is 20.90 mg/Kg, it can be concluded there are no outliers in the soil arsenic data. Based on the fact that no outliers are identified, it can be concluded that all soil arsenic data for the Site are within ambient, background concentrations.

The upper limit, background soil arsenic concentration can be calculated by estimating the 95 percent upper confidence limit of the 99th quartile of the data set (DTSC, 2009). The upper limit of the data set can be estimated according to the following equation (DTSC, 2009):

$$UL_{1-\alpha}(x_p) = x + sK_{1-\alpha,p}$$

Where:

$UL_{1-\alpha}(x_p)$	=	The upper limit of the data set
x	=	Mean of the data set

s	=	Standard deviation of the mean
$K_{1-\alpha, p}$	=	Statistical tolerance factor for estimating an upper 100(1-α) confidence limit on the pth quartile (2.617, from Table A3, Gilbert, 1987).

Using the above equation and parameters, the 95 percent upper confidence limit of the 99th quartile of the data set was estimated to be 22.15 mg/Kg.

As part of the statistical analysis of soil arsenic data, the DTSC (2009) recommends creating normality plots using the available soil arsenic data. Specifically, the DTSC states that data should be plotted from the least value to the highest value as the cumulative percent of samples.

Visual inspection of the probability plots should yield a determination of an inflection point, which represents a break between the ambient level of arsenic for the Site and the portion of the curve that represents a separate, higher population, which may be a consequence of a release to the environment.

The probability plot of the raw soil arsenic data for the McKinley site is presented in Figure 1. As can be seen in Figure 1, there are no distinct inflections or break points that occur in the data. In fact, the plot shows a relatively straight line from arsenic concentration of 6.0 mg/Kg up to about 20 mg/Kg (Figure 1). This straight line indicates the presence of only one population. Since there is only one soil arsenic population identified at the Site, it must be concluded that that one population is the naturally occurring arsenic.

References

DTSC. 2009. Arsenic Strategies, Determination of Arsenic Remediation, Determination of Arsenic Cleanup Goals for Proposed and Existing School Sites. March 21.

Gilbert, R. O. 1987. Statistical Methods for Environmental Pollution Monitoring. Van Nostrand Reinhold, New York, New York.

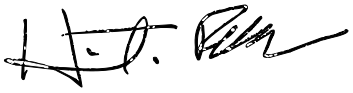
Attachments

Figure 1 – Arsenic Probability Plot

Table 1 – Soil Arsenic Data Summary

This memorandum was prepared by:

Enviro-Tox Services, Inc.



Heriberto Robles, Ph.D., D.A.B.T.
Principal Toxicologist

FIGURE

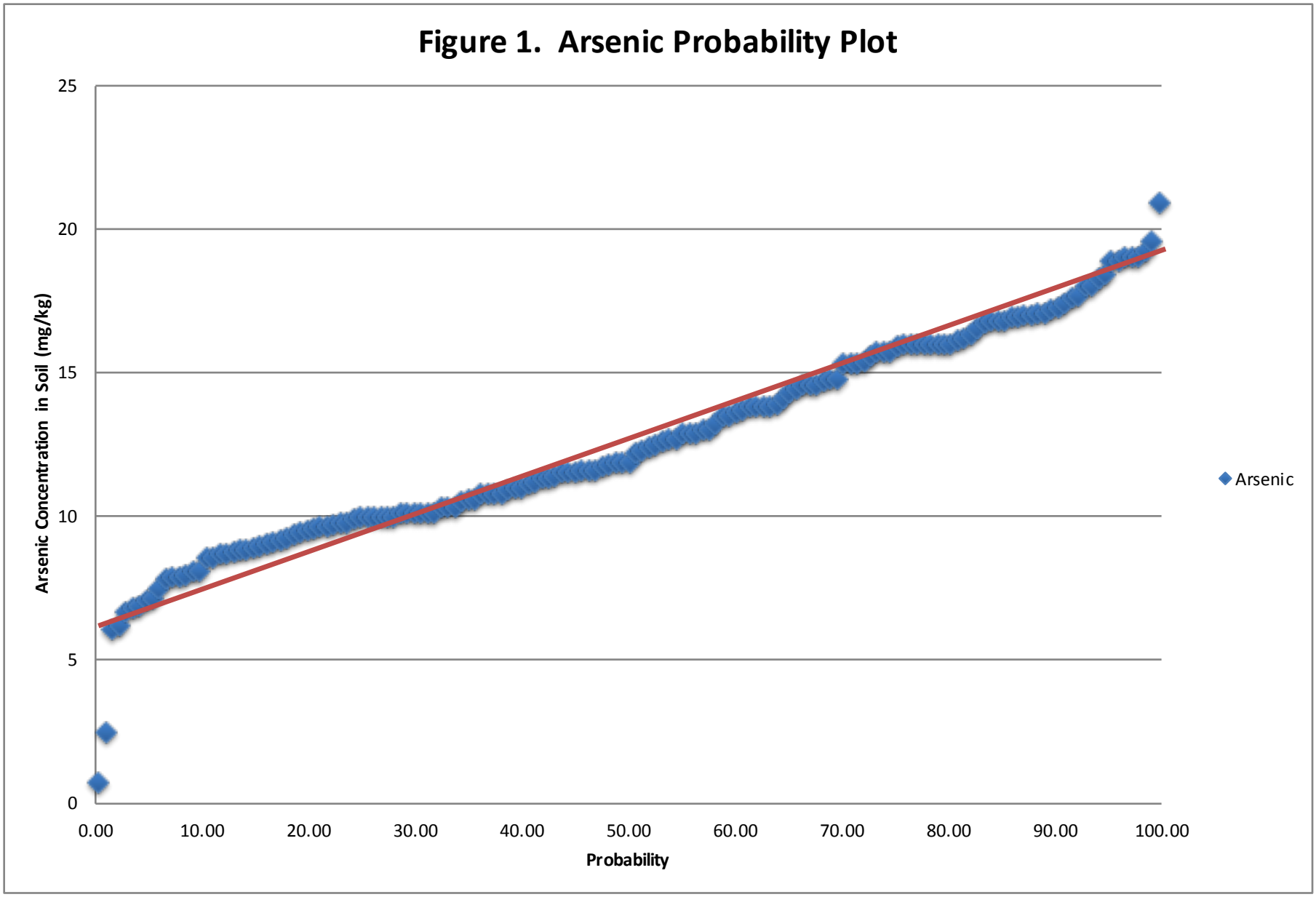


Figure 1. Arsenic Probability Plot
Arsenic Concentration in Soil (mg/kg)
25
20
15
10
5
0
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
Probability
Arsenic

TABLE

Table 1
Soil Arsenic Data Summary
McKinley Elementary School
2401 Santa Monica Boulevard, Santa Monica, California

Sample ID	Sample Date	Sample Depth (ftbgs)	Arsenic (mg/kg)
B2-0.5	2/20/2023	0.50	9.9
B2-2	2/20/2023	2	9.2
B3-0.5	2/20/2023	0.50	6.2
B3-2	2/20/2023	2	7.8
B4-0.5	2/20/2023	0.50	6.9
B4-2	2/20/2023	2	9
B5-0.5	2/20/2023	0.50	9.8
B5-2	2/20/2023	2	9.1
B6-0.5	2/20/2023	0.50	8.7
B6-2	2/20/2023	2	10
B7-0.5	2/20/2023	0.50	9.6
B7-0.5 DUP	2/20/2023	0.50	9.5
B7-2	2/20/2023	2	19
B7-4	2/20/2023	4	16
B07A-2	7/25/2023	2	16.9
B07A-4	7/25/2023	4	13.8
B07A-6	7/25/2023	6	9.69
B07A-6 DUP	7/25/2023	6	18.4
B07A-8	7/25/2023	8	9.42
B07E-2	7/25/2023	2	10.6
B07E-4	7/25/2023	4	16.2
B07E-6	7/25/2023	6	11.7
B07E-8	7/25/2023	8	10.3
B07EE-2	7/25/2023	2	9.96
B07EE-4	7/25/2023	4	17.4
B07EE-6	7/25/2023	6	7.9
B07EE-8	7/25/2023	8	9.96
B07N-2	7/25/2023	2	19.2
B07N-4	7/25/2023	4	13.2
B07N-6	7/25/2023	6	11.5
B07N-8	7/25/2023	8	7.85
B07NN-2	7/25/2023	2	17.1
B07NN-4	7/25/2023	4	15.6
B07NN-6	7/25/2023	6	10.1
B07NN-8	7/25/2023	8	7.5
B07W-2	7/25/2023	2	16.8
B07W-4	7/25/2023	4	15.7
B07W-6	7/25/2023	6	11

Table 1
Soil Arsenic Data Summary
McKinley Elementary School
2401 Santa Monica Boulevard, Santa Monica, California

Sample ID	Sample Date	Sample Depth (ftbgs)	Arsenic (mg/kg)
B07W-8	7/25/2023	8	8.84
B07WW-2	7/25/2023	2	20.9
B07WW-4	7/25/2023	4	13.8
B07WW-6	7/25/2023	6	7.07
B07WW-8	7/25/2023	8	6.68
B8-0.5	2/20/2023	0.50	8.7
B8-2	2/20/2023	2	18
B8-4	2/20/2023	4	17
B08A-2	7/25/2023	2	16
B08A-4	7/25/2023	4	7.95
B08A-6	7/25/2023	6	11.3
B08A-8	7/25/2023	8	10.8
B08E-2	7/25/2023	2	10.3
B08E-4	7/25/2023	4	17.3
B08E-6	7/25/2023	6	10.6
B08E-8	7/25/2023	8	10.1
B08EE-2	7/25/2023	2	14.4
B08EE-4	7/25/2023	4	16.9
B08EE-6	7/25/2023	6	10.1
B08EE-8	7/25/2023	8	9.14
B08S-2	7/25/2023	2	13.6
B08S-4	7/25/2023	4	15.7
B08S-6	7/25/2023	6	14.6
B08S-8	7/25/2023	8	11.8
B08SS-2	7/25/2023	2	13.8
B08SS-4	7/25/2023	4	17.2
B08SS-6	7/25/2023	6	11.5
B08SS-8	7/25/2023	8	10.5
B08W-2	7/25/2023	2	16.8
B08W-2 DUP	7/25/2023	2	8.99
B08W-4	7/25/2023	4	14.3
B08W-6	7/25/2023	6	11.4
B08W-8	7/25/2023	8	9.74
B08WW-2	7/25/2023	2	15.3
B08WW-4	7/25/2023	4	15.9
B08WW-6	7/25/2023	6	10.9
B08WW-8	7/25/2023	8	8.55
B9-0.5	2/20/2023	0.50	2.5

Table 1
Soil Arsenic Data Summary
McKinley Elementary School
2401 Santa Monica Boulevard, Santa Monica, California

Sample ID	Sample Date	Sample Depth (ftbgs)	Arsenic (mg/kg)
B9-2	2/20/2023	2.0	10
B10-0.5	2/20/2023	0.50	10
B10-2	2/20/2023	2	18
B10-4	2/20/2023	4	17
B10A-2	7/26/2023	2	9.66
B10A-4	7/26/2023	4	13.8
B10A-6	7/26/2023	6	12.6
B10A-8	7/26/2023	8	12.4
B10E-2	7/26/2023	2	6.04
B10E-2 DUP	7/26/2023	2	7.17
B10E-4	7/26/2023	4	17.1
B10E-6	7/26/2023	6	11.9
B10E-8	7/26/2023	8	11.3
B10EE-2	7/26/2023	2	8.8
B10EE-4	7/26/2023	4	14.8
B10EE-6	7/26/2023	6	8.1
B10EE-8	7/26/2023	8	11.6
B10N-2	7/26/2023	2	16.8
B10N-4	7/26/2023	4	16
B10N-6	7/26/2023	6	10.8
B10N-8	7/26/2023	8	12.2
B10NN-2	7/26/2023	2	19.6
B10NN-4	7/26/2023	4	16
B10NN-6	7/26/2023	6	11
B10NN-8	7/26/2023	8	11.6
B10S-2	7/26/2023	2	6.83
B10S-4	7/26/2023	4	16
B10S-6	7/26/2023	6	11.5
B10S-8	7/26/2023	8	11.9
B10SS-2	7/26/2023	2	12.9
B10SS-4	7/26/2023	4	16.1
B10SS-6	7/26/2023	6	11.1
B10SS-8	7/26/2023	8	12.7
B10W-2	7/26/2023	2	10.1
B10W-4	7/26/2023	4	16
B10W-6	7/26/2023	6	12.5
B10W-8	7/26/2023	8	13.5
B10WW-2	7/26/2023	2	14.6

Table 1
Soil Arsenic Data Summary
McKinley Elementary School
2401 Santa Monica Boulevard, Santa Monica, California

Sample ID	Sample Date	Sample Depth (ftbgs)	Arsenic (mg/kg)
B10WW-4	7/26/2023	4	16
B10WW-6	7/26/2023	6	10.3
B10WW-8	7/26/2023	8	10.1
B11-0.5	2/20/2023	0.50	8.9
B11-2	2/20/2023	2	13
B11-4	2/20/2023	4	19
B11A-2	7/25/2023	2	10.8
B11A-4	7/25/2023	4	11.9
B11A-6	7/25/2023	6	12.7
B11A-8	7/25/2023	8	14.6
B11E-2	7/25/2023	2	8.53
B11E-4	7/25/2023	4	18.9
B11E-4 DUP	7/25/2023	4	8.79
B11E-6	7/25/2023	6	16.3
B11E-8	7/25/2023	8	12.9
B11EE-2	7/25/2023	2	13.5
B11EE-4	7/25/2023	4	19
B11EE-6	7/25/2023	6	12.9
B11EE-8	7/25/2023	8	11.6
B11N-2	7/25/2023	2	10.8
B11N-4	7/25/2023	4	13.7
B11N-6	7/25/2023	6	17.6
B11N-8	7/25/2023	8	13
B11NN-2	7/25/2023	2	9.96
B11NN-4	7/25/2023	4	15.3
B11NN-6	7/25/2023	6	14.1
B11NN-8	7/25/2023	8	11.2
B11S-2	7/25/2023	2	9.38
B11S-4	7/25/2023	4	17.7
B11S-6	7/25/2023	6	15.7
B11S-8	7/25/2023	8	16.5
B11SS-2	7/25/2023	2	10.1
B11SS-4	7/25/2023	4	18.3
B11SS-6	7/25/2023	6	15.4
B11SS-8	7/25/2023	8	13.9
B11W-2	7/25/2023	2	9.63
B11W-4	7/25/2023	4	16.7
B11W-6	7/25/2023	6	16

Table 1
Soil Arsenic Data Summary
McKinley Elementary School
2401 Santa Monica Boulevard, Santa Monica, California

Sample ID	Sample Date	Sample Depth (ftbgs)	Arsenic (mg/kg)
B11W-8	7/25/2023	8	12.3
B11WW-2	7/25/2023	2	14.7
B11WW-4	7/25/2023	4	18.9
B11WW-6	7/25/2023	6	15.3
B11WW-8	7/25/2023	8	14.8
B12-0.5	2/20/2023	0.50	8.1
B12-2	2/20/2023	2	ND (<0.74)

Notes:
All concentrations are reported in milligrams per kilogram (mg/kg)
Sample depths are reported in feet below ground surface (ftbgs)
ND: Not detected above the reported laboratory method detection limit
DUP: Duplicate sample

Appendix

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Appendix B McKINLEY ELEMENTARY SCHOOL DRAFT REMOVAL ACTION WORKPLAN

February 23, 2024

Mr. Kevin Klaus
Santa Monica-Malibu Unified School District
Facilities Improvements Projects
2828 4th Street
Santa Monica, California 90405

Re: **Draft Removal Action Workplan**
McKinley Elementary School – New Classroom Building
2401 Santa Monica Boulevard, Santa Monica, California 90404
DTSC Case Number: 304687
EnviroStor ID: 600003412
NV5 Project No. SMSD-23-11893

Dear Mr. Klaus:

Alta Environmental LP, DBA NV5 (NV5) is pleased to submit this Removal Action Workplan (RAW) to the San Monica Malibu Unified School District (SMMUSD), for mitigation of shallow soils impacted with arsenic and soil vapor impacted with volatile organic compounds (VOCs) located beneath the location of the new classroom building at the McKinley Elementary School in Santa Monica, California (Site). This RAW is based on the California Department of Toxic Substances Control (DTSC) Preliminary Environmental Assessment Equivalent Determination letter dated October 23, 2023, which required the preparation and submittal of a RAW.

If you have any questions, please call me at (562) 544-3910.

For and on behalf of NV5

Eric Fraske, PE
Senior Project Manager/Senior Engineer III

DRAFT REMOVAL ACTION WORKPLAN

McKinley Elementary School
New Classroom Building
2401 Santa Monica Boulevard
Santa Monica, California 90404

Prepared for:

Santa Monica-Malibu Unified School District
Facilities Improvements Projects
2828 4th Street
Santa Monica, California 90405

Prepared by:

NV5
3777 Long Beach Boulevard, Annex Building
Long Beach, California 90807

DTSC Case Number: 304687
EnviroStor ID: 600003412
NV5 Project No. SMSD-23-11893
Date: February 23, 2024

NV5
3777 Long Beach Boulevard, Annex Building
Long Beach, CA 90807 United States of America
T (562) 495 5777 F (562) 495 5877 www.NV5.com

CONTENTS

PROFESSIONAL CERTIFICATION V

1 INTRODUCTION AND OBJECTIVES 1

1.1 Remedial Objectives 1

2 BACKGROUND 1

2.1 Site Location and Description 1

2.1.1 Project Proponent and Contact Information 2

2.1.2 USEPA Identification Number 2

2.1.3 Cortese List 2

2.1.4 DTSC EnviroStor Number 3

2.1.5 Assessor's Parcel Number. 3

2.1.6 Site Ownership 3

2.1.7 Land Use, Sensitive Receptors, Ecosystems, and Cultural Resources 3

2.2 Topography, Geology, and Hydrogeology 3

2.2.1 Topography 3

2.2.2 Geology 3

2.2.3 Hydrogeology 4

2.3 Summary of Previous Site Assessment Activities 4

2.4 Preliminary Endangerment Assessment (PEA) Equivalent Determination 8

3 NATURE, SOURCE, AND EXTENT OF CONTAMINATION 8

3.1 Type, Source, and Location of Contaminants 8

3.2 Extent and Volume of Contamination 9

3.2.1 Arsenic in Shallow Soils 9

3.2.2 VOCs in Soil Vapor 9

3.3 Health Effects of Contaminants 9

3.4 Targets Potentially Affected by Site 10

CONTENTS

4 RISK EVALUATION AND RECOMMENDED ACTIONS 11

4.1 Arsenic in Shallow Soils 11

4.2 Recommendation for Further Action – Soil 11

4.3 VOCs in Soil Vapor 11

4.3.1 HHSE Estimated Carcinogenic Risk – Soil Vapor Only 12

4.3.2 HHSE Estimated Noncarcinogenic Risk – Soil Vapor Only 13

4.1 Recommendation for Further Action – Soil Vapor 13

5 ENGINEERING EVALUATION/COST ANALYSIS 13

5.1 Soil Removal Action 13

5.1.1 Alternative 1 – No Action 13

5.1.2 Alternative 2 – Excavation and Offsite Disposal 14

5.1.3 Alternative 3 – Soil Reuse/Containment/Capping-in-Place 14

5.1.4 Recommended Removal Action – Soil 15

5.2 Soil Vapor Removal Action 15

5.2.1 Alternative 1 – No Action 15

5.2.2 Alternative 2 – Soil Vapor Extraction 15

5.2.3 Alternative 3 – Vapor Intrusion Mitigation and Migration Engineering Controls System 16

5.2.4 Recommended Removal Action – Soil Vapor 17

6 APPLICABLE OR RELEVANT AND APPROPRIATE REGULATIONS 17

6.1 Public Participation Activities 17

6.2 Community Survey 17

6.3 CEQA 18

6.4 Hazardous Waste Management 18

6.5 South Coast Air Quality Management District 18

6.5.1 SCAQMD Notification 19

6.6 State Water Resources Control Board 19

CONTENTS

6.7 Health and Safety Plan 19

6.8 Quality Assurance Project Plan 20

6.9 Others 20

7 REMOVAL ACTION IMPLEMENTATION AND REPORTING 20

7.1 Site Preparation and Security Measures 21

7.1.1 Fieldwork notification 21

7.1.2 Utility Clearance 21

7.1.3 Security Measures 21

7.2 Earthwork and Grading 21

7.3 Contaminant Control 22

7.3.1 Dust/Meteorological Monitoring 22

7.3.2 Dust Control 22

7.3.3 Precipitation and Stormwater Management 22

7.4 Soil Management 23

7.4.1 Soil Staging and Storage Operations 23

7.4.2 Soil Stockpile Sampling 23

7.4.3 Waste Segregation Operations 24

7.5 Decontamination Methods and Procedures 24

7.5.1 Decontamination Area 24

7.5.2 Decontamination Procedures 24

7.6 Transportation Plan for Off-Site Disposal 24

7.7 Backfill and Site Restoration 25

7.7.1 Import Material Sampling 25

7.7.2 Diversion of Unacceptable Fill Materials 25

7.7.3 Documentation of Rejected Loads 25

7.7.4 Site Restoration 25

7.8 Field Documentation and Reporting 26

7.8.1 Field Logbooks 26

7.8.2 Photographs 26

CONTENTS

7.8.3 RACR Report 27

8 VIMMEC SYSTEM INSTALLATION 27

8.1 VIMMEC System Plans and Basis of Design 27

8.2 VIMMEC System Installation Summary Report and Operations, Maintenance, Monitoring and Reporting Plan. 27

9 PROJECT SCHEDULE 28

10 REFERENCES 28

FIGURES

Figure 1 Site Location Map
Figure 2 Site Vicinity
Figure 3 Site Layout
Figure 4 Arsenic in Site Soils
Figure 5 Conceptual Site Model

APPENDICIES

Appendix A Response to DTSC Comments
Appendix B PEA-E Figures and Tables
Appendix C VIMMEC System Design and Basis of Design
Appendix D Health and Safety Plan

PROFESSIONAL CERTIFICATION

This Removal Action Workplan for McKinley Elementary School located at 2401 Santa Monica Boulevard in Santa Monica, California was prepared by NV5, Inc. for the Santa Monica – Malibu Unified School District in a manner consistent with the level of care and skill ordinarily exercised by professional engineers, geologists, and environmental scientists. This report was prepared under the technical direction of the undersigned.

Eric Fraske, P.E.
PE #C76976
Senior Engineer III – Site Assessment and Remediation
Primary Author/Project Manager

Trevor L. Atkinson, P.E.
PE #C62026
Vice President – Site Assessment and Remediation
Senior Technical Review

1 INTRODUCTION AND OBJECTIVES

Alta Environmental, LP, DBA NV5 (NV5) submits this *Removal Action Workplan* (RAW) to the Department of Toxic Substances Control (DTSC) for the mitigation of contaminants of concern (COC), which include arsenic impacted shallow soils and volatile organic compound (VOC) impacted soil vapors, that were identified beneath the location of the proposed New Classroom Building at the McKinley Elementary School (Site), located at 2401 Santa Monica Boulevard in Santa Monica, Los Angeles County, California (Figure 1). This RAW is based on the requirements presented in the DTSC's October 23, 2023 *Preliminary Environmental Assessment Equivalent Determination* letter.

This RAW will present a recommended remedial/mitigation option for both the soil and soil vapor impacts. Remedial alternatives are evaluated for both impacted media, and the scopes of work for the most viable comprehensive alternatives are proposed in this RAW.

The scope of work as outlined in this RAW will be conducted under the oversight of a Licensed California Professional Geologist (PG) or Professional Civil Engineer (PE-Civil), having knowledge of specific practices and procedures relevant to the project.

1.1 Remedial Objectives

The following Removal Action Objectives (RAOs) have been established:

- Minimize exposure to humans from the COCs in shallow soil via inhalation, dermal absorption, and ingestion;
- Minimize the potential for migration of the COCs from the shallow soil vapor into the Site building.
- Allow for safe construction and long-term occupancy of the proposed classroom building at the Site.

The remedial goals developed and adopted for contaminated media at the Site are responsive to these RAOs.

2 BACKGROUND

The following sections describe the locations, geology, hydrogeology, prior assessments that were evaluated as preliminary endangerment assessment (PEA) equivalent studies at the Site.

2.1 Site Location and Description

McKinley Elementary School is an approximately 6.50-acre rectangular shaped campus located at 2401 Santa Monica Boulevard in the City of Santa Monica (Figure 2), serving approximately 450 students in grade levels from transitional kindergarten through fifth grade. The current campus is developed with four educational buildings and 11 portable buildings, as well as play yards and sports fields, staff and visitor parking, and programmed and unprogrammed open space. Vehicular access is from Chelsea Avenue, with student drop-off/pick-up occurring on-site. The school campus is bounded by Santa Monica Boulevard and commercial uses to the southeast, Arizona Avenue and multi-family residential uses to the northwest, and mixed multi-family and commercial uses to the northeast across Chelsea Avenue and to the southwest

across 23rd Court. A dry cleaner facility is located across Chelsea Avenue near the eastern corner of the campus.

The subject of this RAW is an approximately 0.99-acre area located along the northeastern portion of the McKinley Elementary School campus (Figure 3). As part of a proposed campus upgrade, the first phase of work will include new building construction, renovation of existing buildings, and new on-campus parking and roadways. A new two-story classroom and administration building is proposed to be constructed within the area that currently serves as staff and visitor parking. In addition, proposed renovations of the existing main campus building will include new ground and second floor connections to the main building, new staff and visitor parking lots, and construction of a new on campus drop-off/pick-up lane adjacent to Chelsea Avenue. The limits of the proposed construction activities (Site) are shown in the attached Figure 3.

2.1.1 Project Proponent and Contact Information

The Project Proponent (PP) for this RAW is the SMMUSD.

The SMMUSD contact person for the RAW is as follows:

Mr. Carey Upton
Chief Operations Officer, Facility Improvement
Santa Monica Malibu Unified School District
2828 4th Street
Santa Monica, California 90405
Telephone: 310-450-8338, extension 79383
Email: cupton@smmusd.org

2.1.2 USEPA Identification Number

The Site does not currently have an active USEPA identification number. The following temporary USEPA temporary identification numbers were previously used for management of hazardous wastes at the Site:

- CAC000869872
- CAC002325545
- CAC002962327
- CAC003029936

The generation of hazardous wastes is not anticipated during the RAW. If hazardous wastes are generated, a temporary USEPA identification number will be obtained for management and disposal of generated wastes.

2.1.3 Cortese List

The provisions in California Government Code Section 65962.5 are commonly referred to as the “Cortese List.” The list, or a site’s presence on the list, has bearing on the local permitting process as well as on compliance with the California Environmental Quality Act (CEQA). A review of the Cortese List data resources (http://www.dtsc.ca.gov/dtscs-cortese-list/) indicates that the Site is not on the Cortese List.

2.1.4 DTSC EnviroStor Number

Properties in the DTSC's *EnviroStor* database are designated by the DTSC as potential or confirmed hazardous substance release sites. The Site has been listed on the EnviroStor database with an EnviroStor database number of 600003412, and a Site Code of 304687.

2.1.5 Assessor's Parcel Number.

The Site is located within the boundaries of the parcel of land that is identified as Los Angeles County Tax Assessor Parcel Number (APN): 4276-023-900.

2.1.6 Site Ownership

The Site is currently owned by the SMMUSD.

2.1.7 Land Use, Sensitive Receptors, Ecosystems, and Cultural Resources

- The Site is currently zoned for school use. Surrounding land consists primarily of residential and commercial property.
- As part of a May 2023 Environmental Impact Report (EIR) prepared by Placeworks for the proposed classroom building and other planned improvements at the McKinley Elementary School campus, an Historical Resources Impact Assessment report was prepared by Historic Resources Group (HRG), in March 2023. According to this report, HRG identified two contributing buildings, two site features, and two additional features with a period of significance from 1923 to 1927. This historical district was found eligible for listing in the California Register and for designation as a City of Santa Monica historic district.
- It is unknown if the Site is an area of biological or other cultural resource significance. The Site is currently developed as McKinley Elementary School, owned by SMMUSD. The shortest distance from the Site to a nearby residence is approximately 75 feet, across Chelsea Avenue.

2.2 Topography, Geology, and Hydrogeology

2.2.1 Topography

The 2018 United States Geological Survey (USGS), [Beverly Hills] 7.5 Minute Topographic Quadrangle map of the Site and surrounding vicinity was reviewed. The elevation of the property is approximately 162 feet above mean sea level. Topography was observed to slope slightly in a south/southeasterly direction during the site reconnaissance.

2.2.2 Geology

According to a Geotechnical Exploration Report prepared for the Site by Leighton Consulting, Inc. (Leighton) in 2021, underlying soils at the Site are described as follow:

"Artificial fill (Afu) materials were encountered underlying existing pavements within the exploratory borings and interpreted in the CPTs. Local geology was interpreted *from published regional geologic maps of the area (Yerkes and Campbell, 2005; Dibblee, 1991). Figure 3, Regional Geology Map, illustrates the approximate distribution of geologic units at the site. Native geologic units underlying the artificial fill materials consist of Quaternary young alluvial valley deposits age (map symbol: Qya) overlying Quaternary*

old alluvial fan deposits (map symbol: Qof), correlative to Dibblee's (DF-31, 1991) Quaternary Old Marine and in part non marine sediments derived from the Santa Monica Mountains. Existing site improvement likely removed the thin veneer of younger alluvium at the site as these deposits were not encountered within our borings.

Undocumented Artificial Fill: (Map Symbol: Afu): *Artificial fill materials were encountered to a depth of approximately 4 feet. Fill, as encountered, is characterized as medium reddish brown sandy lean clay and clay. No documentation or records related to fill placement was available at the time of this report preparation. Therefore, for purposes of this report, all fill encountered onsite and anticipated in future explorations is considered undocumented and unsuitable for support of new improvements in its current condition.*

Quaternary Old Alluvial Fan Deposits (Map Symbol: Qof): *The Pleistocene alluvial fan deposits encountered directly beneath the artificial fill materials generally consist of reddish brown to dark reddish brown, stiff to hard, silty to sandy lean clay with gravel, with interbeds of medium dense to dense silty sand and varying amounts of Jurassic age slaty gravels.*

The above description is consistent with the soils encountered at the Site during NV5's subsurface investigations, which were noted to generally consist of sandy clays and clayey and silty sands.

2.2.3 Hydrogeology

Groundwater data published on the California State Water Resources Control Board *GeoTracker* website for an ongoing groundwater investigation at the Providence Saint John's Health Center located at 2121 Santa Monica Boulevard (approximately 600 feet southwest of the Site) indicated that the shallowest groundwater in the vicinity of the Site is approximately 140 feet below ground surface and flows towards the southeast.

2.3 Summary of Previous Site Assessment Activities

Previous environmental investigations conducted at the McKinley Elementary School and the Site are listed below.

Phase I Environmental Site Assessment Report – McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. Prepared by NV5. April 19, 2022.

According to historical resources reviewed during the Phase I, the larger school campus in which the Site is located was first developed for use as a school around 1925. Since then, multiple other classroom structures were subsequently constructed throughout the campus, however the Site itself has historically only been developed with playground areas and paved parking lots.

This assessment identified the following evidence of recognized environmental conditions (RECs) in connection with the Site.

- *Regulatory database records and historical records indicate that a drycleaner has operated at the northeast adjoining property located at 2441 Santa Monica Boulevard from at least 1991 to present day. Records indicate that dry-cleaning equipment that utilized perchloroethylene (PCE, a chlorinated solvent) was used at this facility. While evidence of violations, leaks, spills, or releases were not identified, based on the proximity of this facility to the Site and the inherent environmental risk associated with dry-cleaning facilities, these listings are considered to represent a REC.*

- *Based on the age of historical and current structures on the Site, arsenic, lead-based paint, asbestos, pesticides, and polychlorinated biphenyls (PCBs) in caulking may have been historically used at the Site. As a result, there is a potential for these compounds to be present in the shallow soils onsite.*

NV5 recommended conducting a limited Phase II ESA to determine if dry-cleaning operations on the northeastern adjoining property had negatively impacted the Site. Additionally, NV5 recommended a limited Phase II subsurface investigation be conducted in areas of proposed soil disturbance to evaluate shallow soil conditions with respect to lead, arsenic, PCBs, and pesticides.

Environmental Site Investigation Report – McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. Prepared by NV5. April 27, 2023.

This assessment included the collection and analysis of soil samples from twelve locations throughout the Site for lead, arsenic, PCBs, and pesticides and the collection of soil vapor samples from three soil vapor probe locations on the eastern portion of the Site.

The results of the laboratory analysis identified trace concentrations of PCBs and pesticides in samples collected at two locations; however, all detected concentrations were below applicable health risk screening levels. Lead was detected in all collected soil samples; however, none of the detected concentrations exceeded the residential risk screening level for lead in soil. Arsenic was detected at four locations (B7, B8, B10, and B11) at concentrations that exceeded the DTSC upper-bound arsenic screening level for Southern California soils of 12 mg/kg[1]. Based on these findings, NV5 recommended that additional step-out sampling be conducted to determine the extent of arsenic impacted soils above the Southern California ambient arsenic screening level and that once delineated, the impacted soil should be excavated and removed from the Site for disposal.

Concentrations of multiple VOCs in excess of risk screening levels were identified in soil vapor samples collected from both the 5-foot and 15-foot depth probes at all three soil vapor sample locations (SV1 through SV3). Concentrations of PCE tended to increase with depth and proximity to the existing adjoining upgradient dry-cleaner property. Conversely, concentrations of petroleum hydrocarbon (benzene, toluene, ethylbenzene, etc.) related constituents decreased with depth and proximity to the adjoining dry-cleaner.

Historical resources indicated that the original structures at the campus were constructed in the 1920's on vacant land that was reported to have been used for the cultivation of beans. No historical or current uses of chlorinated solvents or petroleum products at the McKinley school campus were identified during the Phase I ESA, thereby indicating the source of the VOC impacts to be from an undetermined off-site source. As the off-site source(s) and extent of soil vapor impacts are currently unknown, NV5 recommended that additional soil vapor assessment be conducted at the Site to further evaluate the potential risk of vapor intrusion to proposed structures and to assess if mitigation measures would be warranted. Additional soil vapor sampling at the Site and indoor air sampling throughout the McKinley Elementary School campus was conducted throughout June and July 2023.

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[1] California Department of Toxic Substances Control (DTSC) Human and Ecological Risk Office (HERO) Human Health Risk Assessment (HHRA) Note Number 11 Southern California Ambient Arsenic Screening Level.

Soil Vapor Investigation Report – McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. Prepared by NV5. July 19, 2023.

This assessment was conducted in the parking lot portion of the campus along Chelsea Avenue. During the assessment, soil and soil vapor samples were collected from ten locations throughout the parking lot and analyzed for VOCs to further assess the VOC impacted soil vapor identified during the April 2023 investigation.

Laboratory analysis of the collected soil samples identified low concentrations of several VOCs (2-Butanone, acetone, benzene, tert-Butyl Alcohol [TBA], and PCE). However, all detected concentrations of VOCs in soil were below the established health screening levels.

Concentrations of multiple VOCs were detected in soil vapor samples collected throughout the Site. However, only the concentrations of benzene, ethylbenzene, naphthalene, and PCE at 5 feet bgs and PCE, TCE, and naphthalene at 15 feet bgs exceeded the applicable compound specific health screening levels.

A Vapor Intrusion Risk Evaluation (VIRE) using the collected soil vapor data was conducted by a board-certified Toxicologist. The results of the VIRE indicated that the calculated potential non-carcinogenic and carcinogenic health risks associated with the reported VOC concentrations in soil vapor beneath the investigation area exceeded acceptable regulatory limits. Design and installation of a vapor intrusion mitigation system (VIMS) along with adequate ventilation was recommended for future structures built at the Site to mitigate the findings of the VIRE.

The results of the laboratory analysis of the soil and soil vapor samples collected during this assessment did not indicate evidence of an on-site release of VOCs. Concentrations of VOCs in soil vapor, specifically PCE, generally decreased from east to west across the Site and appear to originate from an off-site unknown source. No evidence for the past use of chlorinated solvents (PCE and TCE) or petroleum hydrocarbons (benzene, ethylbenzene, and naphthalene) at the school was identified during the previous Phase I ESA (NV5, 2022). However, the Phase I did identify the presence of nearby off-site dry cleaning and automotive repair businesses along Santa Monica Boulevard.

The results of this and prior assessments were subsequently communicated to the Santa Monica Fire Department and the Department of Toxic Substances Control (DTSC) in order to initiate an off-site investigation to determine the source of the VOC impacts.

As the off-site source and extent of the impacted soil vapor is unknown, a preliminary indoor air quality evaluation was recommended along with further assessment of the entire McKinley campus to determine the magnitude and extent of VOC impacts. Indoor air sampling was subsequently conducted throughout the McKinley campus in July 2023.

Indoor Air Sampling Report – McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. Prepared by NV5. August 16, 2023.

Based on the concentrations of VOCs in soil vapor detected during previous assessments at the Site, air quality sampling was conducted throughout the entire McKinley Elementary School campus to assess the indoor air quality of the existing campus structures with respect to potential vapor intrusion from VOC impacted soil vapor.

In July 2023, air samples were collected from 20 indoor locations and four exterior locations throughout the campus. While concentrations of multiple VOCs were detected in air samples collected at both interior and

exterior locations throughout the campus, only concentrations of chloroform (six interior air samples), benzene (all interior and exterior air samples), 1,2-dichloroethane (one interior air sample), 1,2-dibromoethane (three interior air samples), ethylbenzene (one interior air sample), and naphthalene (all interior and exterior air samples) exceeded respective regulatory screening levels.

Concentrations of chloroform, benzene, 1,2-dichloroethane, ethylbenzene, and naphthalene were detected in all indoor and all outdoor air samples and therefore, it was concluded that the concentrations detected in interior air samples could be primarily attributed to regional air quality issues rather than vapor intrusion from the soil vapor beneath the Site. Concentrations of PCE and TCE were also detected in all indoor and outdoor air samples; however, none of the detected concentrations exceeded their respective health risk screening levels.

Statistical analysis of the air sampling data indicated there was no significant difference between the indoor and outdoor air quality, and that the results indicated that vapor intrusion is either not occurring at the Site or, if occurring, it is occurring at a very slow rate and at a rate that does not negatively affect the indoor air quality.

Based on the results of the air sampling, it was concluded that there is no significant difference between the indoor air quality and outdoor air quality at the Site, and that indoor air quality at the Site is acceptable for continued operation as a school. Nevertheless, in the preschool building, nearest to the off-site dry cleaner facility, in abundance of caution, adjustments were made to the ventilation system to reduce the potential for vapor intrusion exposure.

Step-Out Sampling Report – McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. Prepared by NV5. September 15, 2023.

The objective of the assessment was to further assess findings of an investigation completed in February 2023, which identified four Site locations where the arsenic levels in soil exceeded the State of California DTSC upper-bound screening level for naturally occurring arsenic in Southern California soils of 12 mg/kg.

During this assessment, additional arsenic step-out soil samples were collected in the vicinity of the previously identified arsenic impacts to assess the potential presence of soil with arsenic concentrations exceeding Site-specific ambient background levels. Concentrations of arsenic exceeding the 12 mg/kg screening level were identified at multiple sample locations at multiple sample depths between two and eight feet bgs, the maximum sampled depth during this investigation. The lateral and vertical limits of soils containing arsenic in excess of 12 mg/kg were not able to be defined during this assessment.

In accordance with the DTSC *Arsenic Strategies, Determination of Arsenic Remediation, Development of Arsenic Cleanup Goals* guidance document dated January 16, 2009 (Guidance Document), a statistical data evaluation was conducted by a board-certified toxicologist to determine the upper-limit local arsenic background concentration at the Site. If soil arsenic concentrations are greater than the calculated upper-limit local arsenic background concentration, it would indicate evidence of a release which may require remedial action.

The results of the statistical data evaluation determined that the upper bound soil arsenic background concentration at the Site is greater than concentrations detected during the initial February 2023 investigation and the Step-Out Soil Sampling. NV5 concluded that the results of the statistical analysis indicated that the soil arsenic concentrations detected at the Site are within ambient, background

concentrations and not the result of a past release. Therefore, no further assessment related to Site soil arsenic levels was recommended.

NV5 noted that the development at the Site would consist of construction of a new classroom building and modification to existing playground and parking lot areas. All soils within the boundaries of the Site are currently, and following completion the proposed construction activities will be, covered by a building structure or asphalt or concrete pavement, thereby eliminating any potential exposure pathways to future occupants of the Site.

NV5 recommended that dust suppression and dust monitoring, as required on all grading projects by the South Coast Air Quality Management District, be implemented to limit the potential for migration of fugitive dusts. NV5 further recommended that the presence of soils containing elevated concentrations of arsenic at the Site be brought to the attention of future Site contractors so that appropriate health and safety training, personal protective equipment (PPE), and dust suppression measures could be employed during earthwork activities.

2.4 Preliminary Endangerment Assessment (PEA) Equivalent Determination

A PEA Equivalent Determination letter was issued by the DTSC on October 23, 2023. The DTSC indicated that based on the review of the PEA equivalent reports, a release or threatened release of hazardous material or the presence of naturally occurring hazardous material, which would pose a threat to public health or the environmental under unrestricted land use is present at the Site. DTSC determined that a (RAW) was required to address onsite contamination.

DTSC also identified discrepancies in the PEA equivalent reports that should be addressed in future submittals and/or fieldwork. These discrepancies were identified on comments enclosed in the PEA Equivalent Determination letter. NV5 has provided a tabulated response to these comments in **Appendix A.**

3 NATURE, SOURCE, AND EXTENT OF CONTAMINATION

3.1 Type, Source, and Location of Contaminants

Soil and soil vapor sampling was conducted throughout the Site between February and July 2023. Based on the sampling results, the primary contaminants of concern (COCs) at the Site consists of arsenic in shallow soil and VOCs in soil vapor. Figures and Tables from the PEA-Equivalent documents are presented in **Appendix B**.

Elevated concentrations (greater than 12 mg/kg) of arsenic were identified on the central and western portions of the Site to the maximum sampled depth of 8 feet bgs. Statistical analysis of the collected arsenic in soil data suggest that the elevated concentrations of arsenic encountered at the Site may be naturally occurring.

As detailed in previous assessment reports, VOCs in soil vapor were identified at all vapor probe sample locations and have not been fully delineated. The source of the impacts has not been identified, but based on Site history is suspected to be an off-Site source. Concentrations of PCE decrease laterally east to west across the Site. Concentrations of other VOCs (benzene, bromodichloromethane, chloroform, dibromochloromethane, and ethylbenzene) appear to decrease with depth.

3.2 Extent and Volume of Contamination

3.2.1 Arsenic in Shallow Soils

Arsenic was detected in all collected soil samples at concentrations ranging between 2.5 and 20.9 mg/kg. Soil containing elevated concentrations of arsenic (greater than 12 mg/kg) were identified in samples collected from four locations (B6, B7, B10, and B11) located on the central and western portions of the Site (Figure 4). The lateral and vertical extent of soil containing elevated concentrations of arsenic was not defined during the PEA-E sampling events.

3.2.2 VOCs in Soil Vapor

Between February 2023 to June 2023, thirteen soil vapor 13 soil vapor probes were installed throughout the Site to characterize potential impacts from offsite dry-cleaning activities. Samples were collected from a depth of 5 and 15 feet-bgs. Soil vapor was evaluated for volatile organic compounds (VOCs) by USEPA Test Method 8260. VOCs which exceeded their respective USEPA or DTSC SLs, derived using an attenuation factor of 0.03, include benzene (ND to 751 µg/m3), bromodichloromethane (ND to 53 µg/m3), dibromochloromethane (ND to 22 µg/m3), tetrachloroethylene (PCE) (ND to 2,600 µg/m3), chloroform (ND to 163 µg/m3), ethylbenzene (ND to 702 µg/m3), and trichloroethylene (TCE) (ND to 93 µg/m3).

3.3 Health Effects of Contaminants

Materials	Route of Exposure	Symptoms	Target Organs
Arsenic	Inhalation/absorption/ contact/ ingestion	Ulceration of nasal septum, dermatitis, gastrointestinal disturbances, respiratory irritation, hyper pigmentation of the skin	Liver, kidneys, skin, lunch, lymphatic system
PCE	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, skin, nose, throat, respiratory system; nausea; flush face, neck; dizziness, incoordination; headache, drowsiness; skin erythema (skin redness); liver damage; [potential occupational carcinogen]	Eyes, skin, respiratory system, liver, kidneys, central nervous system
TCE	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, skin; headache, visual disturbance, lassitude (weakness, exhaustion), dizziness, tremor, drowsiness, nausea, vomiting; dermatitis; cardiac arrhythmias, paresthesia; liver injury; [potential occupational carcinogen]	Eyes, skin, respiratory system, heart, liver, kidneys, central nervous system

Materials	Route of Exposure	Symptoms	Target Organs
Benzene	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, skin, nose, respiratory system; dizziness; headache, nausea, staggered gait; anorexia, lassitude (weakness, exhaustion); dermatitis; bone marrow depression; [potential occupational carcinogen]	Eyes, skin, respiratory system, blood, central nervous system, bone marrow
Naphthalene	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes; headache, confusion, excitement, malaise (vague feeling of discomfort); nausea, vomiting, abdominal pain; irritation bladder; profuse sweating; jaundice; hematuria (blood in the urine), renal shutdown; dermatitis, optical neuritis, corneal damage	Eyes, skin, blood, liver, kidneys, central nervous system
Chloroforms[1]	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, skin; dizziness, mental dullness, nausea, confusion; headache, lassitude (weakness, exhaustion); anesthesia; enlarged liver; [potential occupational carcinogen]	Liver, kidneys, heart, eyes, skin, central nervous system
Ethylbenzene	inhalation, ingestion, skin and/or eye contact	irritation eyes, skin, mucous membrane; headache; dermatitis; narcosis, coma	Eyes, skin, respiratory system, central nervous system

[1]: Including chloroform, bromodichloromethane, and dibromochloromethane

3.4 Targets Potentially Affected by Site

A conceptual site model (CSM) that identifies the receptors that may contact the COCs and the exposure pathways through which they may contact the COCs has been developed. The CSM is presented as **Figure 5**. The completed pathways for arsenic impacted soil/dust include inhalation, ingestion, and dermal contact. The potential exposed populations are construction workers (during construction) and students, staff and visitors both during construction and subsequent long-term occupancy. The completed exposure pathway for VOC impacted soil vapor includes inhalation. The potential exposed populations are construction workers (during construction) and students, staff and visitors both during construction and subsequent long-term occupancy.

4 RISK EVALUATION AND RECOMMENDED ACTIONS

This section summarizes results from the human health screening evaluation conducted during the PEA-E and presents the recommended actions.

4.1 Arsenic in Shallow Soils

Previous assessments conducted throughout the Site previously identified four locations where the arsenic levels in soil exceeded the DTSC upper-bound screening level for naturally occurring arsenic in Southern California soils of 12 mg/kg.

Due to the prevalence of naturally occurring arsenic of varying concentrations in Southern California soils, the DTSC developed the January 16, 2009 *Arsenic Strategies, Determination of Arsenic Remediation, Development of Arsenic Cleanup Goals* guidance document (Guidance Document) for sites where concentrations of arsenic may exceed naturally occurring background levels (in this case, the aforementioned 12 mg/kg). The Guidance Document presents data evaluation methods to determine the site-specific background level of arsenic and to assess whether arsenic remediation is warranted.

NV5 engaged a board-certified toxicologist (Enviro-Tox) to conduct a statistical evaluation of the arsenic data to determine the upper limit of local arsenic background concentration at the Site. In accordance with the Guidance Document, all available soil arsenic data for the Site (including the concentrations of arsenic detected in soil samples collected during the initial assessment in February 2023) were included in the statistical analyses.

The results of the analysis (presented in NV5's Step-Out Sampling Report, dated September 15, 2023) indicated that the 95 percent upper confidence limit of the 99th quartile of the arsenic data set concentration at the Site is 22.15 mg/kg, which is greater than all detected concentrations of arsenic at the Site. The results of the statistical analysis indicated that all soil arsenic concentrations identified for the Site are within ambient, background concentrations and not the result of an arsenic release.

As directed in the DTSC's A PEA Equivalent Determination letter, dated October 23, 2023, NV5 revised the statistical analysis of the Site arsenic data using only laboratory results using results from soil samples collected at depths below four feet (the noted depth of fill material). The results of the revised evaluation (presented in **Appendix A**) indicated that the 95 percent upper confidence limit (UCL) of the 99th quartile of the arsenic data set concentration at the Site is 17.93 milligram per kilogram (mg/kg), which is also above the DTSC's established upper bound ambient level of arsenic in Southern California of 12 mg/kg.

4.2 Recommendation for Further Action – Soil

The data collected during the PEA-E, indicates that portions of the Site have elevated concentrations of arsenic above the DTSC's established upper bound ambient level of arsenic in Southern California of 12 mg/kg. While the statistical analysis of the data indicates that these elevated concentrations may be naturally occurring, based on the sensitive use of the Site and discussions with the DTSC, remedial action/mitigation of Site soils containing concentrations of arsenic in excess of 12 mg/kg is proposed.

4.3 VOCs in Soil Vapor

As presented in NV5's Soil Vapor Investigation Report, dated July 19, 2023, NV5 engaged a board-certified toxicologist (Enviro-Tox) to conduct a Vapor Intrusion Risk Evaluation (VIRE) to assess whether the presence of VOCs detected in soil gas beneath the Site could pose a potential health risk or hazard to onsite receptors (students and faculty) at the Site.

The VIRE included a screening-level risk evaluation utilizing standard equations and methods developed by the USEPA and the California Environmental Protection Agency for similar exposure conditions.

The VIRE incorporated conservative (health-protective) assumptions in evaluating potential exposures, so that potential health impacts from chemical exposures could be evaluated and not underestimated. For the purpose of this risk evaluation and in accordance with DTSC's Preliminary Endangerment Assessment (PEA) Guidance Manual (2015), the potential risks were calculated based on a hypothetical residential land-use scenario, regardless of the current and future use and zoning for the site.

Additionally, a default attenuation factor (AF) is used to estimate concentrations of VOCs in indoor air by multiplying the AF by known soil vapor concentrations. For the purposes of the VIRE, exposure scenarios were assessed based on maximum detected VOC concentrations at the 5-foot depth and the 15-foot depth. In accordance with DTSC (2011) guidance, the default AF for future residential sites (0.001) was used in this VIRE along with the detected subsurface concentrations. The default AF of 0.001 was used to evaluate volatilization and vapor intrusion for all sampling depths evaluated in this VIRE. The DTSC default AF reflects reasonably protective assumptions for conditions in California for the contamination of indoor air due to vapor intrusion (DTSC, 2011). However, DTSC (2023) also recommends that risk assessments evaluate vapor intrusion using the United States Environmental Protection Agency (USEPA) default AF of 0.03 (USEPA, 2015).

It should be noted that the intent of this type of screening level assessment is to provide a health-protective estimates of potential risk. Per the methodology prescribed by the State of California and Federal regulatory agencies, risk probabilities are calculated using several standardized conservative exposure parameters such as:

- An occupant exposure time of 24 hours per day for 350-days per year with a duration of 20 years for an adult and 6 years for a child.
- Continued exposure to the maximum detected concentrations of all VOCs, regardless of location on the Site and without allowing for natural degradation, for the entire exposure duration.
- An attenuation rate developed by the USEPA for residential sites where the source of the contamination is located directly under the affected building, as opposed to an off-site source.

Health hazards to potential receptors are estimated using conservative exposure durations, maximum detected soil vapor concentrations, and chemical specific toxicological data. For the purposes of calculating exposure criteria to be used in risk assessments, adverse health effects are classified into two broad categories: carcinogens and non-carcinogens. A hazardous quotient (HQ) is calculated to evaluate non-carcinogenetic health hazards, and an incremental probability of an individual to develop cancer over a lifetime as a result of exposure to a potential carcinogen is used to evaluate carcinogenic risks. The VIRE is presented in **Appendix A**.

4.3.1 HHSE Estimated Carcinogenic Risk – Soil Vapor Only

The cancer risks estimated in the VIRE for hypothetical residential receptors at the Site are:

- 4E-04 when using an AF of 0.03 and maximum detected concentrations at a depth of 5 feet bgs
- 1E-05 when using an AF of 0.001 and maximum detected concentrations at a depth of 5 feet bgs
- 2E-04 when using an AF of 0.03 and maximum detected concentrations at a depth of 15 feet bgs
- 6E-06 when using an AF of 0.001 and maximum detected concentrations at a depth of 15 feet bgs

All estimated cancer risks exceed the acceptable cancer risk point of departure of 1E-06. The "risk drivers" for VOCs detected at a depth of 5 feet and using an AF of 0.03 were benzene, chloroform, ethylbenzene, naphthalene and PCE (Table 14). Benzene, chloroform, and PCE were the "risk drivers" when using an AF of 0.001 (Tables 15 and 17). The "risk drivers" identified in soil gas sampled at a depth of 15 feet bgs and using an AF of 0.03 were naphthalene, PCE and trichloroethene (TCE).

4.3.2 HHSE Estimated Noncarcinogenic Risk – Soil Vapor Only

The HQs estimated for the hypothetical onsite residential receptors are:

- 11 when using an AF of 0.03 and maximum detected concentrations at 5 feet bgs.
- 0.4 when using an AF of 0.001 and maximum detected concentrations at a depth of 5 feet bgs.
- 4 when using an AF of 0.03 and maximum detected concentrations at a depth of 15 feet bgs.
- 0.1 when using an AF of 0.001 and maximum detected concentrations at a depth of 15 feet bgs.

Only the HQs estimated using an AF of 0.03 exceed the benchmark value of 1. The "risk drivers" for the exceedance were benzene, tetrachloroethene (PCE) and trichloroethene (TCE).

4.1 Recommendation for Further Action – Soil Vapor

Based on the results of this VIRE, a removal action/mitigation measure is proposed to address the VOC impacted soil vapor beneath the Site.

5 ENGINEERING EVALUATION/COST ANALYSIS

The purpose of this Section of the RAW is to identify and screen possible removal action alternatives that may best achieve the RAOs discussed in Section 1. The removal action alternatives were screened and evaluated on the basis of their effectiveness, implementability, and cost.

5.1 Soil Removal Action

The only target analyte found in soil to exceed applicable screening levels during the PEA-E was arsenic in soil. To mitigate potential risks to future occupants of the Site, three removal actions were evaluated 1) No Action, 2) Excavation and Offsite Disposal, and 3) Soil Containment/Capping-in-Place.

5.1.1 Alternative 1 – No Action

This alternative requires no further activities based on current site conditions and/or prior assessment results. It is considered for sites where there is no immediate risk for the environment or human health. It would leave all contamination in place with low to virtually no costs required for implementation.

Effectiveness: This alternative would not meet the RAO criteria of allowing for safe construction of the proposed new classroom building and would not minimize the potential for migration or exposure.

Implementability: This alternative can be implemented in terms of administrative and technical ability but will not meet the regulatory requirements of the DTSC for construction of school sites.

Cost: There is little to no cost associated with this alternative.

5.1.2 Alternative 2 – Excavation and Offsite Disposal

This alternative involves the excavation and disposal of all soils within the Site boundary containing concentrations in excess of 12 mg/kg. Excavated soils would be replaced with clean fill material.

Effectiveness: This alternative would meet the Site's RAO and would lead to unrestricted land use designation by the DTSC. This alternative is effective for the short term and long-term remediation of the Site and would eliminate the risks associated with soil containing elevated concentrations of arsenic.

Implementablity: As the vertical and lateral limits of soil containing elevated concentrations of arsenic have not been determined but are known to be greater than or equal to depths of 8 feet bgs and in close proximity to existing structures, this alternative may not be technically implementable without extensive shoring and potential risk to existing structures. Additionally, as the source of the elevated concentrations identified in subsurface soils has not been identified and may be naturally occurring, successful completion of this alternative may not be practically achieved.

Cost: The McKinley ES project area is approximately 0.99 acres (43,124 square feet) in size. A conservative estimate for excavation, disposal, and replacement of disturbed material is $200/cubic yard and does not include costs associated with the collection and laboratory analysis of soil samples, air/dust monitoring, potential shoring, and construction delays due to sample analysis time and possible multiple rounds of excavation. As the boundaries of soils containing elevated concentrations of arsenic have not been defined, the total estimated cost cannot be estimated, but would likely exceed $1 million dollars.

5.1.3 Alternative 3 – Soil Reuse/Containment/Capping-in-Place

This alternative would consist of capping the surface of the Site with pavement and the planned classroom structure. The cap would be used to eliminate the potential to come into contact with the soils containing elevated concentrations of arsenic. Undisturbed Site soils, including those containing elevated concentrations of arsenic, would remain on Site and any soils disturbed during construction activities would be excavated only for the purposes of compaction and placement beneath pavement or the proposed structure at the Site. Additionally, in landscaped areas, exposed soil would be replaced to a minimum depth of four feet bgs with clean landscaping materials such as mulch, top-soil, etc., and all proposed landscaping will consist of drought resistant vegetation and drip irrigation systems to minimize the future water usage for irrigation.

Following completion of construction activities, a land use restriction will be executed between DTSC and the property owner and recorded to ensure that the cap is properly maintained and that future uses of the property are consistent with the operation and maintenance of the cap. An operation and maintenance plan will be submitted and approved by DTSC that would specify the maintenance and monitoring requirements and providing financial assurance for future operation and maintenance of the cap.

Effectiveness: The reuse/containment/capping-in-place alternative would involve minimal disturbance of the impacted soil. Therefore, there would be very little exposure to soils containing elevated concentrations of arsenic and the short-term risks would be low. The installation of a surface cap would require long-term maintenance and periodic inspections to provide long-term effectiveness.

Periodic inspections would include observations and evaluations for settlement, cracking, ponding of liquids, erosion, and naturally occurring impacts by deep-rooted vegetation. Additionally, precautions would be taken to ensure that the integrity of the cap is not compromised by land use activities.

Containment through surface capping would not lessen toxicity or volume of the soils containing elevated concentrations of arsenic, but would limit mobility and potential migration of contaminants.

Implementability: This alternative is the most implementable option as the planned construction of the Site includes the installation of pavement and the new classroom building over the limits of the entire Site.

Cost: Costs associated with this alternative, not associated with planned construction activities, would be minimal as they would only include costs associated with any air/dust monitoring required during grading and earthwork as well as periodic inspection and maintenance of the cap, which is essentially the pavement and building structure.

5.1.4 Recommended Removal Action – Soil

Based on the overall effectiveness, implementability, and cost, Alternative 3 – soil reuse/containment/capping-in-place is the recommended alternative. Implementation procedures including a soil management and dust monitoring plan are presented in Section 7.

5.2 Soil Vapor Removal Action

Multiple VOCs were identified in soil vapor beneath the Site at concentrations that exceeded the established health risk screening levels. The source and extent of these impacts have not been identified; however, it is believed that the source is an off-site property. To mitigate potential risks to future occupants of the Site, three removal actions were evaluated 1) No Action, 2) Soil Vapor Extraction, and 3) Installation of a VIMMEC System.

5.2.1 Alternative 1 – No Action

This alternative requires no further activities based on current site conditions and/or prior assessment results. It is considered for sites where there is no immediate risk for the environment or human health. It would leave all contamination in place with low to virtually no costs required for implementation.

Effectiveness: This alternative would not meet the RAO criteria of allowing for safe construction and future occupancy of the proposed new classroom building.

Implementability: This alternative could be implemented in terms of administrative and technical ability but will not meet the regulatory requirements of the DTSC for construction of school sites.

Cost: There is little to no cost associated with this alternative.

5.2.2 Alternative 2 – Soil Vapor Extraction

This alternative would involve the installation of a soil vapor extraction (SVE) remediation system at the Site. SVE removes VOCs present in the unsaturated (vadose) zone soil by inducing negative pressure using a vacuum blower connected to vertical or horizontal perforated SVE wells. The extracted vapors are typically treated by an appropriate air-pollution control unit prior to discharge into the atmosphere. Vapor phase treatment technologies for chlorinated vapors typically include granular activated carbon adsorption.. Treatment of extracted vapors would be carried out under a permit from the South Coast Air Quality Management District (SCAQMD). The SVE wells would be located laterally where concentrations of contaminants are present and connected to the blower by above- or below-ground piping. The extracted vapors would first enter a moisture separator and then pass through the blower prior to treatment and atmospheric discharge.

Effectiveness: This alternative may eventually capture sufficient quantities of VOC impacted material to allow for meeting the RAO; however, due to the unknown source of contamination, this method may actually result in drawing more VOC impacted towards the Site in the short-term resulting in an increased potential risk to the occupants of the Site.

Implementablity: As the source and extent of VOC impact is unknown and attributed to an off-site source, effective design and implementation of an SVE system is impractical. Furthermore, this alternative would significantly delay the construction of the proposed classroom building and potentially the future use of the Site for educational purposes.

Cost: Installation and operation of a SVE system could easily exceed $1 to $2 million.

5.2.3 Alternative 3 – Vapor Intrusion Mitigation and Migration Engineering Controls System

Installation of a soil Vapor Intrusion Mitigation and Migration Engineering Controls (VIMMEC) System beneath the new classroom building has generally been accepted as the preferred alternative for similar site conditions (subsurface VOC impacted vapor migration from an unidentified off-site source) at other similar locations. The method for sub-slab vapor intrusion mitigation consists of installing a barrier membrane system and a passive vapor collection system beneath the building slab.

The vapor barrier consists of an impermeable membrane that is installed beneath the building slab to reduce the potential for subsurface vapors entering the building. The membrane would consist of a sprayed-in-place continuous bituminous barrier system, such as the Liquid Boot system by CETCO, the Nitra-Seal system by Land Science Technologies, or the Geo-Seal ® system by EPRO Services. Each technology uses base layer impermeable plastic, coated with a spray-applied flexible membrane and geotextile layer that provides the ability to adhere to concrete footings and utility penetrations, and to create a seamless membrane vapor barrier layer beneath the concrete slab. A sub-slab collection and venting system is typically installed beneath the vapor barrier. The vent system is designed to function under passive conditions (i.e., venting will occur via natural processes, without powered blowers). The sub-slab venting system consists of a connected array of low-profile collection/infiltration piping installed in a high permeability layer (such as gravel) beneath the building slab. The purpose of sub-slab collection/infiltration system is to prevent build-up of accumulated subsurface vapors beneath the barrier and to provide a low resistance pathway for vapors to escape to the atmosphere. The vent piping is connected to vent riser exhaust stacks. The venting system is designed so it can operate under both passive and active operating conditions (as necessary) utilizing a vacuum blower to further reduce levels of vapors (if/as necessary) under active operation (as a contingency measure).

Following completion of construction activities, a land use restriction will be executed between DTSC and the property owner and recorded to ensure that the VIMMEC system performance is regularly monitored and the integrity of the VIMMEC system components (membrane, ventilation piping, etc.) are adequately maintained. Following approval of VIMMEC system installation and prior to occupancy, an operation and maintenance plan will be submitted and approved by DTSC.

Effectiveness: This alternative would meet the Site's RAO of protecting future site occupants by mitigating the potential vapor intrusion risk from residual VOC impacts in soil vapor into indoor occupied spaces. Below grade vapor intrusion protection and components of the VIMMEC system will reduce vapor intrusion risk associated with common building entry points such as cracks, openings and utility penetrations in the building foundation floor slab, by providing vapor intrusion mitigation components and migration engineering control strategies.

Implementability: This alternative can easily be implemented as part of planned construction activities. As impacted soil vapor would remain on-site, long-term maintenance and monitoring would be required to verify the performance of the VIMMEC system until the source of off-site impacted soil vapors are successfully remediated.

Cost: The installation costs associated with this alternative is approximately $**300,000**.

5.2.4 Recommended Removal Action – Soil Vapor

Based on the overall effectiveness, implementability, and cost, the use of a VIMMEC system is recommended as an appropriate alternative. Additional details regarding the installation of the VIMMEC system is presented in Section 8, and a VIMMEC design and associated basis for design for the VIMMEC system is presented in **Appendix C**.

6 APPLICABLE OR RELEVANT AND APPROPRIATE REGULATIONS

The proposed removal action must comply with Applicable or Relevant and Appropriate Regulations (ARARs). In this section the most relevant ARARs for the proposed removal action are presented.

6.1 Public Participation Activities

DTSC has developed a public participation strategy to determine the level of public interest in the proposed remedial action and to verify that the local community is informed of the proposed remedial action at the Site. Through the planned community survey, community interviews and/or other public participation activities, DTSC will provide the community with opportunities to be involved in DTSC's decision making process for the Site.

A public notice will be published in local newspapers informing the community of this proposed removal action workplan and of the availability of the administrative record file for public inspection at established Information Repositories (yet to be determined).

Copies of this RAW will be placed in the Information Repositories for access by community members. A 30-day public comment period will be held to accept public comments on the proposed removal action. At the close of the public comment period, SMMUSD will evaluate the comments and make any appropriate revisions to the RAW.

Prior to beginning fieldwork for the proposed remedial action(s), the SMMUSD will distribute a RAW Work Notice to nearby residents and businesses (i.e., within line-of-sight). The notice will also be laminated and posted along the fence line of the project. The notice will be prepared in English and Spanish. It will provide a general description of the fieldwork that will occur, along with the telephone number of the SMMUSD Project Manager for further information.

6.2 Community Survey

A community assessment will be conducted through a baseline community survey and/or interviews of nearby community members (including contiguous property owners, residents, business owners, elected/local officials, DTSC mandatory mail list and other affected/interested parties). As a result of feedback from the baseline community survey and/or community interviews, a summary of community concerns will be compiled in a Community Profile Report (CPR).

The CPR will be prepared for the Site under the direction and guidance of DTSC. The CPR is based on the information from a variety of sources including file review, site visits, demographic data, similar or relevant community interest/concerns shown during previous public participation activities for other DTSC projects within the surrounding community, and likely or existing level of community interest/concerns identified for the Site through the community survey or interviews.

6.3 CEQA

The California Environmental Quality Act (CEQA), modeled after the National Environmental Policy Act (NEPA) of 1969, was enacted in 1970 as a system of checks and balances for land use development and management decisions in California. It is an administrative procedure to ensure comprehensive environmental review of cumulative impacts prior to project approval. It has no agency enforcement tool but allows challenge in courts. CEQA applies all discretionary activities proposed to be carried out or approved by California public agencies, unless an exemption applies. CEQA applies to all discretionary activities proposed to be carried out or approved by California public agencies, unless an exemption applies.

In compliance with CEQA requirements, the DTSC and SMMUSD will prepare the appropriate CEQA documentation that will be filed prior to the start of work.

The recommended remedial actions will not have a significant effect on public health or the environment because of the lack of planned of soil export, short project duration, and the controlled manner in which earthwork will be conducted.

The Site is not on the Cortese List or otherwise in a known sensitive biological resource area.

As previously discussed in Section 2.1.7, an Historical Resources Impact Assessment report was prepared by HRG, in March 2023. According to this report, HRG identified two contributing buildings, two site features, and two additional features with a period of significance from 1923 to 1927. This historical district was found eligible for listing in the California Register and for designation as a City of Santa Monica historic district. Therefore, this historic district was treated as a historical resource as defined by CEQA for the purposes of their assessment. HRG's analysis concluded that following implementation of the proposed project, the historic district would retain sufficient historic integrity to remain eligible for designation at the State and local level. Therefore, the proposed classroom building construction project would not result in a substantial change in the significance of a historical resource and would not have a significant effect on the environment as defined by CEQA.

6.4 Hazardous Waste Management

Generation of hazardous waste is not anticipated during this removal action (RA). If hazardous waste is generated, an EPA ID number will be obtained for proper management of waste generated during grading activities. Sampling and waste characterization of Site during grading activities is further discussed in Section 7.4.

6.5 South Coast Air Quality Management District

The Site is located in the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD has three rules that address excavation (Rules 1150, 1166 and 1466), and one that addresses fugitive dust (Rule 403).

Rule 1150 applies to the excavation of sanitary landfills and does not apply to this project. Rule 1166 is not expected to apply to this project, because it governs the excavation of soils containing significant concentrations of VOCs, which were not detected during previous Site investigations. Rule 1466 is expected to apply to this project, because it governs the excavation of soils containing significant concentrations of air contaminants, not limited to but including arsenic. The only target analytes found to exceed applicable screening levels during the PEA-E was arsenic. Rule 1466 provisions including protocols for dust monitoring, excavation and loading of arsenic-impacted soils, and dust control measures that will be implemented during field activities.

Several elements of Rule 403, such as protocols for mitigation of potential fugitive dust emissions, have been incorporated into this RAW. Dust mitigation materials including, but not limited to, temporary fencing, signage, wind screens, track-out mitigation devices (tire brushes, gravel pads, wheel shakers), visqueen/tarps for stockpiles, water application equipment (water truck, hoses, sprayers, etc.) will be provided and utilized by the Contractor during earthmoving activities. Air monitoring will be conducted during the excavation, grading, and compaction of soils containing elevated concentrations of arsenic and mitigation measures will be implemented to minimize the generation of fugitive dust.

Access to the Site will be controlled and earthwork activities will not be conducted during times of high wind conditions (e.g., wind speed in excess of 15 miles per hour). Notification of the SCAQMD is required for medium or large excavation/grading operations that disturb more than 100 acres or move more than 5,000 or 10,000 cubic yards per day, respectively. This project does not quality as a medium or large operation; therefore, agency notification or the filing of a Fugitive Dust Emission Control Plan is not required.

6.5.1 SCAQMD Notification

An initial Rule 1466 notification to the SCAQMD is required and will be provided at least 72 hours, but no more than 30 days prior, to conducting any earth-moving activities.

6.6 State Water Resources Control Board

State Water Resources Control Board (SWRCB) Order No. 99-08-DWQ, National Pollutants Discharge Elimination System (NPDES) General Permit No. CAS000002, “Waste Discharge Requirements for Discharges of Stormwater Runoff Associated with Construction Activity” (General Permit) describes the implementation of a Stormwater Pollution Prevention Plan (SWPPP) for construction projects.

Due to the area of soil disturbance at the Site (less than one-acre), NV5 understands that a formal Stormwater Pollution Prevention Plan (SWPPP) will not be required. Nevertheless, stormwater will be managed at the Site using perimeter sandbags and straw waddles, and the like to control runoff and to act as filters.

6.7 Health and Safety Plan

Based on the detected concentrations of arsenic and VOCs detected in shallow soils during previous PEA assessment activities, they are not considered to pose a substantial risk to construction workers performing the remedial action.

Based on our discussion with California Occupational Safety and Health Administration (Cal/OSHA) consultation, Site workers are not required to have Hazardous Waste Operations (HAZWOPER) training, nor would they be subject to the requirements of CCR 8 Section 5214 (https://www.dir.ca.gov/title8/5214.html), which is the general industry standard, not a construction

standard. This understanding is based on the concentrations of arsenic detected in on-site soils and the classification of the waste anticipated to be generated (non-hazardous waste).

However, as a precautionary measure, during earthmoving and/or grading activities contractors will conduct personal air monitoring, hazard communication and training, employ engineering controls (dust suppression), and provided hygiene facilities (hand washing) for all workers involved or present during these activities.

Onsite removal contractor personnel are responsible for operating in accordance with all applicable regulations of Cal/OSHA outlined in 8 California Code of Regulations (CCR) General Industry and Construction Safety Orders and 29 Code of Federal Regulations (CFR) 1910 and 29 CFR 1926, Construction Industry Standards, as well as other applicable federal, state and local laws and regulations. All personnel shall operate in compliance with all Cal/OSHA requirements.

A Site-specific Health and Safety Plan (HASP) has been prepared and is presented in **Appendix D**. The HASP was prepared in general accordance with current federal and Cal/OSHA health and safety standards. The provisions of the HASP are mandatory for all personnel and contractors who are at the Site. All on-Site personnel must read and sign the HASP prior to commencing field activities. Daily tailgate health and safety meetings will be held and meeting participation will be documented in field forms that will be maintained with project records.

The purpose of this HASP is to identify procedures for avoiding potential hazards from chemicals, equipment, or the environment, and for responding to serious injury or accident. The safety rules given in this plan cannot cover every eventuality. It is expected that all workers involved will exercise good judgment in safety matters, and each of the SMMUSD contractors working on the Site will follow their own company's health and safety plan. NV5 will inform the contractors as soon as possible about environmental conditions monitored by NV5 if and when these conditions (such as elevated dust measurements) may require appropriate actions. Under no circumstances will NV5 direct the contractors' operation of equipment and adherence to their specific health and safety requirements. These directions must be given by the contractors, either independent of or dependent on information about environmental conditions provided by NV5.

6.8 Quality Assurance Project Plan

A Quality Assurance Plan (QAPP) for future soil, soil vapor and indoor air vapor sampling associated with future campus-wide assessments and commissioning and operation of the VIMMEC system will be provided in future submittals.

6.9 Others

All necessary permits and approvals identified in this RAW will be obtained prior to any removal activities. Removal activities will be performed by a California-certified contractor with oversight from a California-registered professional geologist or professional engineer.

7 REMOVAL ACTION IMPLEMENTATION AND REPORTING

While the recommended Removal Action (RA) does not anticipate the necessity for removal and disposal of impacted materials from the Site, soil containing elevated arsenic at the Site will be disturbed as part of the proposed construction of the new classroom building. In order to protect occupants of the Site and

neighboring properties, a rigorous soil management program will be implemented during Site grading and earthwork activities as described in the following sections.

7.1 Site Preparation and Security Measures

Prior to equipment mobilization for the proposed RA, Site preparation activities will include fieldwork notification, utility clearance, and implementation of Site security measures.

7.1.1 Fieldwork notification

Prior to the grading activities, a field work notice will be delivered to the businesses and residences within line-of-sight of the Site. Additionally, the field work notices will be delivered to the administrative staff for delivery to the school faculty and staff with enough notices for the administration to hand out to all of the students. The field work notice will be on colored paper and double-sided, one side in English and one side in Spanish.

7.1.2 Utility Clearance

Clearance of utilities and other underground obstacles will be conducted prior to initiation of any excavation activities. Such possible obstacles may include utilities lines such as water, electrical, gas, storm drains, pipeline, communication cable, phone cable, TV cable, and/or sewer lines. At a minimum, the utility clearance will include a 48-hour notification of the local Underground Service Alert (USA) and a Site visit. In addition, a geophysical survey may be conducted as appropriate to identify and clear each excavation area. Underground utilities will be located and the markings inspected to verify they are visible and properly marked.

7.1.3 Security Measures

This Site will be enclosed and bounded by a temporary perimeter construction fence which will increase the likelihood that the work areas will be secure and safe. To ensure that trespassers or unauthorized personnel are not allowed near work areas, security measures may include, but will not limited to:

- Posting notices directing visitors to the Site manager.
- Installing additional barrier fencing around work areas to restrict access to sensitive areas.
- Providing adequate Site security to ensure that unauthorized personnel have no access to work areas and/or contaminated materials.
- Maintaining a safe and secure work area, including areas where equipment is stored or placed, at the close of each workday.
- Persons requesting access to the Site will be required to demonstrate a valid purpose for access and if access to work areas and/or soils with elevated arsenic concentrations is planned, provide appropriate documentation to demonstrate they have received proper training required by the Site-specific HASP.

7.2 Earthwork and Grading

All field work will be completed by properly trained and equipped contractors. Site soils will be disturbed with earth moving equipment, as necessary, and will involve the use of a backhoe, loader, excavator, and/or shovels. As soil is excavated, it will be temporarily staged for use throughout the Site (as discussed

in Section 7.4), prior to replacement, and compaction. Cal/OSHA Construction Safety Orders (especially 8 CCR 1539 and 1541) will be followed as appropriate.

7.3 Contaminant Control

In order to minimize potential exposure from fugitive dust to the adjacent properties, dust monitoring, and (if necessary) dust suppression measures will be utilized. Dust suppression measures may consist of spraying water on the excavation area, and other areas susceptible to wind erosion, as further described below. Care will be taken to avoid excessive water application that could cause a non-storm water runoff event at the Site.

7.3.1 Dust/Meteorological Monitoring

Work area perimeter dust sampling and meteorological monitoring will be conducted by the Environmental Consultant (NV5) during remedial excavation activities in accordance with SCAQMD Rule 1466.

The Site air-monitoring professional (NV5) will have the authority to stop work in the event that on-Site activities generate dust levels which exceed the Site or community action levels. The air-monitoring professional will monitor on-Site meteorological instrumentation and/or coordinate with off-Site meteorological professionals to identify conditions that require cessation of work, e.g., winds sustained winds (averaged over a 15-minute period) in excess of 15 miles per hour (mph) or instantaneous wind gusts measured over 25 mph.

7.3.2 Dust Control

As needed, the Contractor will implement appropriate procedures to control the generation of airborne dust by soil removal activities. Such procedures will include but will not be limited to the following:

- Generation of dust during RA construction will be minimized as necessary with the use of water as a dust suppressant. The water will be available via service from the adjacent property, a water truck or a metered discharge from a fire hydrant located proximate to the Site.
- The Contractor will control dust generation by spraying water prior to daily work activities, during excavation/loading activities (as necessary), and at truck staging locations. Watering equipment will be continuously available to provide proper dust control.
- All equipment will be decontaminated prior to leaving the excavation area by dry brushing any visible loose soil and by driving over rumble strips to loosen soil in the truck tire treads. While on the property, all vehicles will maintain slow speeds (i.e., less than 5 miles per hour) for safety purposes and for dust control measures. Efforts will also be made to minimize the soil drop height from the soil handling equipment into the transport trucks, soil bin, or soil staging areas.

The air-monitoring professional will monitor on-Site meteorological instrumentation and/or coordinate with off-Site meteorological professionals to identify conditions that require cessation of work.

7.3.3 Precipitation and Stormwater Management

Due to the area of soil disturbance at the Site (less than one-acre), NV5 understands that a formal Stormwater Pollution Prevention Plan (SWPPP) will not be required. However, stormwater will be managed at the Site using perimeter sandbags and straw waddles.

7.4 Soil Management

The following sections describe how Site soils will be staged and managed during grading activities.

7.4.1 Soil Staging and Storage Operations

Site soils will be excavated and staged throughout the site to reuse as compacted fill at the Site. Site excavation, grading, and compaction activities are planned to be conducted over a brief three to four week period during the initial phase of construction. Generation of soil stockpiles is not planned as part of construction activities. Soil will be spread throughout the Site for staging, then replaced and recompacted within a few days of initial staging.

The staging process will be conducted in a manner to minimize the generation of dust. At the staging areas, excavated soil will be covered with tarps or other proper materials (e.g., plastic sheeting) to prevent any run-on and/or dust generation when grading activities are not be conducted.

Soil storage shall be conducted in accordance with all SCAQMD Rule 1466 requirements and during non-excavation hours or during rain events, excavated and staged soils will be covered with plastic sheeting or other proper materials. Additional field applications may involve installation of a temporary canopy, liner, or other physical barrier that minimizes movement of materials from the Site by wind, water, or any other mechanism.

7.4.2 Soil Stockpile Sampling

Stockpiling of Site soils is not anticipated as part of this project as grading operations will consist mainly of a continuous over-excavation and re-compaction operation lasting about three weeks. Export of excess soil is not anticipated during this project. However, if project conditions require the generation of a stockpile of soil at the Site, each stockpile of excavated soil will be sampled prior to replacement and compaction in accordance with the 2001 DTSC Information Advisory Clean Imported Fill Materials Fact Sheet. One soil sample for every 250 cubic yards of material in a stockpile will be collected for laboratory analysis. As the size of the stockpiles are limited to 400 cubic yards per stockpile by SCAQMD Rule 1466, NV5 anticipates collecting up to two soil samples per stockpile in accordance with the 2011 DTSC advisory. Based on the previously completed Phase I ESA and PEA-E documents, the stockpiled soil will be analyzed for arsenic by EPA method 6020. Soluble Threshold Limit Concentration (STLC) and Toxicity Characteristic Leaching Procedure (TCLP) analysis for arsenic will also be simultaneously conducted on all submitted soil stockpile samples.

Soil having TCLP metal concentrations greater than the corresponding TCLP would be classified as RCRA hazardous waste. Soil having metal concentrations or STLC concentrations corresponding with total threshold limits concentrations (TTLCs) or STLCs, respectively would be classified as non-RCRA (California-listed) hazardous waste.

If the results of the soil analysis for a stockpile indicated that the total arsenic concentrations and the STLC and TCLP concentrations are below RCRA or State of California hazardous waste limits, then the soil will be deemed suitable for use at the Site, reused and recompacted as part of planned construction and grading activities.

If a soil sample containing levels of arsenic or soluble arsenic in excess of hazardous waste criteria are identified in a stockpile, the soil material in that stockpile would be appropriately profiled and shipped off-site for lawful disposal in accordance with applicable regulatory requirements.

7.4.3 Waste Segregation Operations

If soil is designated for disposal based on visual observations, generated laboratory data, or for geotechnical/construction purposes, prior to shipment, the excavated soil will be segregated to the extent possible to avoid any mixture of waste soils and soil deemed acceptable for reuse at the Site. These soils will be appropriately profiled and shipped off-site for lawful disposal in accordance with applicable regulatory requirements.

7.5 Decontamination Methods and Procedures

7.5.1 Decontamination Area

Entry to the work area should be limited to avoid unnecessary exposure and related transfer of arsenic. In unavoidable circumstances, any equipment or truck(s) should be decontaminated in a designated decontamination area before leaving the Site.

7.5.2 Decontamination Procedures

Equipment that comes into direct contact with potentially contaminated soil or water will be decontaminated to assure the quality of samples collected and/or to avoid cross contamination. Disposable equipment intended for one-time use will not be decontaminated but will be packaged for appropriate disposal. Decontamination will occur prior to and after each designated use of a piece of equipment.

Trucks that come into direct contact with potentially contaminated soil or water will be decontaminated before they leave the Site to prevent the off-Site tracking of contaminated soil. Trucks will be visually inspected before leaving the Site, and any dirt adhering to the exterior surfaces will be brushed off and collected on plastic sheeting. The storage bins or beds of the trucks will be inspected to ensure the loads are properly covered and secured. Excavation equipment surfaces will also be brushed off prior to removal from the exclusion zone.

Equipment will be decontaminated in a pre-designated area on pallets or plastic sheeting. Cleaned bulky equipment will be stored on plastic sheeting in uncontaminated areas. Cleaned small equipment will be stored in plastic bags. Materials to be stored more than a few hours will also be covered. Waste material accumulated during decontamination procedures will be collected and properly stored on Site for disposal.

7.6 Transportation Plan for Off-Site Disposal

No soil is anticipated to be transported off-site for disposal. However, if soil requiring export and disposal is generated during construction activities, the Contractor will coordinate transportation and off-Site disposal of all wastes generated during remedial excavation field activities according to local, California, and/or federal laws and regulations. Approval of the waste material profile will be received from the disposal facility before soil is transported off-Site for lawful disposition. Once the disposal facility is confirmed, the soil will be transported for disposal. The haul trucks may be loaded only to the maximum tonnage as authorized by the US Department of Transportation (US DOT) to prevent overloading and avoid weight issues. Off-Site transportation and disposal will typically be conducted during weekdays between 8AM and 5PM.

7.7 Backfill and Site Restoration

Following completion of Site earthwork and grading activities, the Site will be capped with concrete or asphalt pavement (approximately 4 inches thick) or under the footprint of the new Site structure. In areas with Site landscaping, a minimum of 4 feet of clean landscaping material (mulch, topsoil, etc.) will be placed above compacted Site soils containing Arsenic.

7.7.1 Import Material Sampling

Site construction plans indicate that the import of additional soil material may be required to achieve planned grading level elevations or for other geotechnical purposes. Imported soil materials will be sampled prior to transport to the Site in accordance with the 2001 DTSC Information Advisory Clean Imported Fill Material Fact Sheet.

7.7.2 Diversion of Unacceptable Fill Materials

Imported fill soil material will be visually checked for unacceptable materials upon arrival to the Site. If loads containing unacceptable materials (exhibit staining, odors, or detectable VOCs) are dumped, transporters of the unacceptable loads will be stopped before leaving the Site.

Equipment operators will watch for evidence of contaminated imported fill in loads being dumped at the working face. If contaminated soils are found or suspected, the imported fill soils are to be isolated. The hauler of the prohibited materials will be identified, and the Site Manager will be contacted to determine what appropriate actions will be taken.

Segregated improper materials will be removed from the working face immediately. These materials will be reloaded to the transporter's vehicle when possible or stockpiled in an appropriate area for later removal by a properly-licensed waste hauler.

7.7.3 Documentation of Rejected Loads

All loads that enter the Site that are subsequently rejected will be recorded. Data compiled will include when the incident occurred, who the hauler was, why the load was rejected, whether the load was dumped prior to rejection, and what steps were taken to remove the rejected material. Additional data may be recorded as deemed necessary for the particular situation.

A separate area will always be maintained for the storage of unacceptable materials, pending removal by the original transporter or a properly licensed waste hauler.

7.7.4 Site Restoration

Following completion of RA field activities, all drums, bins, trash, and other waste will be removed. Decontamination water and contaminated soil will be transported to an appropriate disposal facility.

Site restoration will include backfilling the excavation areas with site soils in accordance with Site construction/grading plans approved for the Site. After backfill, compaction, and waste disposal (if any) are completed and the Site has been returned to near its original condition, all construction equipment and materials will be removed from the Site.

7.8 Field Documentation and Reporting

NV5 will be responsible for maintaining field notes during Site grading activities. The notes will serve to document observations, personnel on-Site, equipment arrival and departure times, and other vital project information, and will be used in the preparation of the Removal Action Completion Report (RACR).

7.8.1 Field Logbooks

Field logbooks will be used to document where, when, how, and from whom any vital project information was obtained. Daily logbook entries will be complete and accurate enough to permit reconstruction of field activities. Logbooks will be bound with consecutively numbered pages. Each page will be dated and the time of entry noted in military time. All entries will be legible, written in indelible ink, and signed by the individual making the entries. If an error is made, corrections will be made by crossing a line through the error and entering the correct information. Corrections will be dated and initialed. No entries will be obliterated or rendered unreadable.

- Entries in the field logbook will include at a minimum the following for each fieldwork date:
- Site name and address
- Recorder's name
- Team members and their responsibilities
- Time of site arrival/entry on Site and time of Site departure
- Other personnel on Site
- A summary of any on-site meetings
- Quantity of impacted soil excavated
- Quantity of impacted soil temporarily stored on Site (if any)
- Copies or numbers of manifests or other shipping documents (such as bill of lading) for waste shipments
- Deviations from this RAW and the HASP
- Changes in personnel and responsibilities as well as reasons for the changes
- Levels of safety protection
- Calibration readings for any equipment used and equipment model and serial number

7.8.2 Photographs

Photographs will be taken of work areas and other areas of interest on Site during earthwork activities. They will serve to verify information entered in the field logbook. When a photograph is taken, the following information will be written in the logbook or will be recorded in a separate field photography log:

- Time, date, location, and if appropriate, weather conditions
- Description of the subject photographed
- Name of person taking photographs

7.8.3 RACR Report

A report detailing the completion of the earthwork and grading activities will be prepared for submittal to DTSC. The report will document the field activities, dust monitoring and dust suppression activities, and waste disposal (if any). As conditions in the field can vary, it may become necessary to implement modifications to soil management activities as presented in this RAW. These variations will be documented in the final report.

8 VIMMEC SYSTEM INSTALLATION

8.1 VIMMEC System Plans and Basis of Design

As stated in Section 5.2.3, installation of a Vapor Intrusion Mitigation and Migration Engineering Controls (VIMMEC) System beneath the new classroom building is the preferred alternative for this Site. Prior to engagement with the DTSC, a VIMMEC system design was completed by NV5 for SMMUSD. After it was determined that the DTSC would lead the environmental oversight of the Site, NV5 submitted a draft design of the VIMMEC System to the DTSC for initial comment (October 2023).

Initial Correspondence from the DTSC (October 23, 2023) indicated that formal approval of the design would be done through the review and approval of this RAW. Subsequent correspondence in a memorandum from the DTSC (dated December 20, 2023) requested that NV5 should include sufficient basis of design and rationale with the VIMMEC plans. DTSC requested that additional documentation in a formal Basis of Design document should include adequate engineering calculations for the design, sizing, and layout of equipment, collector piping, sampling port, and air intake line spacing, chemical compatibility information of materials specified with the site VOCs, adequate references to industry standards, and equipment specifications and cut-sheets.

As such, NV5 has prepared a separate Basis of Design document for review and approval. The Basis of Design document, including details and an updated revision of the VIMMEC design plans (Dated February 21, 2024) are both included in Appendix C.

8.2 VIMMEC System Installation Summary Report and Operations, Maintenance, Monitoring and Reporting Plan.

Following approval, installation oversight and pre-occupancy sampling of the VIMMEC system, NV5 will prepare a summary report documenting the installation and construction quality control and quality assurance for the VIMMEC system. This summary report will include identification of identified deviations from the approved VIMMEC design (if any). The report will be reviewed and signed by a California Professional Civil Engineer. Preparation and submittal of CQA inspection forms which will include completed copies of vender required inspection forms, photo logs, and materials / specifications sheets shall be included in this submittal.

Following completion of construction activities, a land use restriction will be executed between DTSC and the property owner and recorded to ensure that the VIMMEC system performance is regularly monitored and the integrity of the VIMMEC system components (membrane, ventilation piping, etc.) are adequately maintained.

Following approval of VIMMEC system installation and prior to occupancy, an operation, maintenance, monitoring and reporting (OMM&R) Plan will be submitted and for approval by DTSC. This OMM&R Plan

will present long term stewardship and monitoring requirements for ensuring the integrity and functionality of vapor intrusion mitigation and migration engineering controls for the Site. This OMM&R Plan will be implemented until VIMMECs are no longer necessary to control potential vapor intrusion risk, as determined by the DTSC. This OMM&R Plan will also include a summary of installed engineering controls and a description of inspection, sampling and monitoring events to be conducted at the site including Commissioning Event(s), Full Routine Monitoring Events, Reduced Routine Monitoring Events; and Annual Inspections. The Plan will also include a Contingency Plan detailing instructions for repairs to the VIMMEC system and Conditions warranting conversion from Passive to an Active ventilation system.

9 PROJECT SCHEDULE

The following approximate schedule to complete the proposed scope of work is presented, which will commence after DTSC approval and submittal of Notice to Proceed from SMMUSD. The following schedule is very approximate and subject to change:

1. Earthwork and Site Grading	Weeks 0-4
2. VIMMEC System Installation	Weeks 4-8
3. RACR and VIMMEC System Installation Report	Weeks 8-12
4. VIMMEC System O&M Plan Submittal	Weeks 12-20

Thus, completion of the scope of work is approximately 20 weeks. Additional details regarding VIMMEC system commissioning and subsequent monitoring and inspections tasks will be included in the O&M submittal.

10 REFERENCES

California Department of Toxic Substances Control. Arsenic Strategies, Determination of Arsenic Remediation, Determination of Arsenic Cleanup Goals for Proposed and Existing School Sites. March 21, 2009.

California Department of Toxic Substances Control Human and Ecological Risk Office (HERO). Human Health Risk Assessment (HHRA) Note 11 Southern California Ambient Arsenic Screening Level. December 28, 2020.

California Department of Toxic Substance Control California Environmental Protection Agency – Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance). October 2011.

California Department of Toxic Substance Control Human and Ecological Risk Office - Human Health Risk Assessment Note Number 5, Health-based Indoor Air Screening Criteria for Trichloroethylene (TCE). August 2014.

California Department of Toxic Substance Control Human and Ecological Risk Office - Human Health Risk Assessment Note Number 3, DTSC-modified Screening Levels. Revised May 2022.

California Department of Toxic Substances Control and California State Water Resources Control Board - Supplemental Guidance: Screening and Evaluating Vapor Intrusion – Final Draft. February 2023.

Historic Resources Group, McKinley Elementary School Campus Plan Project. Historical Resources Impact Assessment. Prepared for the Santa Monica-Malibu Unified School District. March , 2023.

Leighton Consulting, Inc., Geotechnical Exploration Report New Classroom Building McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, Los Angeles County, California. Prepared for the Santa Monica-Malibu Unified School District. Dated November 19, 2021.

NV5, Phase I Environmental Site Assessment Report – McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. April 19, 2022.

NV5, Environmental Site Investigation Report – McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. April 27, 2023.

NV5, Soil Vapor Investigation Report – McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. July 19, 2023.

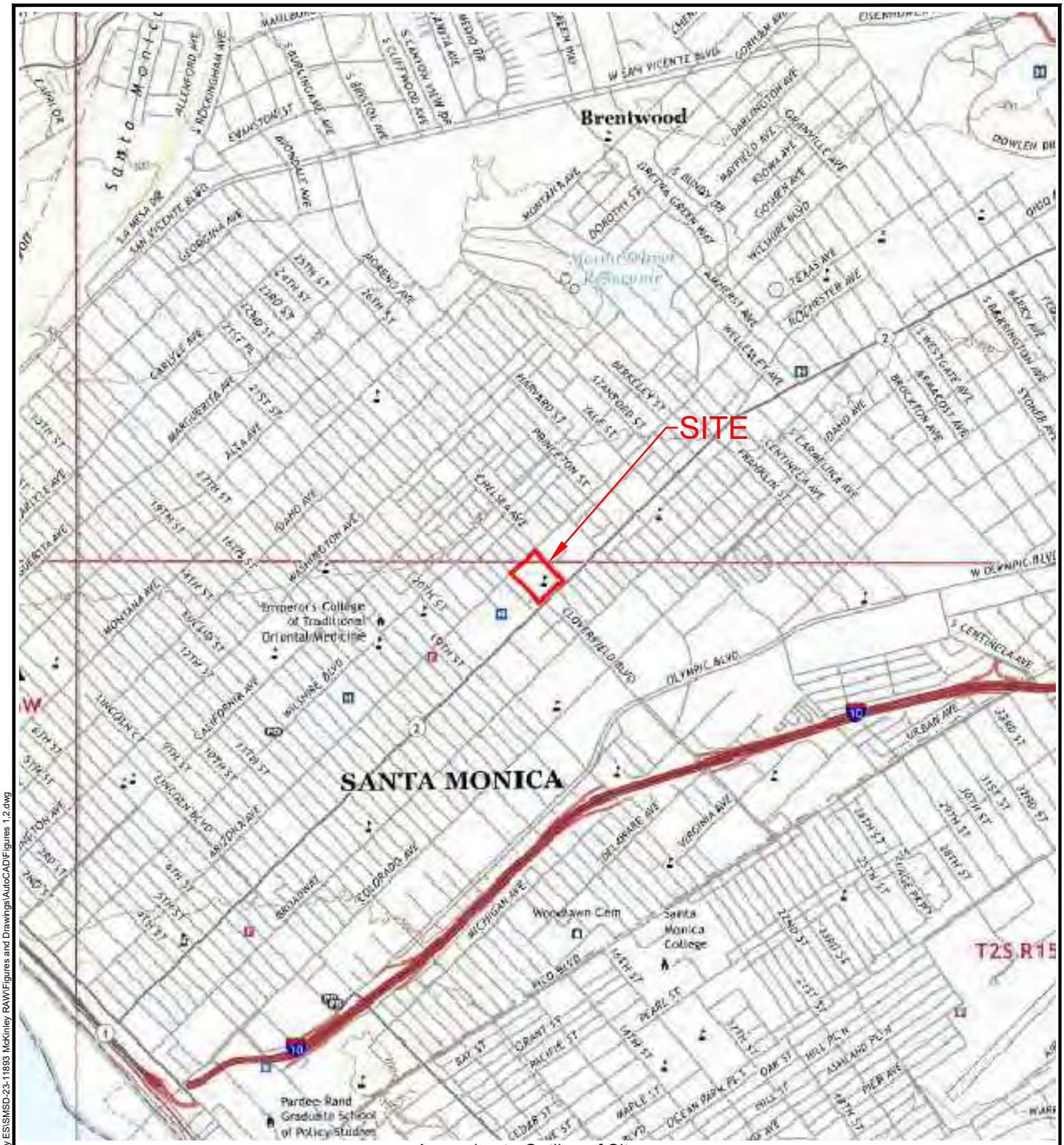
NV5, Step-Out Soil Sampling Report – McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. September 15, 2023.

NV5, Indoor Air Sampling Report - McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. August 16, 2023.

PlaceWorks, Final Environmental Impact Report – McKinley Elementary School Campus Master Plan Project. Prepared for the Santa Monica-Malibu Unified School District. May 2023.

United States Environmental Protection Agency Region IX Regional Screening Level (RSLs) Summary Table. May 2023.

FIGURES



Approximate Outline of Site

FIGURE 1: Site Location Map

CLIENT: Santa Monica-Malibu Unified School District	SITE LOCATION: 2401 Santa Monica Boulevard Santa Monica, California 90404
PROJECT #: SMSD-23-11893	

NV5 ALTA ENVIRONMENTAL

3777 Long Beach Blvd., Annex Bldg.
Long Beach, CA 90807
(562) 495-5777 www.altaenviron.com

DRAWN: ED	APPROVED: EF	NORTH
SCALE: None	DATE: 7/10/2023	

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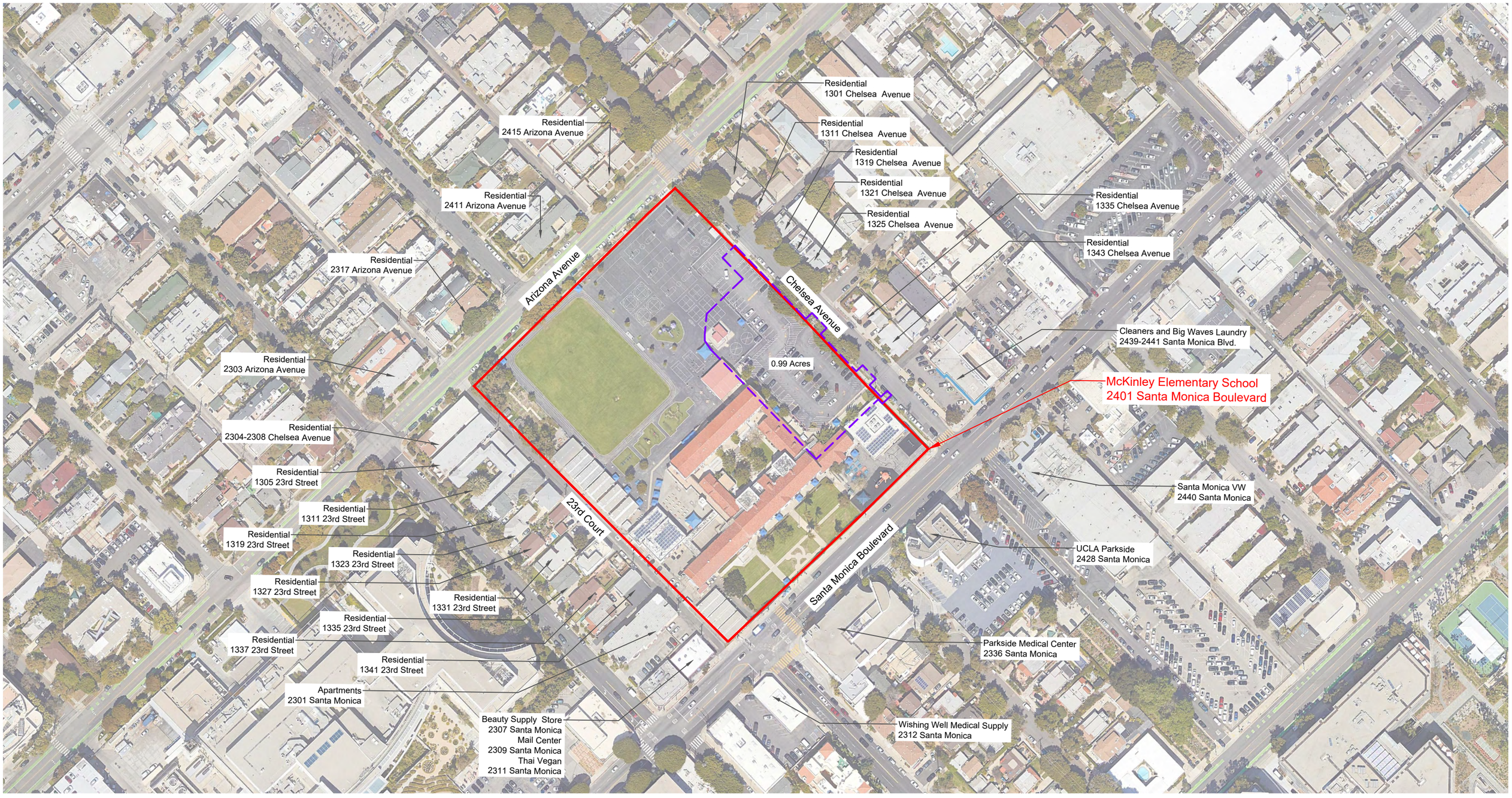


LEGEND:

McKinley Elementary School Campus Boundary

Approximate Project/Site Boundary

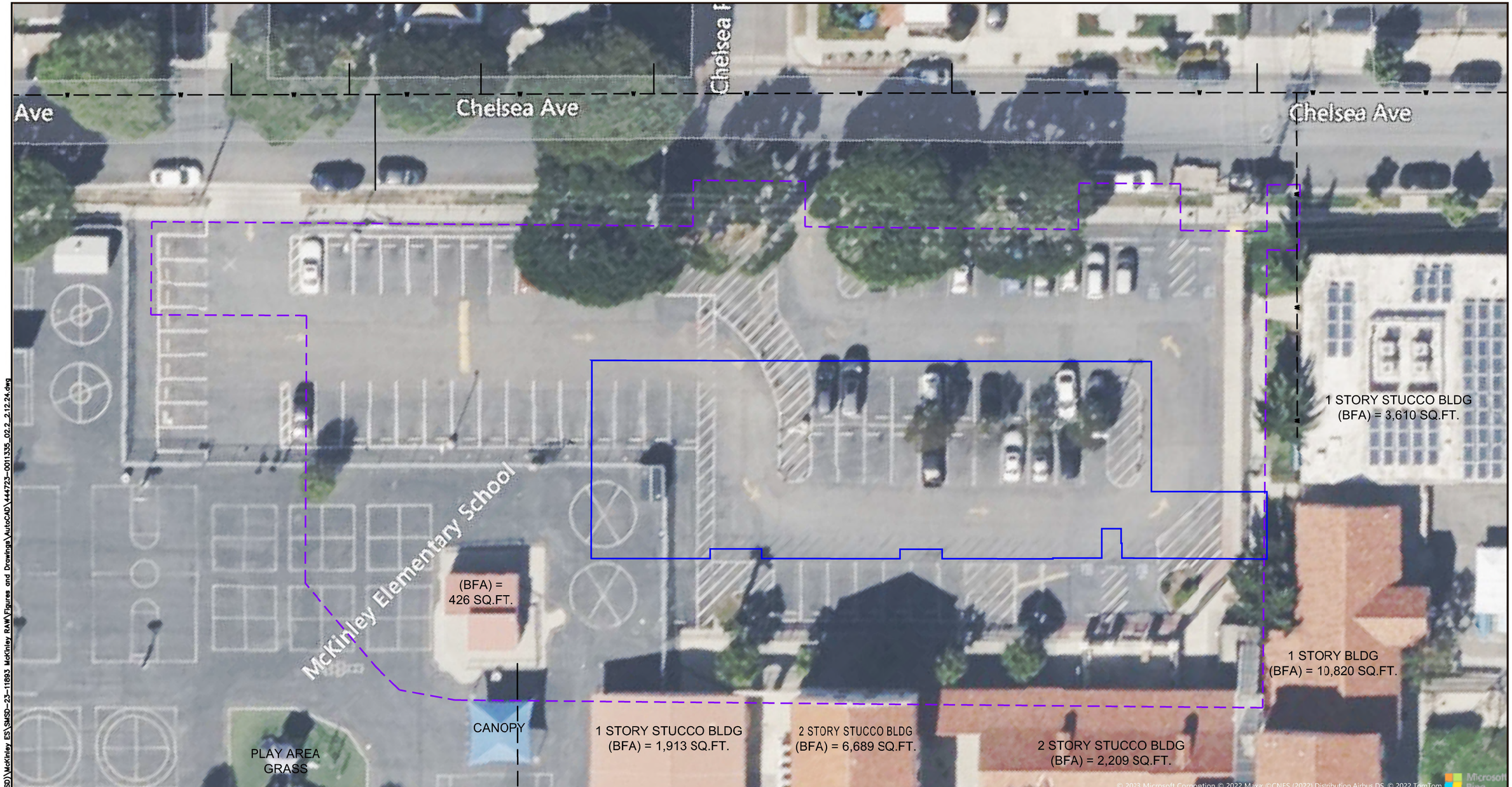
APPX. SCALE:
1" = 150'
0 150' 1"

NORTH

FIGURE 2: Site Vicinity Map

CLIENT: Santa Monica Malibu Unified School District	DRAWN: AHL	APPROVED: EF
	SCALE: NTS	DATE: JULY 2023
SITE LOCATION: McKinley Elementary School 2401 Santa Monica Boulevard Santa Monica, California 90404	NV5 ALTA ENVIRONMENTAL	
PROJECT #: SMSD-23-11893	3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	

W:\Clients N-S\Santa Monica-Malibu USD (SMSD)\McKinley ES\SMSD-23-11893 McKinley RAW\Figures and Drawings\AutoCAD\Figures 1-2.dwg



LEGEND:

Approximate New Structure Outline

Approximate Exterts of Earthwork

APPX. SCALE:
1" = 30'
0 30' 1"

NORTH

FIGURE 3: Site Layout

CLIENT: Santa Monica Malibu Unified School District	DRAWN: PD	APPROVED: EF
	SCALE: 1" = 30'	DATE: JULY 2023
SITE LOCATION: McKinley Elementary School 2401 Santa Monica Boulevard Santa Monica, California 90404	NV5 ALTA ENVIRONMENTAL 3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	
PROJECT #: SMSD-23-11893		

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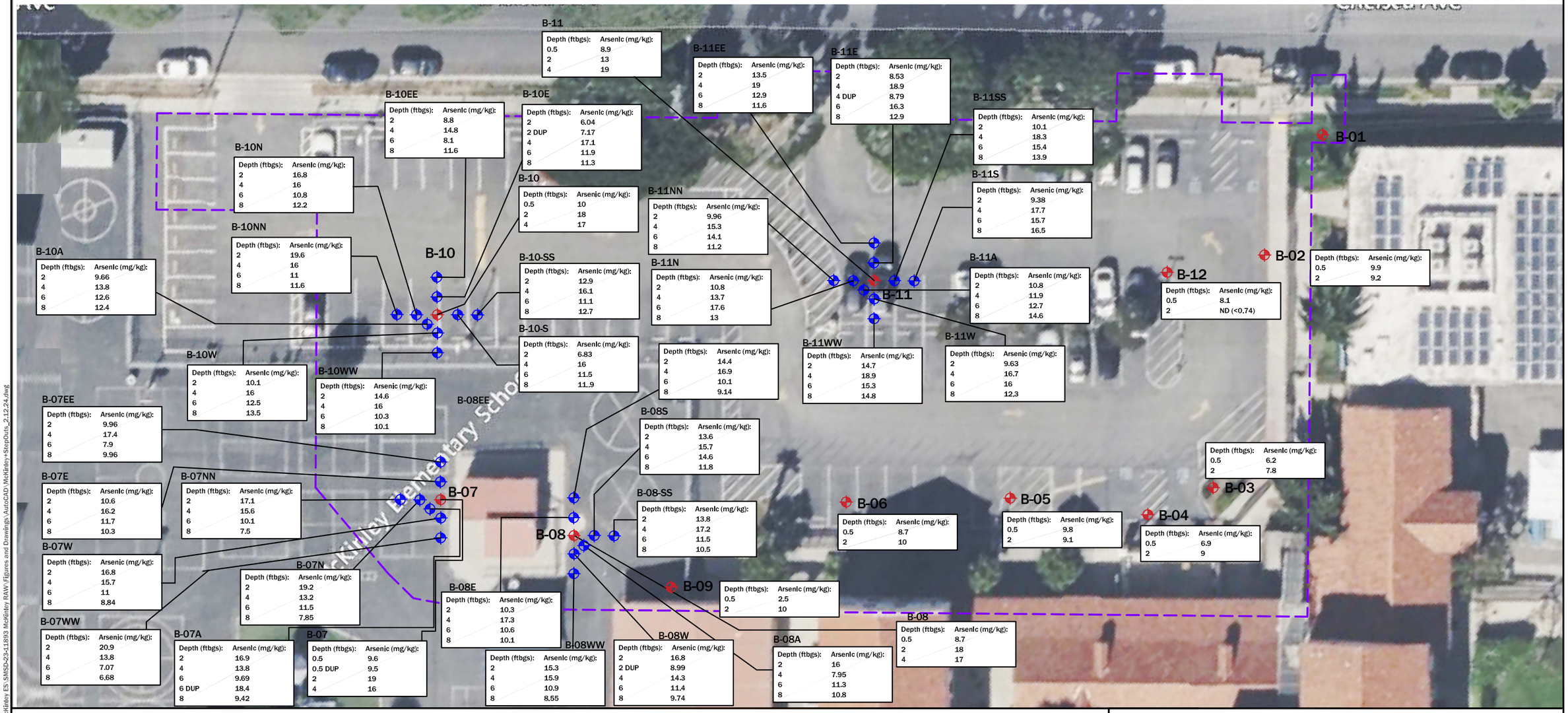

LEGEND:

Approximate Site Boundary

Approximate Location of Step - Out Borings, July 2023

Approximate Location of Previous Soil Borings, February 2023

APPX. SCALE:
1" = 30'
0 1" 30'

NORTH

FIGURE 4: Arsenic Concentrations in Soil

CLIENT: Santa Monica Malibu Unified School District

DRAWN: NS | APPROVED: EF

SCALE: 1" = 30' | DATE: Jan. 2024

SITE LOCATION:
McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, California 90404

PROJECT #: SMSD-23-11893

NV5 ALTA ENVIRONMENTAL
3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807
P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenvIron.com

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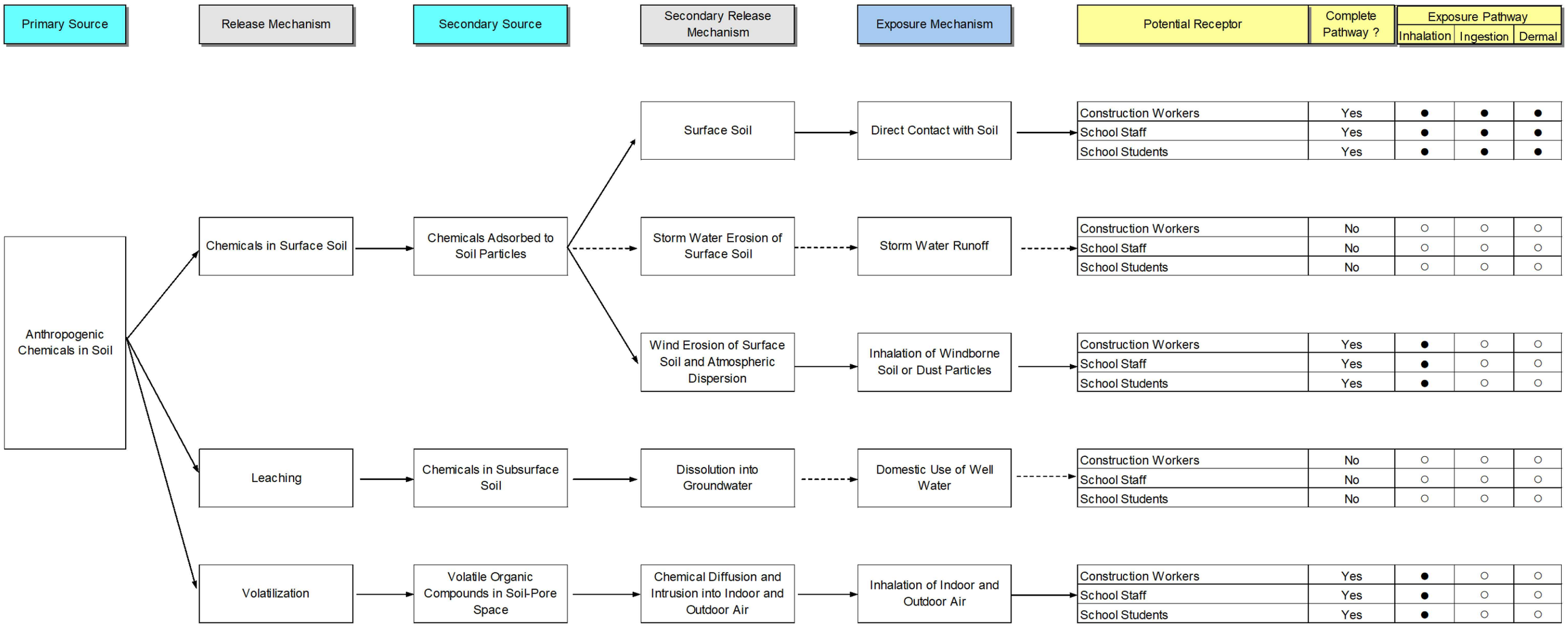

( ) See attached footnotes

Complete chemical migration pathway

Incomplete chemical migration pathway

● Relevant exposure route

○ Irrelevant exposure route

CI Complete but insignificant

FIGURE 5: Conceptual Site Model

CLIENT: Santa Monica
Malibu Unified School District

DRAWN: AHL | APPROVED: EF
SCALE: NTS | DATE: FEB 2024

SITE LOCATION:
McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, California 90404

PROJECT #: SMSD-23-11893

N|V5
ALTA ENVIRONMENTAL
3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807
P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com

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APPENDIX A

Response to DTSC Comments

Response to DTSC Comments – Preliminary Environmental Assessment Equivalent Determination
McKinley Elementary School,
Santa Monica, California

COMMENT NO.	COMMENT	RESPONSE
Comments - Lina Hijazi, DTSC Project Manager		
1	Section 6, Conclusions and Recommendations, Page 11 of the Soil Vapor Investigation Report (July 19, 2023): The PEA states: "The results of the VIRE indicated that the calculated non-carcinogenic and carcinogenic risks associated with potential subsurface vapor intrusion exceeded acceptable regulatory limits. Design and installation of a vapor intrusion mitigation system (VIMS) along with adequate ventilation is recommended for future structures at the Site". Installing a vapor intrusion mitigation system (VIMS) at the Site is considered a remedy that should be addressed in a removal action workplan (RAW) or remedial action plan (RAP). DTSC will review and provide feedback on the VIMS design that was submitted via email on October 10, 2023, but will approve later as part of the RAW/RAP.	Comment noted. DTSC's comments to the previously submitted VIMS design has been incorporated and the revised VIMS design resubmitted as part of the RAW.

COMMENT NO.	COMMENT	RESPONSE
2	Section 5, Statistical Data Evaluation, Page 6 of the Step-Out Soil Sampling Report (September 15, 2023): The PEA states: "Due to the prevalence of naturally occurring arsenic of varying concentrations in Southern California soils, the DTSC developed the January 16, 2009 Arsenic Strategies, Determination of Arsenic Remediation, Development of Arsenic Cleanup Goals guidance document […] NV5 engaged a board-certified toxicologist (Enviro-Tox) to conduct a statistical evaluation of the arsenic data to determine the upper limit of local arsenic background concentration at the Site. In accordance with Guidance Document, all available soil arsenic data for the Site, including the concentrations of arsenic detected in soil samples collected during the initial assessment in February 2023, were included in the statistical analyses". And Section 6, Conclusions and Recommendations, Page 7 of the Step-Out Soil Sampling Report (September 15, 2023): The PEA states: "The results of the statistical data evaluation determined that the upper bound soil arsenic background concentration at the Site is 22.15 mg/kg, which is greater than all detected concentrations of arsenic at the Site. The results of the statistical analysis indicated that all soil arsenic concentrations identified for the Site are within ambient, background concentrations and not the result of a past release. Therefore, no further assessment is recommended". Concentrations detected at shallow depths (0.5 to 4 feet bgs) were included in the statistical analysis. Shallow depth concentrations should not be used in such analysis as they do not represent background levels. The statistical analysis should be revised and background concentration re-calculated. Alternatively, the upper bound ambient level of arsenic in Southern California of 12mg/kg can be used as the cleanup level, and excavation of impacted soil should be addressed in the RAW/RAP. Subsequently, confirmation samples should be collected at the four impacted areas after excavation.	The statistical evaluation of arsenic in soil data was reevaluated using only data collected from 6 and 8 feet bgs. This evaluation (dated November 2, 2023) is attached for reference. The results of the revised evaluation indicated that the 95 percent upper confidence limit (UCL) of the 99th quartile of the arsenic data set concentration at the Site is 17.93 milligram per kilogram (mg/kg). Please note that this concentration is also above the DTSC's established upper bound ambient level of arsenic in Southern California of 12 mg/kg.

COMMENT NO.	COMMENT	RESPONSE
Comments – Joe Hwong, P.G., DTSC Senior Engineering Geologist		
1	DTSC concurs that the indoor and ambient air samples are similar maybe due to regional air quality issue.	Comment noted. No response necessary.
2	Based on the soil vapor investigation results, PCE was detected exceeding the DTSC screen level. Although, detected PCE may be from an offsite source, DTSC recommends a soil gas mitigation may be required for the new buildings at the Site.	A VIMS system for the new building at the campus will be proposed in the pending RAW/RAP.
3	The consultant determined the arsenic background concentration is 22.15 mg/kg for the Site. Based on the soil data, arsenic was detected ranged from 2.5 – 9.9mg/kg at 0.5' bgs; 6.83 – 20.9 mg/kg at 2' bgs; 7.95 – 19 at 4' bgs; 7.07 – 18.4mg/kg at 6' bgs; and 6.68 – 16.6 mg/kg at 8' bgs. Soil samples collected from0.5', 2', and 4' bgs should not be used for background concentration calculation due to the shallow soil is easily got disturbed from historical activities. DTSC recommends the arsenic background concentration be re-calculated to determine a new background concentration. I will refer this comment to a DTSC Toxicologist for her/his determination.	The statistical evaluation of arsenic in soil data was reevaluated using only data collected from 6 and 8 feet bgs. This evaluation (dated November 2, 2023) is attached for reference. The results of the revised evaluation indicated that the 95 percent upper confidence limit (UCL) of the 99th quartile of the arsenic data set concentration at the Site is 17.93 milligram per kilogram (mg/kg). Please note that this concentration is also above the DTSC's established upper bound ambient level of arsenic in Southern California of 12 mg/kg.

COMMENT NO.	COMMENT	RESPONSE
General Comments – Brian Estrella, Ph.D., DTSC Staff Toxicologist		
1	**Characterization of Contamination at the Site**: HERO defers to DTSC's Geological Services Branch (GSB) to ensure that contamination at the site has been adequately delineated, laterally, and vertically, for soil and soil vapor. As noted above, previous investigations at the site indicate that PCE concentrations in soil vapor increases with depth (5 to 15ft-bgs) and decreases laterally in an east to west direction across the Site. Concentrations of benzene, bromodichloromethane, chloroform, dibromochloromethane, and ethylbenzene appears to decrease with depth.	Comment noted. No response necessary.

COMMENT NO.	COMMENT	RESPONSE
2	**Arsenic in Soil Sample:** A review of the "*Environmental Site Investigation Report, McKinley Elementary School at 2401 Santa Monica Boulevard"* report indicates that arsenic concentrations ranged from 2.5 mg/kg to 19 mg/kg. Samples B7-2, B7-4, B8- 2, B8-4, B10-2 B10-4, B11-2, B11-4 exceeded 12 mg/kg which is the upper bound ambient level of arsenic in Southern California. Further surface soil sampling for arsenic was recommended for arsenic-impacted soil. Step-out sampling was performed in July 2023 to further characterize arsenic concentrations on the Site. The 95 percent upper confidence limit (UCL) of the 99th quartile of the arsenic data set concentration at the Site is 22.15 mg/kg which exceeds the upper-bound arsenic concentration of approximately 12mg/kg for Southern California. In Section 6.0 (page 7) of the *Step-Out Soil Sampling Report* it states, "*All soils within the boundaries of the Site are currently, and following completion the proposed construction activities will be, covered by a building structure or asphalt or concrete pavement thereby eliminating any potential exposure pathways to future occupants of the Site*". HERO defers to DTSC's management to ensure that the cover is maintained and that DTSC is notified prior to any intrusive work that may disturb the ground cover. A soil management plan (SMP) may be needed to ensure that arsenic contaminated soils are handled in a manner that is protective of human health and the environment, during future construction and/or renovation activities.	Comment noted. A SMP has been included in the RAW.
3	**Conceptual Site Model (CSM)**: HERO recommends the development of a CSM for the site. This should include identification of the primary and secondary sources of contamination at the site, the potential fate and transport pathways, various media that may be affected by the contamination, all potential receptors (school children, schoolteacher/staff, and construction workers) at the site under current and future use conditions, and finally the routes and pathways of exposure.	An exposure CSM has been included in the revised HHRA.
4	**Screening Levels:** For future reference, the USEPA Regional Screening Levels (RSL) (https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables) were updated in May 2023. In the *McKinley Soil Vapor Investigation* report November 2022 version of the RSL tables were used for reference values (See Section 4.2).	Comment noted. No response necessary.
5	**Attenuation Factor for the Soil Vapor Intrusion Pathway**: DTSCs Vapor Intrusion Guidance recommends using an attenuation factor of 0.03 for the vapor intrusion pathway. The risk assessment for the vapor intrusion pathway was conducted using attenuation factors (AFs) of 0.03 and 0.001. HERO defers to DTSC's Project Management to determine which attenuation factor is more appropriate for the Site based on a multiple lines of evidence approach.	Comment noted. No response necessary.

COMMENT NO.	COMMENT	RESPONSE
6(a)	**Screening Level Human Health Risk Assessment (SL-HHRA)**: […] HERO request several changes for the risk assessment in Appendix D of *McKinley Soil Vapor Investigation Report* (pages 217 to 243): **(a)** Please incorporate soil vapor results collected in February, 2023 from the *Environmental Site Investigation Report* into the risk assessment. Excluding these results (samples SV-1, SV-2, and SV-3) from the risk evaluation leads to an underestimation of cumulative cancer risk and hazard. For example, in the *Environmental Site Investigation Report*, the maximum soil vapor concentration of benzene was reported to be 751 µg/m^3 (SV-3-5). In the supplementary investigation (July 2023) the maximum benzene concentration was 25 µg/m^3 (SV-4-5). Similarly, ethylbenzene (SV-3-5) was detected at a maximum concentration of 702 µg/m^3 in a sample collected in Feb, 2023 (see ESI report dated April 27,2023) compared to that in the supplemental report (ethylbenzene at SV-4-5 was 111 µg/m^3), with the latter used in the risk assessment.	Soil gas concentrations obtained from the *Environmental Site Investigation Report* (Feb. 2023) and the *Supplemental Investigation* (July 2023) will be combined and the maximum detected concentrations reported from both reports will be used for risk assessment purposes. A revised VIRE is attached.
6(b)	Screening Level Human Health Risk Assessment (SL-HHRA): […] HERO request several changes for the risk assessment in Appendix D of *McKinley Soil Vapor Investigation Report* (pages 217 to 243): **(b)** Bromodichloromethane, dibromochloromethane, and chloroform in soil vapor samples all exceed their respective SLs in the first assessment (ESI report dated April 27,2023). These VOCs were not reported to be detected in the supplemental July 2023 report but should still be included in the risk assessment. The maximum concentration for both combined studies should be used for risk assessment purposes.	Soil gas concentrations obtained from the *Environmental Site Investigation Report* (Feb. 2023) and the *Supplemental Investigation* (July 2023) will be combined and the maximum detected concentrations reported from both reports will be used for risk assessment purposes. A revised VIRE is attached.
7	**Offsite Soil Vapor Sampling**: HERO defers to GSB and DTSC management to determine whether an offsite investigation should be initiated to determine the source of VOC in soil vapor. The report demonstrates that chlorinated solvent contamination is most likely originating from the dry-cleaning facility and petroleum hydrocarbon contamination may have originated from the automotive repair shop adjoining the site property. However, there is no definitive evidence identifying the source of contamination.	Comment noted. No response necessary.
8	**Indoor Air Sampling**: HERO concurs with the recommendation for future sampling on page 10 of *The Indoor Air Sampling Report* which states, "*To account for seasonal fluctuations, the next sampling event should be conducted in the late fall or winter*".	Comment noted. No response necessary.
9	**Indoor Air Sampling HHRA-SL:** HERO requests that the data collected and analyzed in *The Indoor Air Sampling Report* be included in the HHRA to determine cumulative risk for the Site.	The indoor air quality data to be collected will be included in future risk assessment evaluations to determine cumulative risks and hazards for the Site.

COMMENT NO.	COMMENT	RESPONSE
Specific Comments - Brian Estrella, Ph.D., DTSC Staff Toxicologist		
1	**Table 1:** Table 1 of the *McKinley Soil Vapor Investigation* report uses µg/kg as the unit for reporting soil concentrations. For consistency use the same units in tables for reporting soil concentrations (mg/kg). *The McKinley Environmental Assessment Report* used mg/kg.	Reports and tables listing soil concentrations will use consistent and uniform concentrations units.
2	**Section 4.2.2:** In section 4.2.2 (page 7) of the *McKinley Soil Vapor Investigation Report*, the text states, "All 21 detected concentrations of PCE (54 to 2470 µg/m^3)". The maximum concentration of PCE in Table 2 is 2,600 µg/m^3 (SV-13-15V).	The maximum detected concentration of PCE reported in Section 4.2.2 was incorrect. The maximum detected concentration of PCE in soil vapor was 2,600 µg/m^3 (SV-13-15V). The correct maximum concentration of PCE detected during this assessment will be reported on future submittals.
3	**Section 5.2.2:** Regarding references to Proposition 65 and California's AB2588 Toxic Hot Spot Program in Section 5.2.2 of the *McKinley Soil Vapor Investigation Report*, please note that USEPA and DTSC's point of departure for the risk management range is 1x10^{-6} and it is a site-specific decision to potentially allow for contamination above this level to remain at a site.	Comment noted. No response necessary.

ENVIRO-TOX services, inc.

Technical Memorandum

Date: November 2, 2023

To: Mr. Eric Fraske
Senior Engineer III
NV5
3777 Long Beach Boulevard, Annex Building
Long Beach, California 90807

From: Heriberto Robles, Ph.D., D.A.B.T.

Subject: ***Statistical Analysis of Soil Arsenic Data Collected at Depths of 6 and 8 Feet***
McKinley Elementary School
Santa Monica, California

At the request of NV5, Enviro-Tox Services, Inc. (Enviro-Tox) conducted a statistical analysis of soil arsenic data collected at depths of six and eight feet below ground surface (bgs) at the McKinley Elementary School. The McKinley School is located at 2401 Santa Monica Boulevard in Santa Monica, California (the Site). The objective of the statistical analyses was to determine the upper limit concentration for naturally occurring arsenic within the soil layer defined by soil samples collected at depths of six and eight feet bgs. At the request of the California Department of Toxic Substances Control (DTSC; 2023), only soil arsenic data collected at six and eight feet bgs (Table 1) were included in the statistical analyses.

The purpose of the statistical analysis was to determine the upper limit background concentration of arsenic in soil within the targeted soil layer. The statistical methods used in the data evaluation were taken directly from the guidance for setting arsenic soil cleanup goals (DTSC, 2009). The first objective of the statistical analysis is to determine if the soil arsenic data are likely to be drawn from the same population (i.e., all samples collected from a non-contaminated site). For this type of analysis, the DTSC recommends to "construct a table showing the frequency of detection, range of detected values, range of sample quantitation limits, arithmetic means, standard deviations, and coefficients of variation. Typically, data drawn from just one population will display a range of detected values of no more than 2 orders of magnitude and a coefficient of variation of no greater than 1. When either of these conditions is not met, one must suspect that values representative of contamination have been included in the population" (DTSC, 1997, Section 4.3, page 4). The table recommended by the DTSC has been constructed for this analysis and is presented below.

Statistical Parameter	**Arsenic**
Number of Samples	65
Detection Frequency	100%
Minimum detected value	6.68 milligrams per kilogram (mg/Kg)
Maximum detected value	18.40 mg/Kg
Mean concentration	11.74 mg/Kg
First quartile (Q1)	10.10 mg/Kg

Median	11.50 mg/Kg
Third quartile (Q3)	12.90 mg/Kg
Standard deviation	2.51
Coefficient of variation	0.21
Order of magnitude difference between minimum and maximum value	0.44

The next step in the analysis was to determine whether there are any data that are outside the norm (possible outliers). The potential presence of outliers in the data was evaluated using a "Fourth Spread" analysis as recommended by DTSC (2009). The Fourth Spread (Fs) of the soil arsenic data was obtained using the following formula:

$$Fs = (Q3 - Q1)$$

Where:

Fs	=	Fourth spread (mg/Kg)
Q3	=	Third quartile (mg/Kg)
Q1	=	First quartile (mg/Kg)

The estimated Fs for the soil arsenic data is 2.80 mg/Kg.

Outliers for the upper bound of the site-specific soil arsenic concentration are defined as:

All data points greater than Q3 + [1.5 x Fs]

or

12.90 mg/Kg + [1.5 x 2.80 mg/Kg] = 17.10 mg/Kg

According to these calculations, any soil arsenic concentrations higher than 17.10 mg/Kg are considered to be outliers. There are only two samples containing arsenic at concentrations higher than 17.10 mg/Kg. The two samples and their concentrations are B11N-6 with a concentration of 17.6 mg/Kg and B07A-6 DUP with a concentration of 18.40 mg/Kg.

In an effort to determine whether soil arsenic concentrations in soils are, in fact, derived from more than one distinct population, outliers were also identified by constructing a cumulative probability plot. According to the DTSC (1997) guidance, inflections or breaks in the cumulative plot line generally indicate the potential presence of soil arsenic contamination. The probability plot is presented in Figure 1. As can be seen in the figure, the estimated Upper Background Concentration correlates well with the break seen in the probability plot.

Now that the presence and concentration of outliers has been identified, a statistically derived background metal concentration can be calculated by estimating the 95 percent upper confidence limit of the 99th quartile of the data set (DTSC 2009). For this exercise, all outlier values were removed and only soil data considered to be representative of ambient, background concentrations were included.

The upper limit, background soil arsenic concentration can be calculated by estimating the 95 percent upper confidence limit of the 99th quartile of the data set (DTSC, 2009). The upper limit of the data set can be estimated according to the following equation (DTSC, 2009):

$$UL_{1-\alpha}(x_p) = x + sK_{1-\alpha,p}$$

Where:

$UL_{1-\alpha}(x_p)$	=	The upper limit of the data set
x	=	Mean of the data set
s	=	Standard deviation of the mean
$K_{1-\alpha,p}$	=	Statistical tolerance factor for estimating an upper 100(1-α) confidence limit on the pth quartile (2.807, from Table A3, Gilbert, 1987).

Using the above equation and parameters, the 95 percent upper confidence limit of the 99th quartile of the data set was estimated to be 17.93 mg/Kg.

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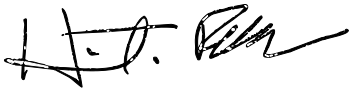
Attachments

Figure 1 – Arsenic Probability Plot

Table 1 – Soil Arsenic Data Summary

This memorandum was prepared by:

Enviro-Tox Services, Inc.



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Heriberto Robles, Ph.D., D.A.B.T.
Principal Toxicologist

FIGURE

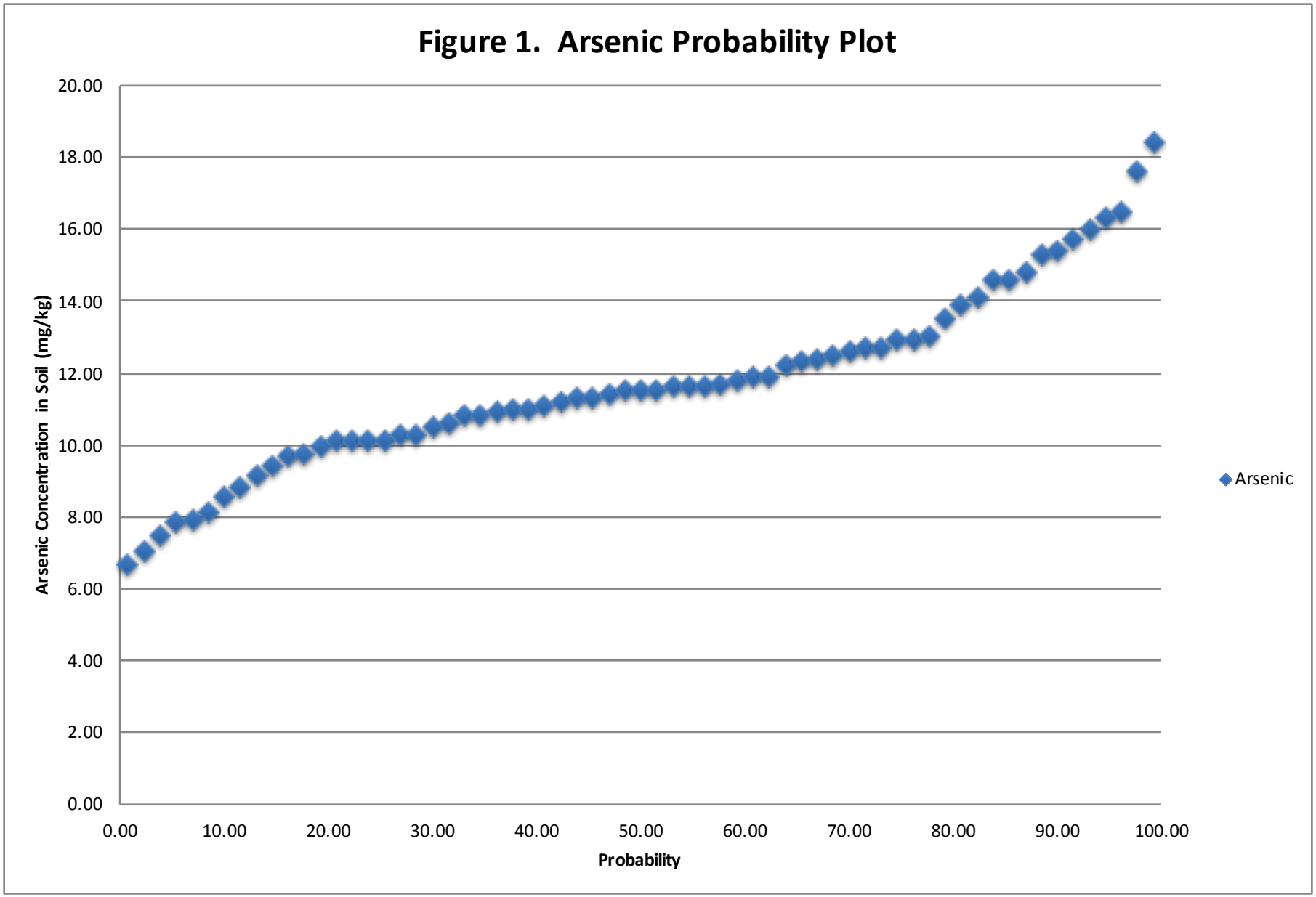
Figure 1. Arsenic Probability Plot
Arsenic Concentration in Soil (mg/kg)
20.00
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
Probability
Arsenic

TABLE

Table 1
Soil Arsenic Data Collected at Depths of 6 and 8 Feet
McKinley Elementary School
2401 Santa Monica Boulevard, Santa Monica, California

Sample ID	Sample Date	Sample Depth (ftbgs)	Arsenic (mg/kg)
B07A-6	7/25/23	6	9.69
B07A-6 DUP	7/25/23	6	18.4
B07A-8	7/25/23	8	9.42
B07E-6	7/25/23	6	11.7
B07E-8	7/25/23	8	10.3
B07EE-6	7/25/23	6	7.9
B07EE-8	7/25/23	8	9.96
B07N-6	7/25/23	6	11.5
B07N-8	7/25/23	8	7.85
B07NN-6	7/25/23	6	10.1
B07NN-8	7/25/23	8	7.5
B07W-6	7/25/23	6	11
B07W-8	7/25/23	8	8.84
B07WW-6	7/25/23	6	7.07
B07WW-8	7/25/23	8	6.68
B08A-6	7/25/23	6	11.3
B08A-8	7/25/23	8	10.8
B08E-6	7/25/23	6	10.6
B08E-8	7/25/23	8	10.1
B08EE-6	7/25/23	6	10.1
B08EE-8	7/25/23	8	9.14
B08S-6	7/25/23	6	14.6
B08S-8	7/25/23	8	11.8
B08SS-6	7/25/23	6	11.5
B08SS-8	7/25/23	8	10.5
B08W-6	7/25/23	6	11.4
B08W-8	7/25/23	8	9.74
B08WW-6	7/25/23	6	10.9
B08WW-8	7/25/23	8	8.55
B10A-6	7/26/23	6	12.6
B10A-8	7/26/23	8	12.4
B10E-6	7/26/23	6	11.9
B10E-8	7/26/23	8	11.3
B10EE-6	7/26/23	6	8.1
B10EE-8	7/26/23	8	11.6
B10N-6	7/26/23	6	10.8
B10N-8	7/26/23	8	12.2
B10NN-6	7/26/23	6	11
B10NN-8	7/26/23	8	11.6
B10S-6	7/26/23	6	11.5

Table 1
Soil Arsenic Data Collected at Depths of 6 and 8 Feet
McKinley Elementary School
2401 Santa Monica Boulevard, Santa Monica, California

Sample ID	Sample Date	Sample Depth (ftbgs)	Arsenic (mg/kg)
B10S-8	7/26/23	8	11.9
B10SS-6	7/26/23	6	11.1
B10SS-8	7/26/23	8	12.7
B10W-6	7/26/23	6	12.5
B10W-8	7/26/23	8	13.5
B10WW-6	7/26/23	6	10.3
B10WW-8	7/26/23	8	10.1
B11A-6	7/25/23	6	12.7
B11A-8	7/25/23	8	14.6
B11E-6	7/25/23	6	16.3
B11E-8	7/25/23	8	12.9
B11EE-6	7/25/23	6	12.9
B11EE-8	7/25/23	8	11.6
B11N-6	7/25/23	6	17.6
B11N-8	7/25/23	8	13
B11NN-6	7/25/23	6	14.1
B11NN-8	7/25/23	8	11.2
B11S-6	7/25/23	6	15.7
B11S-8	7/25/23	8	16.5
B11SS-6	7/25/23	6	15.4
B11SS-8	7/25/23	8	13.9
B11W-6	7/25/23	6	16
B11W-8	7/25/23	8	12.3
B11WW-6	7/25/23	6	15.3
B11WW-8	7/25/23	8	14.8

Notes:
All concentrations are reported in milligrams per kilogram (mg/kg)
Sample depths are reported in feet below ground surface (ftbgs)
ND: Not detected above the reported laboratory method detection limit
DUP: Duplicate sample

ENVIRO-TOX services, inc.

Technical Memorandum

Date: December 10, 2023

To: Mr. Eric Fraske
Senior Engineer III
NV5
3777 Long Beach Blvd., Annex Building
Long Beach, California 90807

From: Heriberto Robles, Ph.D., D.A.B.T.

Subject: ***Vapor Intrusion Risk Evaluation***
McKinley Elementary School – New Classroom Building
2401 Santa Monica Boulevard
Santa Monica, California

At the request of NV5, Enviro-Tox Services Inc. (Enviro-Tox) conducted a Vapor Intrusion Risk Evaluation (VIRE) for the McKinley Elementary School property located at 2401 Santa Monica Boulevard in Santa Monica, California (the Site). The purpose of the VIRE was to assess whether the presence of volatile organic compounds (VOCs) detected in soil gas under the Site could pose a potential health risk or hazard to onsite receptors at the school site.

Background

Previous environmental investigations conducted at the Site by NV5 (2023a) revealed the presence of VOCs in soil gas at the Site. The most likely source of the VOCs identified in soil gas appears to be an unknown off-site source located to the northeast of the Site. In February 2023, NVE installed temporary dual-nested soil gas probes (at the depths of 5 and 15 feet below ground surface [bgs]) at three locations in the eastern portion of the Site (NV5, 2023a). Analysis of soil gas samples collected from these three locations identified the presence of several VOCs in excess of established human health screening levels (Table 1).

Based on the results of the initial February 2023 sampling, NV5 installed dual-nested soil gas probes (5 and 15 feet bgs) at ten locations throughout the Site in June 2023. The laboratory results from the soil gas sampling conducted during this event, presented on Tables 2 and 3, also identified concentrations of several VOCs in excess of human health screening levels (NV5, 2023b). This VIRE used soil gas data collected from depths of 5 and 15 feet below ground surface (bgs). Soil gas data has not been collected from deeper depths at the time of this evaluation.

The approach used in this screening evaluation was based on United States Environmental Protection Agency (USEPA) and California Department of Toxic Substances Control (DTSC) guidance for conducting human health risk assessments. This evaluation has incorporated conservative (health-protective) assumptions in evaluating potential exposures, so that potential health impacts from chemical exposures could be evaluated and not underestimated.

For the purpose of this risk evaluation and in accordance with DTSC's Preliminary Endangerment Assessment (PEA) Guidance Manual (2015), the potential risks are calculated based on a hypothetical residential land-use scenario, regardless of the current and future use and zoning for the site.

It is conceivable that VOCs detected in soil gas under the Site may escape to the surface. Thus, the chemical volatilization and eventual escape into ambient air is considered to be a potential exposure pathway for future onsite receptors. Vapor intrusion occurs when VOCs from contaminated soil gas migrate upwards toward the ground surface and into overlying buildings through gaps and cracks in foundation slabs. The route VOCs take from a subsurface source to the air inside a building is referred to as the vapor intrusion pathway.

Vapor Intrusion Risk Evaluation Methodology

Risk characterization involves estimating the magnitude of the potential adverse health effects that could occur due to chronic, long-term exposure to chemicals identified in soil gas at the Site. The risk characterization is based on the results of the dose-response (toxicity) and exposure assessment.

It is known that chemicals may migrate through environmental media from their source to a point where human receptors may be exposed. Therefore, it was necessary to determine if the detected VOCs – given their residual concentrations, locations, soil physical characteristics, weather conditions, etc. – could potentially migrate up to the surface (where human receptors may be exposed).

Screening-level emission estimation methods were used to predict potential indoor and outdoor air chemical concentrations that may result from the flux of chemical vapors potentially released from soil gas sources detected under the Site. The estimated flux and indoor or outdoor air concentrations were then used to evaluate potential health risks that may result from exposures that could occur at the Site.

California DTSC guidance recommends that multiple lines of evidence be used when evaluating the potential risk and hazards posed by vapor intrusion. DTSC recommends that the indoor air chemical concentrations that can result from vapor intrusion be estimated using the following equation:

$$AF = \frac{C_{indoor}}{C_{soil\ gas}}$$

Where:

AF	=	Attenuation factor (unitless)
C_{indoor}	=	Indoor air concentration (micrograms per cubic meter [ug/m^3])
$C_{soil\ gas}$	=	Soil gas concentration (ug/m^3)

Using the above equation, the indoor air chemical concentration can be estimated by multiplying the known soil gas concentration by the default attenuation factor (AF). In this VIRE maximum detected soil gas concentrations were used as representative of prevailing soil gas concentrations under the Site.

In accordance with DTSC (2011) guidance, the default AF for future residential sites (0.001) was used in this VIRE along with the detected subsurface concentrations. The default AF of 0.001 was used to evaluate volatilization and vapor intrusion for all sampling depths evaluated in this VIRE. The DTSC default AF reflects reasonably protective assumptions for conditions in California for the

contamination of indoor air due to vapor intrusion (DTSC, 2011). However, DTSC (2023) also recommends that risk assessments evaluate vapor intrusion using the USEPA default AF of 0.03 (USEPA, 2015).

The AF of 0.03 was developed by the USEPA for the evaluation of sub-slab soil gas data (https://www.epa.gov/vaporintrusion/visl-users-guide). The AF of 0.03 assumes the source of contamination is located directly under the floor slab of the building. However, soils have the capacity to reduce vapor flow in the subsurface. The vapor flow mitigating capacity of soils is directly proportional to the depth of the soil layer that separates the building from the source of VOCs. Specifically, the soil's combined physical, chemical and/or lithological properties act to reduce or limit the migration of VOCs through the soil's pore spaces (Little, Daisey, and Nazaroff, 1992). The natural ability of soils to reduce vapor migration is not taken into consideration when the AF of 0.03 is assumed.

The model assumes that the concentrations in indoor air are proportional to the flux throughout the soil column, and that a gas infiltrating into the building through the foundation floor is uniformly and instantaneously mixed within the air space above the lowest occupied floor of the building. Because this model ignores a number of possible mitigating factors, it is likely that it over-predicts the chemical flux to indoor air. However, because of its simplicity, this approach provides a simple method to estimate the likely maximum rate at which chemicals would be transported to the surface soils and into a building.

The indoor air chemical concentrations estimated to result from the volatilization of VOCs could be considered to represent a "worst-case" estimate. In the calculations, it was assumed that single chemical compounds are volatilizing, traveling alone through the vadose zone and escaping to ambient air. In reality, all chemicals detected at the Site are competing with each other for available soil-pore space. Chemical volatilization and migration is limited by the vapor saturation in the vadose zone. Indoor air VOC concentrations estimated using the AFs of 0.03 and 0.001 for VOCs detected at depth of 5 feet bgs are presented in Tables 4 and 5, respectively. Indoor air VOC concentrations estimated using the AFs of 0.03 and 0.001 for VOCs detected at depth of 15 feet bgs are presented in Tables 6 and 7, respectively.

Toxicity Values

The toxicity assessment characterizes the relationship between the magnitude of exposure to a contaminant of potential concern (COPC) and the nature and magnitude of adverse health effects that may result from such exposure. For the purposes of calculating exposure criteria to be used in risk assessments, adverse health effects are classified into two broad categories: carcinogens and non-carcinogens. Toxicity values/exposure criteria are generally developed based on the threshold approach for non-carcinogenic effects and the non-threshold approach for carcinogenic effects. Toxicity values may be based on epidemiological studies, short-term human studies, and sub-chronic or chronic animal data.

A reference concentration (RfC) is an exposure concentration in air that is not expected to cause adverse health effects over a lifetime of daily exposure in the most sensitive population. All RfCs used in this evaluation to estimate non-carcinogenic chronic health hazards are presented in Table 8.

Health risks for exposures to carcinogens are defined in terms of probabilities. The probabilities quantify the likelihood of a carcinogenic response in an individual that receives a given dose of a particular compound. These probabilities are calculated based on the potential exposure concentration and the inhalation unit risk (IUR) for a chemical.

The IUR, which is expressed in units of inverse micrograms per cubic meter $(ug/m^3)^{-1}$, is the 95 percent upper confidence limit of the arithmetic mean (95UCL) of the probability of carcinogenic response per unit daily exposure to a given chemical concentration over a lifetime. The IUR multiplied by the lifetime exposure concentration of the chemical provides an estimate of the 95UCL of the theoretical cancer risk for the specific chemical. The IURs used in this evaluation to estimate carcinogenic dose-assessment risks are presented in Table 8.

In this assessment, chronic toxicity criteria were selected in accordance with the DTSC Regulation "Toxicity Criteria for Human Health Risk Assessment" (effective September 2018) (https://dtsc.ca.gov/LawsRegsPolicies/Regs/Toxicity-Criteria-for-Human-Health-Risk-Assessment). Toxicity information was obtained from the DTSC Human and Ecological Risk Office (HERO) Human Health Risk Assessment (HHRA) Note 10, Toxicity Criteria (DTSC, 2019). All toxicity values used in this evaluation are summarized in Table 8.

Risk Characterization

This section discusses the methods used to quantify the exposure concentration (EC) for hypothetical onsite residential receptors. The estimated ECs for each VOC were used to estimate the potential for carcinogenic health risks and non-carcinogenic adverse health effects. The potential inhalation exposures were calculated using the following equation (USEPA, 2009):

$$EC = \frac{CA \bullet ET \bullet EF \bullet ED}{AT}$$

Where:

EC	=	Exposure concentration, ug/m^3
CA	=	Chemical concentration in air, ug/m^3
ET	=	Exposure time, hours/day
EF	=	Exposure frequency, days/year
ED	=	Exposure duration, years
AT	=	Averaging time, hours (used the equivalent of 70 years for carcinogens and same value as ED for non-carcinogens).

Inhalation intake factors were combined with estimated indoor air chemical concentrations (CA) to obtain the exposure concentration for hypothetical onsite residents. Exposure parameters used to characterize hypothetical onsite residents are presented in Table 9. School staff and students were not directly evaluated since their exposure would be lower than those assumed for adult and child residential receptors (i.e., the exposure duration, frequency and time would be lower than a full-time residential receptor).

Non-Carcinogenic Health Hazard Evaluation

The evaluation of non-carcinogenic health hazards began with a calculation of the hazard quotient or HQ for each chemical. The HQ is defined as the ratio of the exposure concentration (EC) to the reference concentration (RfC). The HQ can be expressed according to the following equation:

$$HQ = \frac{EC}{RfC}$$

Where:

HQ	=	Hazard quotient, unitless
EC	=	Exposure concentration, ug/m^3
RfC	=	Reference concentration, ug/m^3

The estimated HQs are compared to an acceptable hazard level. Implicit in the HQ is the assumption of a threshold level of exposure below which no adverse effects are expected to occur. For example, if the HQ exceeds unity (because site-specific exposure exceeds the RfC), then the potential for non-cancer adverse effects may exist. In general, the greater the value above 1.0, the greater the potential hazard. In contrast, HQs of less than 1.0 indicate that no adverse health effects are expected to occur from exposure to chemicals at the site.

The HQs estimated for the hypothetical onsite residential receptors are:

- 11 when using an AF of 0.03 and maximum detected concentrations at 5 feet bgs (Table 10).
- 0.4 when using an AF of 0.001 and maximum detected concentrations at a depth of 5 feet bgs (Table 11).
- 4 when using an AF of 0.03 and maximum detected concentrations at a depth of 15 feet bgs (Table 12).
- 0.1 when using an AF of 0.001 and maximum detected concentrations at a depth of 15 feet bgs (Table 13).

Only the HQs estimated using an AF of 0.03 exceed the benchmark value of 1. The "risk drivers" for the exceedance were benzene, tetrachloroethene (PCE) and trichloroethene (TCE; Tables 10 and 12).

Cancer Risk Estimates

Cancer risks were estimated as the incremental probability of an individual developing cancer over a lifetime due to exposure to a potential carcinogen (i.e., incremental or excess individual lifetime cancer risk) (USEPA, 1989). Cancer risks were calculated in accordance with DTSC (2015) and USEPA (1989) guidelines.

$$Risk = EC \bullet IUR$$

Where:

Risk	=	Upper bound incremental lifetime carcinogenic risk, unitless
EC	=	Exposure concentration, ug/m^3

IUR = Inhalation unit risk, $(ug/m^3)^{-1}$

The excess cancer risks were compared to the risk level considered acceptable by federal and state regulatory agencies. The target cancer risk level identified by the DTSC in the PEA Guidance Manual is one in one million (1.0E-06). However, the USEPA has established acceptable incremental cancer risk levels to be within the risk range of 1 in 10,000 (1.0E-04) and 1.0E-06; risks greater than 1.0E-04 are generally considered unacceptable.

The cancer risks estimated for hypothetical onsite residential receptors are:

- 4E-04 when using an AF of 0.03 and maximum detected concentrations at a depth of 5 feet bgs (Table 14).
- 1E-05 when using an AF of 0.001 and maximum detected concentrations at a depth of 5 feet bgs (Table 15).
- 2E-04 when using an AF of 0.03 and maximum detected concentrations at a depth of 15 feet bgs (Table 16).
- 6E-06 when using an AF of 0.001 and maximum detected concentrations at a depth of 15 feet bgs (Table 17).

All estimated cancer risks exceed the acceptable cancer risk point of departure of 1E-06. The "risk drivers" for VOCs detected at a depth of 5 feet and using an AF of 0.03 were benzene, chloroform, ethylbenzene, naphthalene and PCE (Table 14). Benzene, chloroform, and PCE were the "risk drivers" when using an AF of 0.001 (Tables 15 and 17). The "risk drivers" identified in soil gas sampled at a depth of 15 feet bgs and using an AF of 0.03 were naphthalene, PCE and trichloroethene (TCE; Table 16).

It should be noted that chloroform is known to be formed during the chlorination treatment of drinking water. Free chlorine can react with organic matter in the water to form chloroform and other trihalomethanes. Chloroform can be released to indoor air from the domestic use of drinking water. Studies have shown that chloroform (and other trihalomethanes) can accumulate in indoor air at four to five times the outdoor air concentration. For example, chloroform concentrations in indoor air were measured to range from 2 to 100 ppb (9.76 to 487.9 ug/m^3) after running the shower for ten minutes at a residence connected to a municipal water supply (Wallace, L.A., 1997). It has been postulated that the major source of chloroform in indoor air in most homes is volatilization from chlorinated water (Wallace, L.A., 1997).

Based on the known release of chloroform to indoor air, it is conceivable that chloroform can also be released in subsurface soil from chlorinated water. Chlorinated water can be released to the subsurface from leaking drinking water, irrigation or sewage pipelines. The maximum chloroform concentration reported in soil gas at the site (0.16 ug/L) is well within levels reported for residences using chlorinated-drinking water. Thus, it is highly likely that the chloroform detected in soil gas could have originated from chlorinated water in the subsurface.

Summary and Conclusions

According to the results of the Risk Evaluation, the cancer risks and HQs estimated using an AF of 0.03 and the cancer risks estimated using an AF of 0.001 exceed the values considered acceptable by the DTSC. Based on the results of this VIRE, Enviro-Tox makes the following recommendations:

- Future buildings should be protected by adequate vapor intrusion mitigation systems such as a vapor barrier and subsurface depressurization systems.
- Proposed classrooms should be designed so that sufficient ventilation is provided to reduce indoor air accumulation of VOCs. Standard ventilation for commercial units established by the California Occupational Safety and Health Administration (Cal-OSHA) should be sufficient to mitigate vapors down to acceptable levels.

Uncertainty Analysis

It should be noted that the VIRE was based on conservative (health-protective) assumptions, estimates, models, and parameters. Therefore, the results are not absolute estimates of health risks at the Site but are health-protective estimates. Because exposure point concentrations were derived from fate and transport modeling, conservative assumptions and methodology were necessarily employed to eliminate the possibility of underestimating risks. This practice, although commonly used in the risk assessment process to eliminate the possibility of underestimating risk, necessarily introduces a significant level of conservatism in the conclusions derived from the assessment. Examples of some of the conservatism in this assessment include:

- The AF of 0.03 was developed by the USEPA for residential sites where the source of contamination is located directly under the affected building. For the Site, the source of VOCs appears to be an unknown off-site source located to the northeast of the Site.
- Risk assessment guidance issued by the USEPA and DTSC require the evaluation of risks assuming hypothetical onsite residents will be exposed to vapor emissions 24 hours/day, seven days per week, 350 days per year for up to 26 years. Future students and school staff at the site are likely to be at the school site for no more than 8 hours per day, 5 days per week for up to 6 or 10 years.
- Toxicity values used in risk assessments present overestimates of the potential toxicity of chemicals to humans. Assumptions used to develop toxicity values include the addition of safety factors to account for uncertainties associated with extrapolating high doses to low doses and to account for uncertainties associated with the use of laboratory animal studies to assess potential toxicity to human receptors.

Limitations

The conclusions and recommendations presented in this report are professional opinions based solely upon the data described in this report. They are intended exclusively for the purpose outlined herein and the property's location and project indicated. The scope of services performed in execution of this investigation may not be appropriate to satisfy the needs of users other than NV5. Any use or

reuse of this document or the findings, conclusions, or recommendations presented herein is at the sole risk of said user.

Given that the scope of services for this investigation was limited, and that conditions may vary between the points explored, it is possible that currently unrecognized subsurface contamination might be present at the subject property. Should site use or conditions change, the information and conclusions in this report may no longer apply. Opinions relating to environmental and public health conditions are based on limited data and actual conditions may vary from those encountered at the times and locations where data were obtained. No express or implied representation or warranty is included or intended in this report except that the work was performed within the limits prescribed by the Client with the customary thoroughness and competence of professionals working in the same area on similar projects.

Attachments

Table 1. Soil Gas Analytical Results for Samples Collected in February of 2023

Table 2. Soil Gas Analytical Results for Samples Collected in June 2023 at a Depth of 5 Feet

Table 3. Soil Gas Analytical Results for Samples Collected in June 2023 at a Depth of 15 Feet

Table 4. Indoor Air Exposure Point Concentrations Estimated Using a Default Attenuation Factor of 0.03 and Maximum Concentrations Detected at a Depth of 5 Feet

Table 5. Indoor Air Exposure Point Concentrations Estimated Using a Default Attenuation Factor of 0.001 and Maximum Concentrations Detected at a Depth of 5 Feet

Table 6. Indoor Air Exposure Point Concentrations Estimated Using a Default Attenuation Factor of 0.03 and Maximum Concentrations Detected at a Depth of 15 Feet

Table 7. Indoor Air Exposure Point Concentrations Estimated Using a Default Attenuation Factor of 0.001 and Maximum Concentrations Detected at a Depth of 15 Feet

Table 8. Toxicity Criteria for Chemicals of Potential Concern

Table 9. Exposure Parameters for Onsite Receptors

Table 10. Health Hazards from Inhalation of Indoor Air Estimated Using a Default Attenuation Factor of 0.03 and Maximum Concentrations Detected at a Depth of 5 Feet

Table 11. Health Hazards from Inhalation of Indoor Air Estimated Using a Default Attenuation Factor of 0.001 and Maximum Concentrations Detected at a Depth of 5 Feet

Table 12. Health Hazards from Inhalation of Indoor Air Estimated Using a Default Attenuation Factor of 0.03 and Maximum Concentrations Detected at a Depth of 15 Feet

Table 13. Health Hazards from Inhalation of Indoor Air Estimated Using a Default Attenuation Factor of 0.001 and Maximum Concentrations Detected at a Depth of 15 Feet

Table 14. Cancer Risks from Inhalation of Indoor Air Estimated Using a Default Attenuation Factor of 0.03 and Maximum Concentrations Detected at a Depth of 5 Feet

Table 15. Cancer Risks from Inhalation of Indoor Air Estimated Using a Default Attenuation Factor of 0.001 and Maximum Concentrations Detected at a Depth of 5 Feet

Table 16. Cancer Risks from Inhalation of Indoor Air Estimated Using a Default Attenuation Factor of 0.03 and Maximum Concentrations Detected at a Depth of 15 Feet

Table 17. Cancer Risks from Inhalation of Indoor Air Estimated Using a Default Attenuation Factor of 0.001 and Maximum Concentrations Detected at a Depth of 15 Feet

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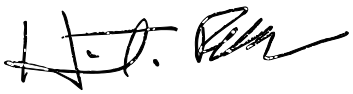
This Vapor Intrusion Risk Evaluation was prepared by:

Enviro-Tox Services, Inc.



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Heriberto Robles, Ph. D., D.A.B.T.
Principal Toxicologist

TABLES

Table 1
Soil Gas Analytical Results for Samples Collected in February of 2023
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

Sample ID	Sampling Date	Volatile Organic Compounds (ug/m^3)													
		1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Benzene	Bromodichloromethane	Bromoform	Chloroform	Dibromochloromethane	Ethylbenzene	n-Propylbenzene	Tetrachloroethene	Toluene	Trichloroethene	Xylenes, total	Other VOCs
SV1-5	2/20/23	75	26	18	53	10	163	22	36	17	13	101	ND	235	ND
SV2-5	2/20/23	97	38	334	45	ND	139	17	164	27	10	1,620	ND	781	ND
SV2-5 REP	2/20/23	82	33	251	29	ND	111	15	131	26	10	1,270	11	675	ND
SV3-5	2/20/23	372	148	751	44	ND	107	20	702	100	ND	5,060	ND	3,269	ND
Maximum Detected at 5 ft.		372	148	751	53	10	163	22	702	100	13	5,060	11	3,269	0
SV1-15	2/20/23	85	27	ND	ND	ND	ND	ND	41	15	690	100	ND	244	ND
SV2-15	2/20/23	107	39	ND	ND	ND	ND	ND	50	23	1,330	97	ND	324	ND
SV3-15	2/20/23	109	36	ND	ND	ND	ND	ND	31	19	653	55	ND	206	ND
Maximum Detected at 15 ft.		109	39	0	0	0	0	0	50	23	1,330	100	0	324	0

NOTES:

µg/m^3 = micrograms per cubic meter

RL = Laboratory Reporting Limit

NE = No Screening Level Established

ND = Not detected at or above the RL

"- -" = Not Analyzed

DUP = Duplicate sample

Table 2
Soil Gas Analytical Results for
Samples Collected in June 2023 at a Depth of 5 Feet
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

Sample ID	Sample Depth (Feet Below Ground Surface)	Volatile Organic Compounds (ug/m^3)																	
		1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Isopropyltoluene	Benzene	Ethylbenzene	Freon 12	Isopropyl benzene	m,p-Xylene	Methylene Chloride	Naphthalene	n-Butylbenzene	n-Propylbenzene	o-Xylene	sec-Butylbenzene	Styrene	Tetrachloroethene	Toluene	Trichloroethene
SV4-5V	5	**226**	**96**	**232**	**25**	**111**	ND (<12)	**27**	**461**	ND (<8)	ND (<5)	ND (<4)	**66**	**103**	ND (<4)	ND (<6)	**489**	**290**	ND (<8)
SV5-5V	5	**24**	**22**	**397**	**13**	**38**	**16**	ND (<7)	**78**	ND (<8)	**8**	ND (<4)	ND (<5)	**38**	**9**	ND (<6)	**84**	**102**	ND (<8)
SV6-5V	5	**12**	**10**	**231**	ND (<3)	**16**	**16**	ND (<7)	**32**	ND (<8)	ND (<5)	**8**	ND (<5)	**16**	**7**	ND (<6)	**167**	**24**	ND (<8)
SV7-5V	5	**12**	**9**	**63**	ND (<3)	**12**	**16**	ND (<7)	**24**	ND (<8)	ND (<5)	ND (<4)	ND (<5)	**12**	**6**	ND (<6)	**1,100**	**13**	ND (<8)
SV7-5V REP	5	**12**	**10**	**69**	ND (<3)	**13**	**17**	ND (<7)	**26**	ND (<8)	ND (<5)	ND (<4)	ND (<5)	**13**	**7**	ND (<6)	**1,530**	**15**	ND (<8)
SV8-5V	5	ND (<6)	ND (<6)	**2,480**	**13**	**9**	ND (<12)	ND (<7)	**35**	ND (<8)	ND (<5)	ND (<4)	ND (<5)	**10**	ND (<4)	**8.0**	**467**	**261**	ND (<8)
SV9-5V	5	ND (<6)	ND (<6)	**239**	**5.0**	**14**	**17**	ND (<7)	**30**	ND (<8)	ND (<5)	ND (<4)	ND (<5)	**14**	**7**	ND (<6)	**55**	**66**	ND (<8)
SV10-5V	5	ND (<6)	ND (<6)	**395**	**5.0**	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	**68**	**198**	ND (<8)
SV11-5V	5	ND (<6)	ND (<6)	**366**	**6.0**	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	**54**	**231**	ND (<8)
SV12-5V	5	ND (<6)	ND (<6)	**15**	ND (<3)	ND (<6)	ND (<12)	ND (<7)	**16**	**12**	**14**	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	ND (<8)	**93**	ND (<8)
SV13-5V	5	**15**	ND (<6)	**301**	**14**	**49**	ND (<12)	ND (<7)	**201**	ND (<8)	ND (<5)	ND (<4)	ND (<5)	**69**	ND (<4)	ND (<6)	**222**	**153**	ND (<8)
	Max. Concentration	**226**	**96**	**2480**	**25**	**111**	**17**	**27**	**461**	**12**	**14**	**8**	**66**	**103**	**9**	**8**	**1530**	**290**	**0**

Notes:
ug/m^3 = micrograms per cubic meter
NA = Not applicable or not available
ND = Not detected above the indicated reporting limit

Table 3
Soil Gas Analytical Results for
Samples Collected in June 2023 at a Depth of 15 Feet
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

Sample ID	Sample Depth (Feet Below Ground Surface)	Volatile Organic Compounds (ug/m^3)																	
		1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Isopropyltoluene	Benzene	Ethylbenzene	Freon 12	Isopropyl benzene	m,p-Xylene	Methylene Chloride	Naphthalene	n-Butylbenzene	n-Propylbenzene	o-Xylene	sec-Butylbenzene	Styrene	Tetrachloroethene	Toluene	Trichloroethene
SV4-15V	15	ND (<6)	ND (<6)	ND (<5)	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	**701**	ND (<5)	ND (<8)
SV5-15V	15	ND (<6)	ND (<6)	ND (<5)	ND (<3)	**7.0**	**16**	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	**7.0**	ND (<4)	ND (<6)	**291**	ND (<5)	ND (<8)
SV6-15V	15	ND (<6)	ND (<6)	ND (<5)	ND (<3)	**7.0**	ND (<21)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	**7.0**	ND (<4)	ND (<6)	**394**	ND (<5)	ND (<8)
SV7-15V	15	ND (<6)	ND (<6)	**8**	ND (<3)	**7.0**	**17**	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	**7.0**	ND (<4)	ND (<6)	**2,360**	ND (<5)	ND (<8)
SV8-15V	15	ND (<6)	ND (<6)	**29**	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	**2,470**	ND (<5)	ND (<8)
SV8-15V REP	15	ND (<6)	ND (<6)	**17**	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	**2,180**	ND (<5)	ND (<8)
SV9-15V	15	**8.0**	ND (<6)	**21**	ND (<3)	**8.0**	**16**	ND (<7)	**14**	ND (<8)	**7**	**7**	ND (<5)	**8.0**	**7**	ND (<6)	**254**	**24**	ND (<8)
SV10-15V	15	ND (<6)	ND (<6)	**88**	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	**646**	**16**	ND (<8)
SV11-15V	15	ND (<6)	ND (<6)	ND (<5)	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	**14**	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	**926**	**11**	**31**
SV12-15V	15	ND (<6)	ND (<6)	**29**	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	**82**	**14**	**98**
SV13-15V	15	ND (<6)	ND (<6)	ND (<5)	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	**2,600**	**10**	ND (<8)
	Max. Concentration	**8.0**	**0**	**88**	**0**	**8.0**	**17**	**0**	**14**	**0**	**14**	**7**	**0**	**8.0**	**7**	**0**	**2600**	**24**	**98**

Notes:
ug/m^3 = micrograms per cubic meter
NA = Not applicable or not available
ND = Not detected above the indicated reporting limit

Table 4
Indoor Air Exposure Point Concentrations
Estimated Using a Default Attenuation Factor of 0.03 and
Maximum Concentrations Detected at a Depth of 5 Feet
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

Chemical of Potential Concern (COPC)	**CAS Number**	**Maximum Detected Soil Gas Concentration (ug/m^3)**	**Estimated Indoor Chemical Air Concentration (ug/m^3)**
1,2,4-Trimethylbenzene	95636	372	1.12E+01
1,3,5-Trimethylbenzene	108678	148	4.44E+00
Benzene	71432	751	2.25E+01
Butylbenzenes	104518	100	3.00E+00
Chloroforms	67663	238	7.14E+00
Cumenes	98828	2507	7.52E+01
Ethylbenzene	100414	702	2.11E+01
Freons	75694	17	5.10E-01
Methylene Chloride	75092	12	3.60E-01
Naphthalene	91203	14	4.20E-01
Styrene	100425	8	2.40E-01
Tetrachloroethene	127184	1530	4.59E+01
Toluene	108883	5060	1.52E+02
Trichloroethene	79016	11	3.30E-01
Xylenes, total	95476	3269	9.81E+01

Notes:
Attenuation factor (unitless) = 0.03
ug/m3 = micrograms per cubic meter
NA = Not applicable or not available
Cumenes = Isopropylbenzene + 4-Isopropyltoluene
Freons = Freon 12
Butylbenzenes = n-Butylbenzene + sec-Butylbenzene + n-Propylbenzene
Xylenes, total = Xylene-o + Xylenes-m,p

Table 5
Indoor Air Exposure Point Concentrations
Estimated Using a Default Attenuation Factor of 0.001 and
Maximum Concentrations Detected at a Depth of 5 Feet
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

Chemical of Potential Concern (COPC)	CAS Number	Maximum Detected Soil Gas Concentration ($\mu g/m^3$)	Estimated Indoor Chemical Air Concentration (ug/m^3)
1,2,4-Trimethylbenzene	95636	372	3.72E-01
1,3,5-Trimethylbenzene	108678	148	1.48E-01
Benzene	71432	751	7.51E-01
Butylbenzenes	104518	100	1.00E-01
Chloroforms	67663	238	2.38E-01
Cumenes	98828	2507	2.51E+00
Ethylbenzene	100414	702	7.02E-01
Freons	75694	17	1.70E-02
Methylene Chloride	75092	12	1.20E-02
Naphthalene	91203	14	1.40E-02
Styrene	100425	8	8.00E-03
Tetrachloroethene	127184	1530	1.53E+00
Toluene	108883	5060	5.06E+00
Trichloroethene	79016	11	1.10E-02
Xylenes, total	95476	3269	3.27E+00

Notes:
Attenuation factor (unitless) = 0.001
µg/m3 = micrograms per cubic meter
NA = Not applicable or not available
Cumenes = Isopropylbenzene + 4-Isopropyltoluene
Freons = Freon 12
Butylbenzenes = n-Butylbenzene + sec-Butylbenzene + n-Propylbenzene
Xylenes, total = Xylene-o + Xylenes-m,p

Table 6
Indoor Air Exposure Point Concentrations
Estimated Using a Default Attenuation Factor of 0.03 and
Maximum Concentrations Detected at a Depth of 15 Feet
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

Chemical of Potential Concern (COPC)	CAS Number	Maximum Detected Soil Gas Concentration ($\mu g/m^3$)	Estimated Indoor Chemical Air Concentration (ug/m^3)
1,2,4-Trimethylbenzene	95636	109	3.27E+00
1,3,5-Trimethylbenzene	108678	39	1.17E+00
Benzene	71432	0	0.00E+00
Butylbenzenes	104518	14	4.20E-01
Chloroforms	67663	0	0.00E+00
Cumenes	98828	88	2.64E+00
Ethylbenzene	100414	50	1.50E+00
Freons	75694	17	5.10E-01
Methylene Chloride	75092	0	0.00E+00
Naphthalene	91203	14	4.20E-01
Styrene	100425	0	0.00E+00
Tetrachloroethene	127184	2600	7.80E+01
Toluene	108883	100	3.00E+00
Trichloroethene	79016	98	2.94E+00
Xylenes, total	95476	324	9.72E+00

Notes:
Attenuation factor (unitless) = 0.03
µg/m3 = micrograms per cubic meter
NA = Not applicable or not available
Cumenes = Isopropylbenzene + 4-Isopropyltoluene
Freons = Freon 12
Butylbenzenes = n-Butylbenzene + sec-Butylbenzene + n-Propylbenzene
Xylenes, total = Xylene-o + Xylenes-m,p

Table 7
Indoor Air Exposure Point Concentrations
Estimated Using a Default Attenuation Factor of 0.001 and
Maximum Concentrations Detected at a Depth of 15 Feet
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

Chemical of Potential Concern (COPC)	CAS Number	Maximum Detected Soil Gas Concentration ($\mu g/m^3$)	Estimated Indoor Chemical Air Concentration (ug/m^3)
1,2,4-Trimethylbenzene	95636	109	1.09E-01
1,3,5-Trimethylbenzene	108678	39	3.90E-02
Benzene	71432	0	0.00E+00
Butylbenzenes	104518	14	1.40E-02
Chloroforms	67663	0	0.00E+00
Cumenes	98828	88	8.80E-02
Ethylbenzene	100414	50	5.00E-02
Freons	75694	17	1.70E-02
Methylene Chloride	75092	0	0.00E+00
Naphthalene	91203	14	1.40E-02
Styrene	100425	0	0.00E+00
Tetrachloroethene	127184	2600	2.60E+00
Toluene	108883	100	1.00E-01
Trichloroethene	79016	98	9.80E-02
Xylenes, total	95476	324	3.24E-01

Notes:
Attenuation factor (unitless) = 0.001
µg/m3 = micrograms per cubic meter
NA = Not applicable or not available
Cumenes = Isopropylbenzene + 4-Isopropyltoluene
Freons = Freon 12
Butylbenzenes = n-Butylbenzene + sec-Butylbenzene + n-Propylbenzene
Xylenes, total = Xylene-o + Xylenes-m,p

Table 8
Toxicity Criteria for Chemicals of Potential Concern
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

Chemical	**Chronic Inhalation Reference Concentration (RfC) (ug/m^3)**	**Inhalation Unit Risk (ug/m^3)$^{-1}$**
VOCs		
1,2,4-Trimethylbenzene	6.0E+01	NA
1,3,5-Trimethylbenzene	6.0E+01	NA
Benzene	3.0E+00	2.9E-05
Butylbenzenes	2.0E+02	NA
Chloroforms	9.8E+01	2.3E-05
Cumenes	4.0E+02	NA
Ethylbenzene	1.0E+03	2.5E-06
Freons	1.2E+03	NA
Methylene Chloride	4.0E+02	1.0E-06
Naphthalene	3.0E+00	3.4E-05
Styrene	9.0E+02	NA
Tetrachloroethene	4.0E+01	6.1E-06
Toluene	3.0E+02	NA
Trichloroethene	2.0E+00	4.1E-06
Xylenes, total	1.0E+02	NA

Notes:
Source = Cal/EPA HHRA Note No. 10, 2019
NA = Not applicable or not available
µg/m3 = micrograms per cubic meter

Table 9
Exposure Parameters for Onsite Receptors
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

Exposure/Site Specific Parameters	Units	Exposure Parameters		
		Adult Resident	Child Resident	Source
Chemical Concentration in Air (CA)	--	--	--	chemical-specific
Exposure Frequency (EF)	days/year	350	350	DTSC 2019
Exposure Duration (ED)	years	20	6	DTSC 2019
Exposure Time (ET)	hr/day	24	24	Default
Averaging Time for Noncarcinogens (AT_n)	hours	175,200	52,560	USEPA 2009
Averaging Time for Carcinogens (AT_c)	hours	613,200	613,200	USEPA 2009

Table 10
Health Hazards from Inhalation of Indoor Air
Estimated Using a Default Attenuation Factor of 0.03 and
Maximum Concentrations Detected at a Depth of 5 Feet
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

COPC	Indoor Air Conc. (ug/m^3)	Inhalation Reference Dose (ug/m^3)	Residential Exposure Scenario		
			Average Exposure Conc_nc (ug/m^3)		Hazard Quotient (Unitless)
			Adult Res.	Child Res.	Child Res.
VOCs					
1,2,4-Trimethylbenzene	1.1E+01	6.0E+01	1.1E+01	1.1E+01	1.8E-01
1,3,5-Trimethylbenzene	4.4E+00	6.0E+01	4.3E+00	4.3E+00	7.1E-02
Benzene	2.3E+01	3.0E+00	2.2E+01	2.2E+01	7.2E+00
Butylbenzenes	3.0E+00	2.0E+02	2.9E+00	2.9E+00	1.4E-02
Chloroforms	7.1E+00	9.8E+01	6.8E+00	6.8E+00	7.0E-02
Cumenes	7.5E+01	4.0E+02	7.2E+01	7.2E+01	1.8E-01
Ethylbenzene	2.1E+01	1.0E+03	2.0E+01	2.0E+01	2.0E-02
Freons	5.1E-01	1.2E+03	4.9E-01	4.9E-01	4.1E-04
Methylene Chloride	3.6E-01	4.0E+02	3.5E-01	3.5E-01	8.6E-04
Naphthalene	4.2E-01	3.0E+00	4.0E-01	4.0E-01	1.3E-01
Styrene	2.4E-01	9.0E+02	2.3E-01	2.3E-01	2.6E-04
Tetrachloroethene	4.6E+01	4.0E+01	4.4E+01	4.4E+01	1.1E+00
Toluene	1.5E+02	3.0E+02	1.5E+02	1.5E+02	4.9E-01
Trichloroethene	3.3E-01	2.0E+00	3.2E-01	3.2E-01	1.6E-01
Xylenes, total	9.8E+01	1.0E+02	9.4E+01	9.4E+01	9.4E-01
Total Hazard Index					**1.1E+01**

Notes:
ug/m^3 = Micrograms per cubic meter

Table 11
Health Hazards from Inhalation of Indoor Air
Estimated Using a Default Attenuation Factor of 0.001
Maximum Concentrations Detected at a Depth of 5 Feet
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

COPC	Indoor Air Conc. (ug/m^3)	Inhalation Reference Dose (ug/m^3)	Residential Exposure Scenario		
			Average Exposure Conc_nc (ug/m^3)		Hazard Quotient (Unitless)
			Adult Res.	Child Res.	Child Res.
VOCs					
1,2,4-Trimethylbenzene	3.7E-01	6.0E+01	3.6E-01	3.6E-01	5.9E-03
1,3,5-Trimethylbenzene	1.5E-01	6.0E+01	1.4E-01	1.4E-01	2.4E-03
Benzene	7.5E-01	3.0E+00	7.2E-01	7.2E-01	2.4E-01
Butylbenzenes	1.0E-01	2.0E+02	9.6E-02	9.6E-02	4.8E-04
Chloroforms	2.4E-01	9.8E+01	2.3E-01	2.3E-01	2.3E-03
Cumenes	2.5E+00	4.0E+02	2.4E+00	2.4E+00	6.0E-03
Ethylbenzene	7.0E-01	1.0E+03	6.7E-01	6.7E-01	6.7E-04
Freons	1.7E-02	1.2E+03	1.6E-02	1.6E-02	1.4E-05
Methylene Chloride	1.2E-02	4.0E+02	1.2E-02	1.2E-02	2.9E-05
Naphthalene	1.4E-02	3.0E+00	1.3E-02	1.3E-02	4.5E-03
Styrene	8.0E-03	9.0E+02	7.7E-03	7.7E-03	8.5E-06
Tetrachloroethene	1.5E+00	4.0E+01	1.5E+00	1.5E+00	3.7E-02
Toluene	5.1E+00	3.0E+02	4.9E+00	4.9E+00	1.6E-02
Trichloroethene	1.1E-02	2.0E+00	1.1E-02	1.1E-02	5.3E-03
Xylenes, total	3.3E+00	1.0E+02	3.1E+00	3.1E+00	3.1E-02
Total Hazard Index					**4.E-01**

Notes:
ug/m^3 = Micrograms per cubic meter

Table 12
Health Hazards from Inhalation of Indoor Air
Estimated Using a Default Attenuation Factor of 0.03 and
Maximum Concentrations Detected at 15 Feet
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

COPC	Indoor Air Conc. (ug/m^3)	Inhalation Reference Dose (ug/m^3)	Residential Exposure Scenario		
			Average Exposure Conc_nc (ug/m^3)		Hazard Quotient (Unitless)
			Adult Res.	Child Res.	Child Res.
VOCs					
1,2,4-Trimethylbenzene	3.3E+00	6.0E+01	3.1E+00	3.1E+00	5.2E-02
1,3,5-Trimethylbenzene	1.2E+00	6.0E+01	1.1E+00	1.1E+00	1.9E-02
Benzene	0.0E+00	3.0E+00	0.0E+00	0.0E+00	0.0E+00
Butylbenzenes	4.2E-01	2.0E+02	4.0E-01	4.0E-01	2.0E-03
Chloroforms	0.0E+00	9.8E+01	0.0E+00	0.0E+00	0.0E+00
Cumenes	2.6E+00	4.0E+02	2.5E+00	2.5E+00	6.3E-03
Ethylbenzene	1.5E+00	1.0E+03	1.4E+00	1.4E+00	1.4E-03
Freons	5.1E-01	1.2E+03	4.9E-01	4.9E-01	4.1E-04
Methylene Chloride	0.0E+00	4.0E+02	0.0E+00	0.0E+00	0.0E+00
Naphthalene	4.2E-01	3.0E+00	4.0E-01	4.0E-01	1.3E-01
Styrene	0.0E+00	9.0E+02	0.0E+00	0.0E+00	0.0E+00
Tetrachloroethene	7.8E+01	4.0E+01	7.5E+01	7.5E+01	1.9E+00
Toluene	3.0E+00	3.0E+02	2.9E+00	2.9E+00	9.6E-03
Trichloroethene	2.9E+00	2.0E+00	2.8E+00	2.8E+00	1.4E+00
Xylenes, total	9.7E+00	1.0E+02	9.3E+00	9.3E+00	9.3E-02
Total Hazard Index					**4.E+00**

Notes:
ug/m^3 = Micrograms per cubic meter

Table 13
Health Hazards from Inhalation of Indoor Air
Estimated Using a Default Attenuation Factor of 0.001
Maximum Concentrations Detected at a Depth of 15 Feet
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

COPC	Indoor Air Conc. (ug/m^3)	Inhalation Reference Dose (ug/m^3)	Residential Exposure Scenario		
			Average Exposure Conc_nc (ug/m^3)		Hazard Quotient (Unitless)
			Adult Res.	Child Res.	Child Res.
VOCs					
1,2,4-Trimethylbenzene	1.1E-01	6.0E+01	1.0E-01	1.0E-01	1.7E-03
1,3,5-Trimethylbenzene	3.9E-02	6.0E+01	3.7E-02	3.7E-02	6.2E-04
Benzene	0.0E+00	3.0E+00	0.0E+00	0.0E+00	0.0E+00
Butylbenzenes	1.4E-02	2.0E+02	1.3E-02	1.3E-02	6.7E-05
Chloroforms	0.0E+00	9.8E+01	0.0E+00	0.0E+00	0.0E+00
Cumenes	8.8E-02	4.0E+02	8.4E-02	8.4E-02	2.1E-04
Ethylbenzene	5.0E-02	1.0E+03	4.8E-02	4.8E-02	4.8E-05
Freons	1.7E-02	1.2E+03	1.6E-02	1.6E-02	1.4E-05
Methylene Chloride	0.0E+00	4.0E+02	0.0E+00	0.0E+00	0.0E+00
Naphthalene	1.4E-02	3.0E+00	1.3E-02	1.3E-02	4.5E-03
Styrene	0.0E+00	9.0E+02	0.0E+00	0.0E+00	0.0E+00
Tetrachloroethene	2.6E+00	4.0E+01	2.5E+00	2.5E+00	6.2E-02
Toluene	1.0E-01	3.0E+02	9.6E-02	9.6E-02	3.2E-04
Trichloroethene	9.8E-02	2.0E+00	9.4E-02	9.4E-02	4.7E-02
Xylenes, total	3.2E-01	1.0E+02	3.1E-01	3.1E-01	3.1E-03
Total Hazard Index					**1.E-01**

Notes:
ug/m^3 = Micrograms per cubic meter

Table 14
Cancer Risks from Inhalation of Indoor Air
Estimated Using a Default Attenuation Factor of 0.03 and
Maximum Concentrations Detected at a Depth of 5 Feet
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

COPC	Indoor Air Conc. (ug/m^3)	Inhalation Slope Factor $(ug/m^3)^{-1}$	Residential Exposure Scenario		
			Lifetime Exposure Conc_c (ug/m^3)		Cancer Risk (unitless)
			Adult Resident	Child Resident	Adult & Child
VOCs					
1,2,4-Trimethylbenzene	1.1E+01	NA	3.1E+00	9.2E-01	NA
1,3,5-Trimethylbenzene	4.4E+00	NA	1.2E+00	3.6E-01	NA
Benzene	2.3E+01	2.9E-05	6.2E+00	1.9E+00	2.E-04
Butylbenzenes	3.0E+00	NA	8.2E-01	2.5E-01	NA
Chloroforms	7.1E+00	2.3E-05	2.0E+00	5.9E-01	6.E-05
Cumenes	7.5E+01	NA	2.1E+01	6.2E+00	NA
Ethylbenzene	2.1E+01	2.5E-06	5.8E+00	1.7E+00	2.E-05
Freons	5.1E-01	NA	1.4E-01	4.2E-02	NA
Methylene Chloride	3.6E-01	1.0E-06	9.9E-02	3.0E-02	1.E-07
Naphthalene	4.2E-01	3.4E-05	1.2E-01	3.5E-02	5.E-06
Styrene	2.4E-01	NA	6.6E-02	2.0E-02	NA
Tetrachloroethene	4.6E+01	6.1E-06	1.3E+01	3.8E+00	1.E-04
Toluene	1.5E+02	NA	4.2E+01	1.2E+01	NA
Trichloroethene	3.3E-01	4.1E-06	9.0E-02	2.7E-02	5.E-07
Xylenes, total	9.8E+01	NA	2.7E+01	8.1E+00	NA
Total Cancer Risk					**4.E-04**

Notes:
ug/m^3 = Micrograms per cubic meter
NA = Not applicable or not available

Table 15
Cancer Risks from Inhalation of Indoor Air
Estimated Using a Default Attenuation Factor of 0.001 and
Maximum Concentrations Detected at a Depth of 5 Feet
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

COPC	Indoor Air Conc. (ug/m^3)	Inhalation Slope Factor $(ug/m^3)^{-1}$	Residential Exposure Scenario		
			Lifetime Exposure Conc_c (ug/m^3)		Cancer Risk (unitless)
			Adult Resident	Child Resident	Adult & Child
VOCs					
1,2,4-Trimethylbenzene	3.7E-01	NA	1.0E-01	3.1E-02	NA
1,3,5-Trimethylbenzene	1.5E-01	NA	4.1E-02	1.2E-02	NA
Benzene	7.5E-01	2.9E-05	2.1E-01	6.2E-02	8.E-06
Butylbenzenes	1.0E-01	NA	2.7E-02	8.2E-03	NA
Chloroforms	2.4E-01	2.3E-05	6.5E-02	2.0E-02	2.E-06
Cumenes	2.5E+00	NA	6.9E-01	2.1E-01	NA
Ethylbenzene	7.0E-01	2.5E-06	1.9E-01	5.8E-02	6.E-07
Freons	1.7E-02	NA	4.7E-03	1.4E-03	NA
Methylene Chloride	1.2E-02	1.0E-06	3.3E-03	9.9E-04	4.E-09
Naphthalene	1.4E-02	3.4E-05	3.8E-03	1.2E-03	2.E-07
Styrene	8.0E-03	NA	2.2E-03	6.6E-04	NA
Tetrachloroethene	1.5E+00	6.1E-06	4.2E-01	1.3E-01	3.E-06
Toluene	5.1E+00	NA	1.4E+00	4.2E-01	NA
Trichloroethene	1.1E-02	4.1E-06	3.0E-03	9.0E-04	2.E-08
Xylenes, total	3.3E+00	NA	9.0E-01	2.7E-01	NA
Total Cancer Risk					**1.E-05**

Notes:
ug/m^3 = Micrograms per cubic meter
NA = Not applicable or not available

Table 16
Cancer Risks from Inhalation of Indoor Air
Estimated Using a Default Attenuation Factor of 0.03 and
Maximum Concentrations Detected at a Depth of 15 Feet
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

COPC	Indoor Air Conc. (ug/m^3)	Inhalation Slope Factor $(ug/m^3)^{-1}$	Residential Exposure Scenario		
			Lifetime Exposure Conc_c (ug/m^3)		Cancer Risk (unitless)
			Adult Resident	Child Resident	Adult & Child
VOCs					
1,2,4-Trimethylbenzene	3.3E+00	NA	9.0E-01	2.7E-01	NA
1,3,5-Trimethylbenzene	1.2E+00	NA	3.2E-01	9.6E-02	NA
Benzene	0.0E+00	2.9E-05	0.0E+00	0.0E+00	0.E+00
Butylbenzenes	4.2E-01	NA	1.2E-01	3.5E-02	NA
Chloroforms	0.0E+00	2.3E-05	0.0E+00	0.0E+00	0.E+00
Cumenes	2.6E+00	NA	7.2E-01	2.2E-01	NA
Ethylbenzene	1.5E+00	2.5E-06	4.1E-01	1.2E-01	1.E-06
Freons	5.1E-01	NA	1.4E-01	4.2E-02	NA
Methylene Chloride	0.0E+00	1.0E-06	0.0E+00	0.0E+00	0.E+00
Naphthalene	4.2E-01	3.4E-05	1.2E-01	3.5E-02	5.E-06
Styrene	0.0E+00	NA	0.0E+00	0.0E+00	NA
Tetrachloroethene	7.8E+01	6.1E-06	2.1E+01	6.4E+00	2.E-04
Toluene	3.0E+00	NA	8.2E-01	2.5E-01	NA
Trichloroethene	2.9E+00	4.1E-06	8.1E-01	2.4E-01	4.E-06
Xylenes, total	9.7E+00	NA	2.7E+00	8.0E-01	NA
Total Cancer Risk					**2.E-04**

Notes:
ug/m^3 = Micrograms per cubic meter
NA = Not applicable or not available

Table 17
Cancer Risks from Inhalation of Indoor Air
Estimated Using a Default Attenuation Factor of 0.001 and
Maximum Concentrations Detected at a Depth of 15 Feet
McKinley Elementary School
2401 Santa Monica Blvd., Santa Monica, California

COPC	Indoor Air Conc. (ug/m^3)	Inhalation Slope Factor $(ug/m^3)^{-1}$	Residential Exposure Scenario		
			Lifetime Exposure Conc_c (ug/m^3)		Cancer Risk (unitless)
			Adult Resident	Child Resident	Adult & Child
VOCs					
1,2,4-Trimethylbenzene	1.1E-01	NA	3.0E-02	9.0E-03	NA
1,3,5-Trimethylbenzene	3.9E-02	NA	1.1E-02	3.2E-03	NA
Benzene	0.0E+00	2.9E-05	0.0E+00	0.0E+00	0.E+00
Butylbenzenes	1.4E-02	NA	3.8E-03	1.2E-03	NA
Chloroforms	0.0E+00	2.3E-05	0.0E+00	0.0E+00	0.E+00
Cumenes	8.8E-02	NA	2.4E-02	7.2E-03	NA
Ethylbenzene	5.0E-02	2.5E-06	1.4E-02	4.1E-03	4.E-08
Freons	1.7E-02	NA	4.7E-03	1.4E-03	NA
Methylene Chloride	0.0E+00	1.0E-06	0.0E+00	0.0E+00	0.E+00
Naphthalene	1.4E-02	3.4E-05	3.8E-03	1.2E-03	2.E-07
Styrene	0.0E+00	NA	0.0E+00	0.0E+00	NA
Tetrachloroethene	2.6E+00	6.1E-06	7.1E-01	2.1E-01	6.E-06
Toluene	1.0E-01	NA	2.7E-02	8.2E-03	NA
Trichloroethene	9.8E-02	4.1E-06	2.7E-02	8.1E-03	1.E-07
Xylenes, total	3.2E-01	NA	8.9E-02	2.7E-02	NA
Total Cancer Risk					**6.E-06**

Notes:
ug/m^3 = Micrograms per cubic meter
NA = Not applicable or not available

APPENDIX B

PEA-E Figures and Tables

ENVIRONMENTAL SITE INVESTIGATION REPORT

McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, California 90404

Prepared for:

Santa Monica-Malibu Unified School District
2828 4th Street
Santa Monica, California 90405

Project Number: SMSD-23-11335
April 27, 2023

Alta Environmental LP, an NV5 Company
3777 Long Beach Boulevard, Annex Building
Long Beach, CA 90807 www.NV5.com

TABLES

Table 1: PCBs in Soil Laboratory Analysis Summary
McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, California

Sample ID	Compound	PCBs by EPA Method 8082								
		Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268
	CAS	12674-11-2	11104-28-2	11141-16-5	53469-21-9	12672-29-6	11097-69-1	11096-82-5	37324-23-5	11100-14-4
	RSLs (mg/kg)	**4.1**	**0.2**	**0.17**	**0.23**	**0.23**	**0.24**	**0.24**	NE	NE
	DTSC-SLs (mg/kg)	**4.0**	**0.2**	**0.17**	**0.23**	**0.23**	**0.24**	**0.24**	NE	NE
B1-0.5	2/20/2023	ND (<0.014)	ND (<0.023)	ND (<0.018)	ND (<0.018)	ND (<0.021)	ND (<0.0066)	**0.09**	ND (<0.016)	ND (<0.013)
B1-2	2/20/2023	ND (<0.014)	ND (<0.023)	ND (<0.018)	ND (<0.018)	ND (<0.021)	ND (<0.0066)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B2-0.5	2/20/2023	ND (<0.014)	ND (<0.023)	ND (<0.018)	ND (<0.018)	ND (<0.021)	ND (<0.0066)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B2-2	2/20/2023	ND (<0.014)	ND (<0.022)	ND (<0.018)	ND (<0.018)	ND (<0.021)	ND (<0.0065)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B3-0.5	2/20/2023	ND (<0.014)	ND (<0.023)	ND (<0.018)	ND (<0.018)	ND (<0.021)	ND (<0.0066)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B3-2	2/20/2023	ND (<0.014)	ND (<0.023)	ND (<0.019)	ND (<0.018)	ND (<0.021)	ND (<0.0066)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B4-0.5	2/20/2023	ND (<0.014)	ND (<0.023)	ND (<0.019)	ND (<0.018)	ND (<0.021)	ND (<0.0066)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B4-2	2/20/2023	ND (<0.014)	ND (<0.023)	ND (<0.019)	ND (<0.018)	ND (<0.021)	ND (<0.0066)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B5-0.5	2/20/2023	ND (<0.014)	ND (<0.022)	ND (<0.018)	ND (<0.017)	ND (<0.021)	ND (<0.0064)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B5-2	2/20/2023	ND (<0.014)	ND (<0.023)	ND (<0.019)	ND (<0.018)	ND (<0.021)	ND (<0.0066)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B6-0.5	2/20/2023	ND (<0.014)	ND (<0.022)	ND (<0.018)	ND (<0.018)	ND (<0.021)	ND (<0.0065)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B6-2	2/20/2023	ND (<0.014)	ND (<0.022)	ND (<0.018)	ND (<0.018)	ND (<0.021)	ND (<0.0065)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B7-0.5	2/20/2023	ND (<0.014)	ND (<0.022)	ND (<0.018)	ND (<0.018)	ND (<0.021)	ND (<0.0065)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B7-0.5 DUP	2/20/2023	ND (<0.014)	ND (<0.023)	ND (<0.019)	ND (<0.018)	ND (<0.021)	ND (<0.0066)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B7-2	2/20/2023	ND (<0.014)	ND (<0.023)	ND (<0.018)	ND (<0.018)	ND (<0.021)	ND (<0.0065)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B8-0.5	2/20/2023	ND (<0.014)	ND (<0.022)	ND (<0.018)	ND (<0.018)	ND (<0.021)	ND (<0.0065)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B8-2	2/20/2023	ND (<0.014)	ND (<0.022)	ND (<0.018)	ND (<0.018)	ND (<0.021)	ND (<0.0065)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B9-0.5	2/20/2023	ND (<0.072)	ND (<0.110)	ND (<0.092)	ND (<0.089)	ND (<0.110)	ND (<0.033)	ND (<0.120)	ND (<0.082)	ND (<0.067)
B9-2	2/20/2023	ND (<0.014)	ND (<0.022)	ND (<0.018)	ND (<0.018)	ND (<0.021)	ND (<0.0065)	ND (<0.024)	ND (<0.016)	ND (<0.013)
B10-0.5	2/20/2023	--	--	--	--	--	--	--	--	--
B10-2	2/20/2023	--	--	--	--	--	--	--	--	--
B11-0.5	2/20/2023	--	--	--	--	--	--	--	--	--
B11-2	2/20/2023	--	--	--	--	--	--	--	--	--
B12-0.5	2/20/2023	--	--	--	--	--	--	--	--	--
B12-2	2/20/2023	--	--	--	--	--	--	--	--	--

NOTES:

mg/kg = milligrams per kilogram

MDL = Method Detection Limit

RSL = Regional Screening Level-Residential Land Use, Environmental Protection Agency (Pacific Southwest, Region 9), updated May 2022

DTSC-SLs = Department of Toxic Substance Control Modified Screening Levels-Residential Land Use, revised May 2022

NE = No Screening Level Established

ND = Not detected at or above the MDL

"- -" = Not Analyzed

J = Analyte was detected; however, result is an estimated value between the RDL and the MDL

DUP = Duplicate sample

Table 2: Lead and Arsenic in Soils Laboratory Analysis Summary
McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, California

Sample ID	Compound	Metals by EPA Method 6020	
		Arsenic	Lead
	CAS	7440-38-2	7439-92-1
	RSLs (mg/kg)	0.68	400
	DTSC-SLs (mg/kg)	0.11/12*	80
B1-0.5	2/20/2023	--	--
B1-2	2/20/2023	--	--
B2-0.5	2/20/2023	9.9	9.5
B2-2	2/20/2023	9.2	9
B3-0.5	2/20/2023	6.2	25
B3-2	2/20/2023	7.8	7.8
B4-0.5	2/20/2023	6.9	8.8
B4-2	2/20/2023	9.0	8.3
B5-0.5	2/20/2023	9.8	11
B5-2	2/20/2023	9.1	8.6
B6-0.5	2/20/2023	8.7	8.4
B6-2	2/20/2023	10	9.8
B7-0.5	2/20/2023	9.6	10
B7-0.5 DUP	2/20/2023	9.5	9.1
B7-2	2/20/2023	19	13
B7-4	2/20/2023	16	--
B8-0.5	2/20/2023	8.7	8.7
B8-2	2/20/2023	18	13
B8-4	2/20/2023	17	--
B9-0.5	2/20/2023	2.5	9.8
B9-2	2/20/2023	10	9.5
B10-0.5	2/20/2023	10	10
B10-2	2/20/2023	18	13
B10-4	2/20/2023	17	--
B11-0.5	2/20/2023	8.9	8.7
B11-2	2/20/2023	13	12
B11-4	2/20/2023	19	--
B12-0.5	2/20/2023	8.1	9.4
B12-2	2/20/2023	ND (<0.74)	ND (<0.090)

NOTES:

mg/kg = milligrams per kilogram

MDL = Method Detection Limit

RSL = Regional Screening Level-Residential Land Use, Environmental Protection Agency (Pacific Southwest, Region 9), updated May 2022

DTSC-SLs = Department of Toxic Substance Control Modified Screening Levels-Residential Land Use, revised May 2022

* = DTSC upper bound estimate (95th percentile) for background concentrations in Southern California

ND = Not detected at or above the MDL

"- -" = Not Analyzed

DUP = Duplicate sample

Table 3: Pesticides in Soils Laboratory Analysis Summary
McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, California

Sample ID	Compound	EPA Method 8081A																			
		4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	alpha-BHC	beta-BHC	Chlordane (Technical)	delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene
	CAS	72-54-8	72-55-9	50-29-3	309-00-2	319-84-6	319-85-7	12789-03-6	319-86-8	60-57-1	115-29-7	33213-65-9	1031-07-8	72-20-8	7421-93-4	53494-70-5	58-89-9	76-44-8	1024-57-3	72-43-5	8001-35-2
	RSLs (mg/kg)	2.30	2.00	1.90	0.039	0.086	0.30	1.70	NE	0.034	470	470^	380	19	NE	19*	0.57	0.13	0.07	320	0.49
	DTSC-SLs (mg/kg)	1.90	2.00	1.90	0.039	0.086	0.30	1.70	NE	0.034	450	450^	380	19	NE	19*	0.57	0.13	0.07	320	0.45
B1-0.5	2/20/2023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B1-2	2/20/2023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B2-0.5	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0013)	ND (<0.0014)	ND (<0.0014)	ND (<0.0015)	ND (<0.0016)	ND (<0.0015)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.005)	ND (<0.015)
B2-2	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0013)	ND (<0.0014)	ND (<0.0014)	ND (<0.0016)	ND (<0.0016)	ND (<0.0016)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.005)	ND (<0.015)
B3-0.5	2/20/2023	ND (<0.0022)	ND (<0.0029)	ND (<0.0029)	ND (<0.0026)	ND (<0.0024)	ND (<0.0033)	**0.044J**	ND (<0.0027)	ND (<0.0029)	ND (<0.0028)	ND (<0.0031)	ND (<0.0033)	ND (<0.0031)	ND (<0.0034)	ND (<0.0028)	ND (<0.0021)	ND (<0.003)	ND (<0.0036)	ND (<0.01)	ND (<0.029)
B3-2	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0014)	ND (<0.0016)	ND (<0.0016)	ND (<0.0016)	ND (<0.0017)	**0.0024J**	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.0051)	ND (<0.015)
B4-0.5	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0014)	ND (<0.0016)	ND (<0.0016)	ND (<0.0016)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.0051)	ND (<0.015)
B4-2	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0014)	ND (<0.0016)	ND (<0.0016)	ND (<0.0016)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.0051)	ND (<0.015)
B5-0.5	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0016)	ND (<0.011)	ND (<0.0013)	ND (<0.0014)	ND (<0.0014)	ND (<0.0015)	ND (<0.0016)	ND (<0.0015)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.005)	ND (<0.014)
B5-2	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0014)	ND (<0.0016)	ND (<0.0016)	ND (<0.0016)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.0051)	ND (<0.015)
B6-0.5	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0016)	ND (<0.011)	ND (<0.0013)	ND (<0.0014)	ND (<0.0014)	ND (<0.0015)	ND (<0.0016)	ND (<0.0015)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.005)	ND (<0.014)
B6-2	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0016)	ND (<0.011)	ND (<0.0013)	ND (<0.0014)	ND (<0.0014)	ND (<0.0015)	ND (<0.0016)	ND (<0.0015)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.005)	ND (<0.014)
B7-0.5	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0013)	ND (<0.0014)	ND (<0.0014)	ND (<0.0015)	ND (<0.0016)	ND (<0.0015)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.005)	ND (<0.015)
B7-0.5 DUP	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0014)	ND (<0.0016)	ND (<0.0016)	ND (<0.0016)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.0051)	ND (<0.015)
B7-2	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0013)	ND (<0.0014)	ND (<0.0014)	ND (<0.0016)	ND (<0.0016)	ND (<0.0016)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.005)	ND (<0.015)
B8-0.5	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0013)	ND (<0.0014)	ND (<0.0014)	ND (<0.0015)	ND (<0.0016)	ND (<0.0015)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.005)	ND (<0.015)
B8-2	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0013)	ND (<0.0014)	ND (<0.0014)	ND (<0.0016)	ND (<0.0016)	ND (<0.0016)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.005)	ND (<0.015)
B9-0.5	2/20/2023	ND (<0.022)	ND (<0.029)	ND (<0.029)	ND (<0.026)	ND (<0.024)	ND (<0.033)	ND (<0.22)	ND (<0.027)	ND (<0.029)	ND (<0.028)	ND (<0.031)	ND (<0.032)	ND (<0.031)	ND (<0.034)	ND (<0.028)	ND (<0.021)	ND (<0.03)	ND (<0.036)	ND (<0.1)	ND (<0.29)
B9-2	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0013)	ND (<0.0014)	ND (<0.0014)	ND (<0.0016)	ND (<0.0016)	ND (<0.0016)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.005)	ND (<0.015)
B10-0.5	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0014)	ND (<0.0016)	ND (<0.0016)	ND (<0.0016)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.0051)	ND (<0.015)
B10-2	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0016)	ND (<0.011)	ND (<0.0013)	ND (<0.0014)	ND (<0.0014)	ND (<0.0015)	ND (<0.0016)	ND (<0.0015)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.005)	ND (<0.014)
B11-0.5	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0014)	ND (<0.0016)	ND (<0.0016)	ND (<0.0016)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.0051)	ND (<0.015)
B11-2	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0013)	ND (<0.0014)	ND (<0.0014)	ND (<0.0015)	ND (<0.0016)	ND (<0.0015)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.005)	ND (<0.015)
B12-0.5	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0014)	ND (<0.0016)	ND (<0.0016)	ND (<0.0016)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.0051)	ND (<0.015)
B12-2	2/20/2023	ND (<0.0011)	ND (<0.0014)	ND (<0.0014)	ND (<0.0013)	ND (<0.0012)	ND (<0.0017)	ND (<0.011)	ND (<0.0013)	ND (<0.0014)	ND (<0.0014)	ND (<0.0016)	ND (<0.0016)	ND (<0.0016)	ND (<0.0017)	ND (<0.0014)	ND (<0.001)	ND (<0.0015)	ND (<0.0018)	ND (<0.005)	ND (<0.015)

NOTES:

mg/kg = milligrams per kilogram

MDL = Method Detection Limit

RSL = Regional Screening Level-Residential Land Use, Environmental Protection Agency (Pacific Southwest, Region 9), updated May 2022

DTSC-SLs = Department of Toxic Substance Control Modified Screening Levels-Residential Land Use, revised May 2022

NE = No Screening Level Established

ND = Not detected at or above the MDL

"- -" = Not Analyzed

J = Analyte was detected; however, result is an estimated value between the RDL and the MDL

DUP = Duplicate sample

* = No RSL or DTSC-SL has been established for Endrine Ketone. RSL and DTSC-SL for Endrine has been used.

^ = No RSL or DTSC-SL has been established for Endosulfan II. RSL and DTSC-SL for Endosulfan I has been used.

Table 4 - VOCs in Soil Vapor Laboratory Analysis Summary
McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, CA 90404

Sample ID	Compound	VOCS EPA Method 8260																			
		1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trimethylbenzene	1,2-Dibromoethane (EDB)	1,2-Dichlorobenzene	1,2-Dichloroethane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	4-Isopropyltoluene	Benzene	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorobenzene	Chloroform
	RSLs (µg/m3)	12.7	173,333	1.60	6.0	60	7,000	2,100	0.157	7,000	3.67	2,100	NE	8.7	NE	12.0	2.53	87	15.67	1,733	4.0
	DTSC-SLs (µg/m3)	12.67	33,333	1.60	NE	60	2,433	NE	0.16	NE	NE	NE	NE	NE	NE	3.23	2.53	86.67	16	NE	NE
	RL (µg/m3):	8.0	8.0	16	8.0	8.0	8.0	8.0	8.0	16	8.0	8.0	16	16	8.0	8.0	8.0	8.0	8.0	8.0	8.0
SV1-5	2/20/2023	ND	ND	ND	ND	ND	ND	**75**	ND	ND	ND	**26**	ND	ND	ND	**18**	**53**	**10**	ND	ND	**163**
SV1-15	2/20/2023	ND	ND	ND	ND	ND	ND	**85**	ND	ND	ND	**27**	ND	ND	ND	ND	ND	ND	ND	ND	ND
SV2-5	2/20/2023	ND	ND	ND	ND	ND	ND	**97**	ND	ND	ND	**38**	ND	ND	ND	**334**	**45**	ND	ND	ND	**139**
SV2-5 REP	2/20/2023	ND	ND	ND	ND	ND	ND	**82**	ND	ND	ND	**33**	ND	ND	ND	**251**	**29**	ND	ND	ND	**111**
SV2-15	2/20/2023	ND	ND	ND	ND	ND	ND	**107**	ND	ND	ND	**39**	ND	ND	ND	ND	ND	ND	ND	ND	ND
SV3-5	2/20/2023	ND	ND	ND	ND	ND	ND	**372**	ND	ND	ND	**148**	ND	ND	ND	**751**	**44**	ND	ND	ND	**107**
SV3-15	2/20/2023	ND	ND	ND	ND	ND	ND	**109**	ND	ND	ND	**36**	ND	ND	ND	ND	ND	ND	ND	ND	ND

NOTES:

µg/m^3 = micrograms per cubic meter

RL = Laboratory Reporting Limit

RSL = Regional Screening Level-Residential Land Use (Attenuation Factor of 0.03), Environmental Protection Agency (Pacific Southwest, Region 9), updated May 2022

DTSC-SLs = Department of Toxic Substance Control Modified Screening Levels-Residential Land Use (Attenuation Factor of 0.03), revised May 2022

NE = No Screening Level Established

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"- -" = Not Analyzed

DUP = Duplicate sample

Table 4 - VOCs in Soil Vapor Laboratory Analysis Summary
McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, CA 90404

Sample ID	Compound	VOCS EPA Method 8260																		
		cis-1,2-Dichloroethene	Dibromochloromethane	Di-isopropylether	Ethylbenzene	Ethyl-tert-butylether	Freon 11	Freon 113	Freon 12	Isopropanol (LCC)	Isopropylbenzene	m,p-Xylene	Methylene chloride	Methyl-tert-butylether	Naphthalene	n-Butylbenzene	n-Hexane (LCC)	n-Pentane (LCC)	n-Propanol (LCC)	n-Propylbenzene
	RSLs (µg/m3)	1,400	NE	24,333	37	1,167	NE	173,333	3,333	7,000	14,000	3,333	3,333	367	3	NE	24,333	33,333	NE	33,333
	DTSC-SLs (µg/m3)	277	4.33	NE	NE	NE	43,333	NE	NE	NE	NE	NE	33.33	467	NE	7,000	NE	NE	NE	NE
	RL (µg/m3):	8.0	8.0	40	8.0	40	16	16	16	80	8.0	16	8.0	40	40	12	80	80	80	8.0
SV1-5	2/20/2023	ND	**22**	ND	**36**	ND	ND	ND	ND	ND	ND	**177**	ND	ND	ND	ND	ND	ND	ND	**17**
SV1-15	2/20/2023	ND	ND	ND	**41**	ND	ND	ND	ND	ND	ND	**183**	ND	ND	ND	ND	ND	ND	ND	**15**
SV2-5	2/20/2023	ND	**17**	ND	**164**	ND	ND	ND	ND	ND	ND	**602**	ND	ND	ND	ND	ND	ND	ND	**27**
SV2-5 REP	2/20/2023	ND	**15**	ND	**131**	ND	ND	ND	ND	ND	ND	**519**	ND	ND	ND	ND	ND	ND	ND	**26**
SV2-15	2/20/2023	ND	ND	ND	**50**	ND	ND	ND	ND	ND	ND	**241**	ND	ND	ND	ND	ND	ND	ND	**23**
SV3-5	2/20/2023	ND	**20**	ND	**702**	ND	ND	ND	ND	ND	ND	**2,540**	ND	ND	ND	ND	ND	ND	ND	**100**
SV3-15	2/20/2023	ND	ND	ND	**31**	ND	ND	ND	ND	ND	ND	**148**	ND	ND	ND	ND	ND	ND	ND	**19**

NOTES:

$\mu g/m^3$ = micrograms per cubic meter

RL = Laboratory Reporting Limit

RSL = Regional Screening Level-Residential Land Use (Attenuation Factor of 0.03), Environmental Protection Agency (Pacific Southwest, Region 9), updated May 2022

DTSC-SLs = Department of Toxic Substance Control Modified Screening Levels-Residential Land Use (Attenuation Factor of 0.03), revised May 2022

NE = No Screening Level Established

ND = Not detected at or above the RL

"- -" = Not Analyzed

DUP = Duplicate sample

Table 4 - VOCs in Soil Vapor Laboratory Analysis Summary
McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, CA 90404

Sample ID	Compound	VOCS EPA Method 8260									
		o-Xylene	sec-Butylbenzene	Styrene	tert-amylmethylether	tert-Butylalcohol	tert-Butylbenzene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	Trichloroethene
	RSLs (µg/m3)	3,333	NE	33,333	NE	173,333	NE	367	173,333	1,400	16
	DTSC-SLs (µg/m3)	NE	14,000	31,333	NE	NE	14,000	15.33	10,333	2,767	67
	RL (µg/m3):	8.0	12	8.0	40	400	12	8.0	8.0	8.0	8.0
SV1-5	2/20/2023	**58**	ND	ND	ND	ND	ND	**13**	**101**	ND	ND
SV1-15	2/20/2023	**61**	ND	ND	ND	ND	ND	**690**	**100**	ND	ND
SV2-5	2/20/2023	**179**	ND	ND	ND	ND	ND	**10**	**1,620**	ND	ND
SV2-5 REP	2/20/2023	**156**	ND	ND	ND	ND	ND	**10**	**1,270**	ND	**11**
SV2-15	2/20/2023	**83**	ND	ND	ND	ND	ND	**1,330**	**97**	ND	ND
SV3-5	2/20/2023	**729**	ND	ND	ND	ND	ND	ND	**5,060**	ND	ND
SV3-15	2/20/2023	**58**	ND	ND	ND	ND	ND	**653**	**55**	ND	ND

NOTES:

µg/m^3 = micrograms per cubic meter

RL = Laboratory Reporting Limit

RSL = Regional Screening Level-Residential Land Use (Attenuation Factor of 0.03), Environmental Protection Agency (Pacific Southwest, Region 9), updated May 2022

DTSC-SLs = Department of Toxic Substance Control Modified Screening Levels-Residential Land Use (Attenuation Factor of 0.03), revised May 2022

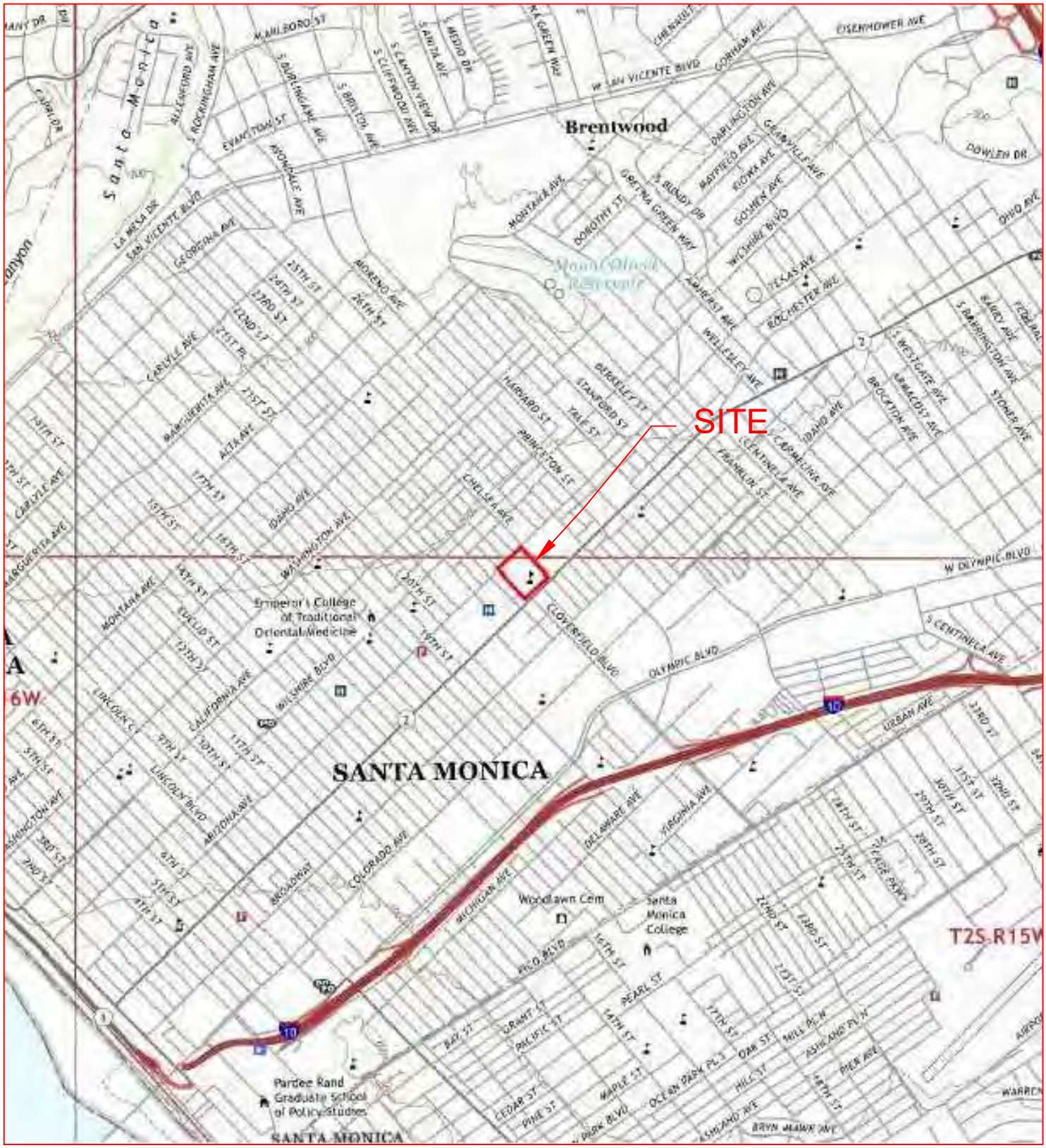
NE = No Screening Level Established

ND = Not detected at or above the RL

"- -" = Not Analyzed

DUP = Duplicate sample

FIGURES



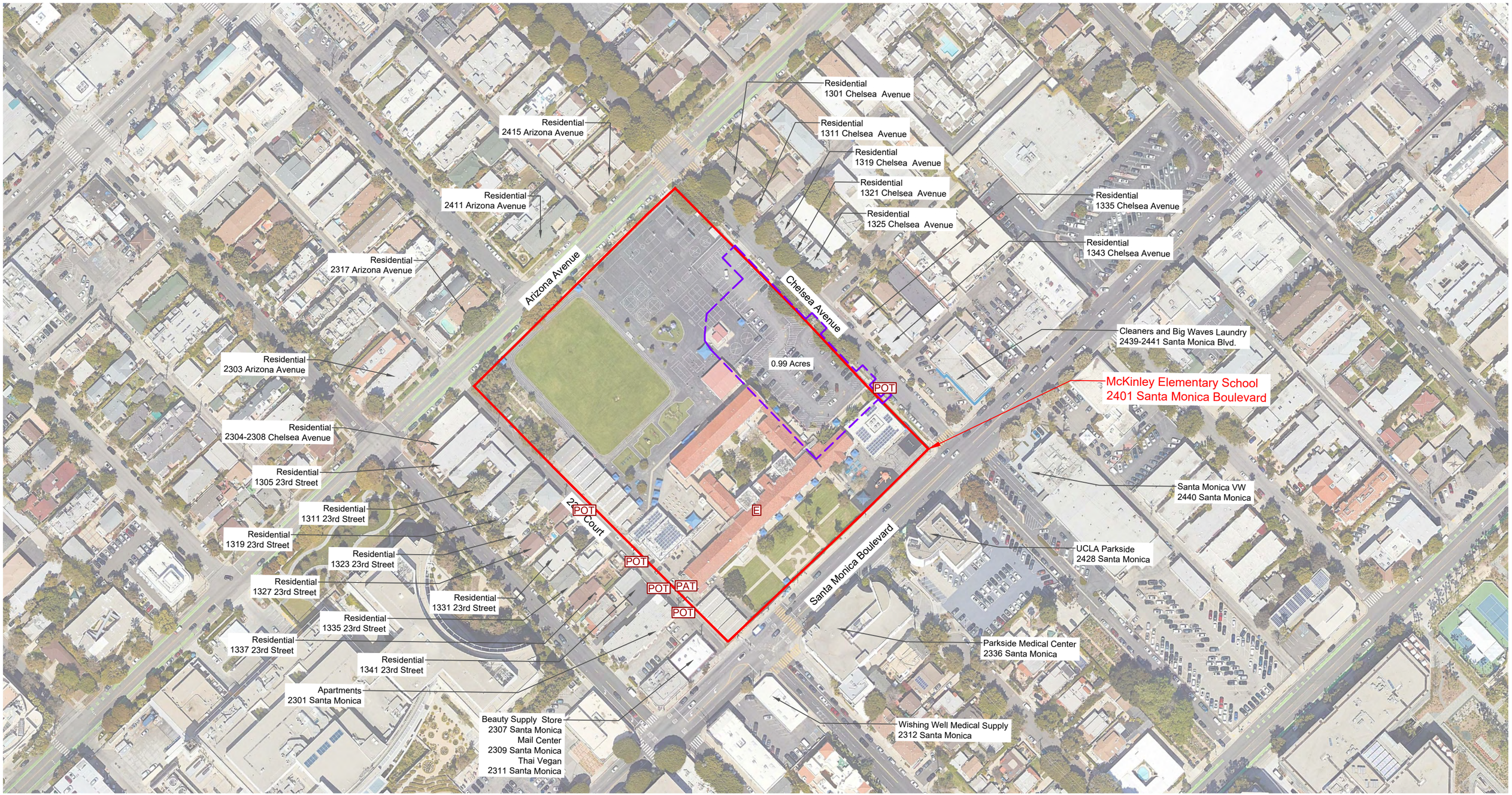
Approximate Outline of Site

FIGURE 1: Site Location Map

CLIENT: Santa Monica-Malibu Unified School District	SITE LOCATION: 2401 Santa Monica Boulevard Santa Monica, California 90404
PROJECT #: SMSD-21-11335	

NV5 ALTA ENVIRONMENTAL 3777 Long Beach Blvd., Annex Bldg. Long Beach, CA 90807 (562) 495-5777 www.altaenviron.com	DRAWN: ED	APPROVED: EF	NORTH
	SCALE: None	DATE: 2/20/2023	

W:\Clients N-S\Santa Monica-Malibu USD (SMSD)\SMSD-21-10665 5 Phase I ESAs\Photos - Drawings\AutoCAD\SMSD-21-10665-3\SMSD-21-10665-3 CAD.dwg



LEGEND:

- Approximate Campus Boundary
- Approximate Extents of Earthworks
- E — Hydraulic Passenger Elevator
- PAT — Pad Mounted Electrical Transformer
- POT — Pole Mounted Electrical Transformer

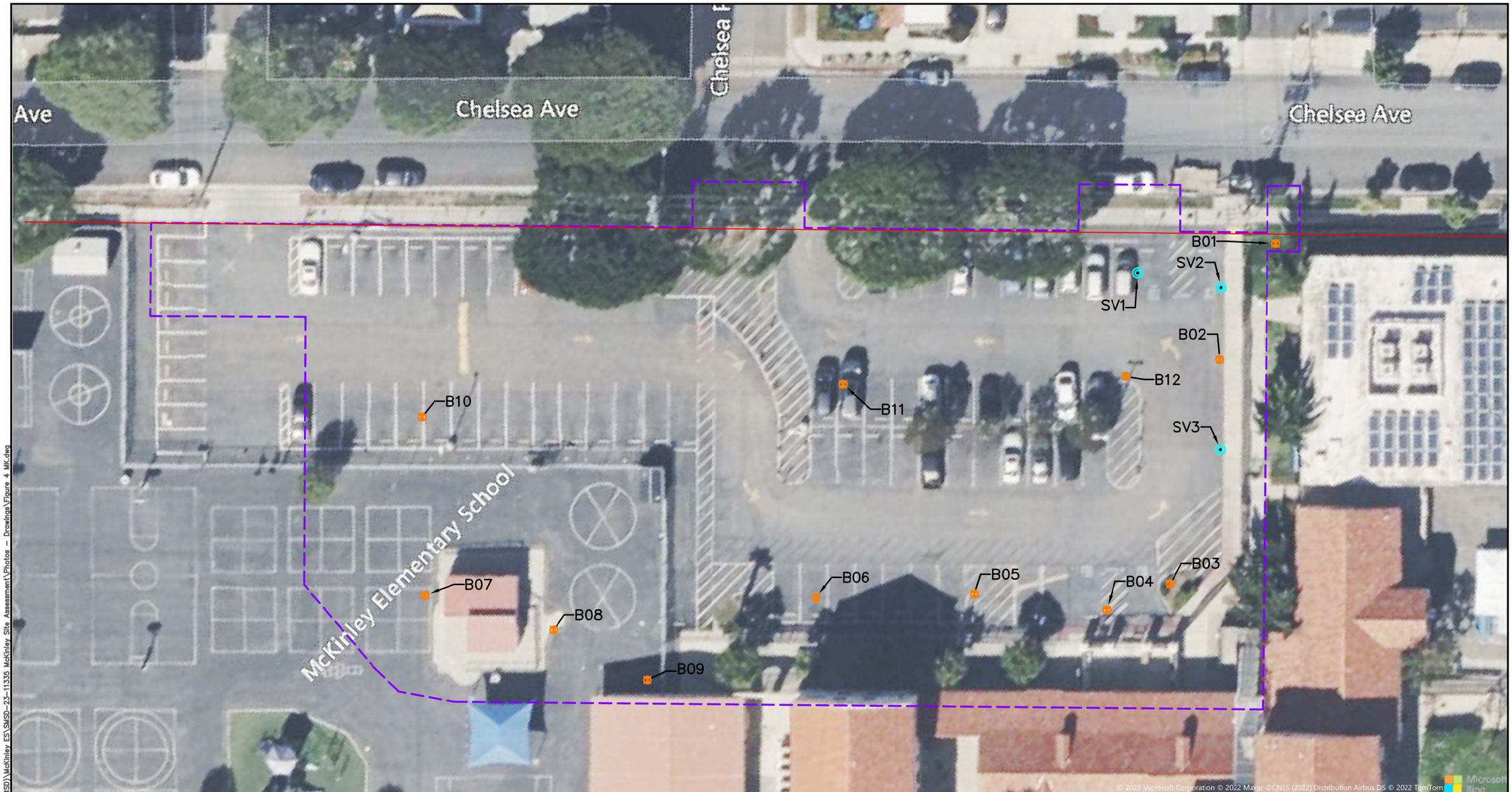
APPX. SCALE:
1" = 150'
0 — 150' — 1"

NORTH

FIGURE 2: Site Vicinity Map

CLIENT: Santa Monica Malibu Unified School District	DRAWN: AHL	APPROVED: EF
	SCALE: NTS	DATE: Feb. 2023
SITE LOCATION: McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California 90404	NV5 ALTA ENVIRONMENTAL	
PROJECT #: SMSD-23-11335	3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	

I:_NV5-Other\0011093 - Various\McKinley\SMSD-21-10665-3 CAD-BP.dwg



LEGEND:

- Approximate Campus Boundary
- Approximate Extents of Earthworks
- Approximate Boring Locations
- Approximate Soil Vapor Probe Locations

APPX. SCALE:
1" = 30'
0 30' 1"

NORTH

FIGURE 3: Sample Locations

CLIENT: Santa Monica Malibu Unified School District	DRAWN: RB	APPROVED: EF
	SCALE: NTS	DATE: Feb. 2023
SITE LOCATION: McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California 90404	NV5	
PROJECT #: SMSD-23-11335	3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	

W:\Clients N-S\Santa Monica-Malibu USD (SMSD)\McKinley ES\SMSD-23-11335 McKinley Site Assessment\Photos - Drawings\Figure 4 MK.dwg

SOIL VAPOR INVESTIGATION REPORT

McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, California 90404

Prepared for:

Santa Monica-Malibu Unified School District
2828 4th Street
Santa Monica, California 90405

Project Number: SMSD-23-11532
July 19, 2023

Alta Environmental LP, an NV5 Company
3777 Long Beach Boulevard, Annex Building
Long Beach, CA 90807 www.NV5.com

TABLES

TABLE 1
Soil Sample Laboratory Analysis Summary
McKinley Elementary School
2401 Santa Monica Boulevard, Santa Monica, California

Sample ID	Sample Depth Feet BGS	Sample Date	VOCs by EPA Method 8260				
			2-Butanone	Acetone	Benzene	Tert-Butyl Alcohol	Tetrachloroethylene
		RSL (mg/Kg):	**27,000**	**70,000**	**1**	**1,400**	**24**
		DTSC-SL (mg/Kg):	**NL**	**NL**	**0.330**	**NL**	**0.590**
SV4-5	5	6/3/2023	ND (<0.0037)	**0.030**	ND (<0.00021)	**0.0078J**	ND (<0.00018)
SV4-10	10	6/3/2023	ND (<0.0041)	**0.017J**	ND (<0.00023)	**0.014J**	ND (<0.00091)
SV4-15	15	6/3/2023	ND (<0.0046)	**0.034**	ND (<0.00026)	ND (<0.0071)	**0.00030J**
SV5-5	5	6/3/2023	ND (<0.0036)	**0.023**	ND (<0.00020)	ND (<0.0055)	ND (<0.00018)
SV5-10	10	6/3/2023	ND (<0.0043)	**0.030**	ND (<0.00025)	**0.0083J**	ND (<0.00021)
SV5-15	15	6/3/2023	ND (<0.0043)	**0.039**	ND (<0.00025)	ND (<0.0067)	**0.00077J**
SV6-5	5	6/3/2023	**0.010J**	**0.080**	ND (<0.00029)	ND (<0.0079)	ND (<0.00025)
SV6-10	10	6/3/2023	ND (<0.005)	**0.048**	ND (<0.00028)	ND (<0.0077)	ND (<0.00025)
SV6-15	15	6/3/2023	ND (<0.005.5)	**0.051**	ND (<0.00031)	ND (<0.0085)	**0.001J**
SV7-5	5	6/3/2023	ND (<0.0034)	**0.037**	ND (<0.00020)	ND (<0.0053)	ND (<0.00017)
SV7-5DUP	5	6/3/2023	ND (<0.0030)	**0.031**	ND (<0.00017)	**0.0056J**	ND (<0.00015)
SV7-10	10	6/3/2023	ND (<0.004)	**0.011J**	ND (<0.00023)	ND (<0.0061)	**0.0012**
SV7-10DUP	10	6/3/2023	ND (<0.004)	**0.033**	ND (<0.00023)	ND (<0.0062)	**0.00074J**
SV7-15	15	6/3/2023	ND (<0.006)	**0.026**	ND (<0.00034)	ND (<0.0092)	**0.0041**
SV7-15DUP	15	6/3/2023	ND (<0.0061)	**0.050**	ND (<0.00034)	ND (<0.0095)	**0.0046**
SV8-5	5	6/3/2023	**0.0075J**	**0.069**	**0.00025J**	ND (<0.0063)	**0.00029J**
SV8-10	10	6/3/2023	ND (<0.0033)	**0.019**	ND (<0.00019)	ND (<0.0051)	**0.0012**
SV8-15	15	6/3/2023	ND (<0.0061)	**0.048**	ND (<0.00035)	ND (<0.0095)	**0.0093**
SV9-5	5	6/3/2023	ND (<0.0040)	**0.021**	ND (<0.00023)	ND (<0.0061)	ND (<0.00020)
SV9-10	10	6/3/2023	ND (<0.0043)	**0.034**	ND (<0.00025)	ND (<0.0067)	ND (<0.00021)
SV9-15	15	6/3/2023	ND (<0.0051)	**0.045**	ND (<0.00029)	ND (<0.0079)	**0.00064J**
SV10-5	5	6/3/2023	ND (<0.0039)	**0.038**	ND (<0.00022)	ND (<0.0060)	ND (<0.00019)
SV10-10	10	6/3/2023	ND (<0.0033)	**0.022**	ND (<0.00019)	**0.0061J**	ND (<0.00016)
SV10-15	15	6/3/2023	ND (<0.0063)	**0.025J**	ND (<0.00036)	ND (<0.0097)	**0.00045J**
SV11-5	5	6/3/2023	ND (<0.0044)	**0.046**	ND (<0.00025)	ND (<0.0067)	ND (<0.00022)
SV11-10	10	6/3/2023	ND (<0.0053)	**0.043**	ND (<0.00030)	ND (<0.0083)	ND (<0.00026)
SV11-15	15	6/3/2023	ND (<0.003)	**0.024**	ND (<0.00017)	ND (<0.0046)	**0.00021J**
SV12-5	5	6/3/2023	**0.007.2J**	**0.083**	ND (<0.00024)	ND (0.0066)	ND (<0.00021)
SV12-10	10	6/3/2023	ND (<0.0032)	**0.028**	ND (<0.00018)	**0.0094J**	ND (<0.00016)
SV12-15	15	6/3/2023	ND (<0.0032)	**0.020**	ND (0.00018)	ND (<0.0050)	ND (<0.00016)
SV13-5	5	6/3/2023	ND (<0.0034)	**0.033**	ND (<0.00020)	ND (<0.0053)	ND (<0.00017)
SV13-10	10	6/3/2023	ND (<0.0041)	**0.054**	ND (<0.00023)	ND (<0.0064)	**0.00031J**
SV13-15	15	6/3/2023	ND (<0.0056)	**0.017J**	ND (<0.00032)	ND (<0.0087)	**0.0017**

NOTES:

mg/kg = milligrams per kilogram

NL = Not Listed

J = Indicates estimated concentration was reported at a value between the laboratory reporting limit (RL) and Method Detection Limit (MDL)

ND (<MDL) = Indicates constituent was reported at a value that is less than the listed MDL

RSL = USEPA Region IX Regional Screening Level for Soil - Residential Land Use, updated May 2023

DTSC-SL: DTSC Hero Note 3 Screening Levels for Soil - Residential Land Use, updated May 2022

DUP = Duplicate sample

BGS = Below Ground Surface

Table 2
Soil Vapor Sample Laboratory Analysis Summary
McKinley Elementary School
2401 Santa Monica Boulevard, Santa Monica, CA 90404

Sample ID	Sample Depth (Feet Below Ground Surface)	Sample Date	VOCS EPA Method 8260																	
			1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Isopropyltoluene	Benzene	Ethylbenzene	Freon 12	Isopropyl benzene	m,p-Xylene	Methylene Chloride	Naphthalene	n-Butylbenzene	n-Propylbenzene	o-Xylene	sec-Butylbenzene	Styrene	Tetrachloroethene	Toluene	Trichloroethene
	RSLs (µg/m3)		2,100	2,100	NE	12	37	3,333	14,000	3,333	3,333	3	NE	33,333	3,333	NE	33,333	367	173,333	16
	DTSC-SLs (µg/m3)		NE	NE	NE	3.23	NE	NE	NE	NE	33.33	NE	7,000	NE	NE	14,000	31,333	15.33	10,333	67*
SV4-5V	5	6/10/2023	**226**	**96**	**232**	**25**	**111**	ND (<12)	**27**	**461**	ND (<8)	ND (<5)	ND (<4)	**66**	**103**	ND (<4)	ND (<6)	**489**	**290**	ND (<8)
SV4-15V	15	6/10/2023	ND (<6)	ND (<6)	ND (<5)	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	**701**	ND (<5)	ND (<8)
SV5-5V	5	6/10/2023	**24**	**22**	**397**	**13**	**38**	**16J**	ND (<7)	**78**	ND (<8)	**8J**	ND (<4)	ND (<5)	**38**	**9J**	ND (<6)	**84**	**102**	ND (<8)
SV5-15V	15	6/10/2023	ND (<6)	ND (<6)	ND (<5)	ND (<3)	**7J**	**16**	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	**7J**	ND (<4)	ND (<6)	**291**	ND (<5)	ND (<8)
SV6-5V	5	6/10/2023	**12**	**10**	**231**	ND (<3)	**16**	**16**	ND (<7)	**32**	ND (<8)	ND (<5)	**8J**	ND (<5)	**16**	**7J**	ND (<6)	**167**	**24**	ND (<8)
SV6-15V	15	6/10/2023	ND (<6)	ND (<6)	ND (<5)	ND (<3)	**7J**	ND (<21)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	**7J**	ND (<4)	ND (<6)	**394**	ND (<5)	ND (<8)
SV7-5V	5	6/10/2023	**12**	**9**	**63**	ND (<3)	**12**	**16**	ND (<7)	**24**	ND (<8)	ND (<5)	ND (<4)	ND (<5)	**12**	**6J**	ND (<6)	**1,100**	**13**	ND (<8)
SV7-5V REP	5	6/10/2023	**12**	**10**	**69**	ND (<3)	**13**	**17**	ND (<7)	**26**	ND (<8)	ND (<5)	ND (<4)	ND (<5)	**13**	**7J**	ND (<6)	**1,530**	**15**	ND (<8)
SV7-15V	15	6/10/2023	ND (<6)	ND (<6)	**8**	ND (<3)	**7J**	**17**	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	**7J**	ND (<4)	ND (<6)	**2,360**	ND (<5)	ND (<8)
SV8-5V	5	6/10/2023	ND (<6)	ND (<6)	**2,480**	**13**	**9**	ND (<12)	ND (<7)	**35**	ND (<8)	ND (<5)	ND (<4)	ND (<5)	**10**	ND (<4)	**8J**	**467**	**261**	ND (<8)
SV8-15V	15	6/10/2023	ND (<6)	ND (<6)	**29**	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	**2,470**	ND (<5)	ND (<8)
SV8-15V REP	15	6/11/2023	ND (<6)	ND (<6)	**17**	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	**2,180**	ND (<5)	ND (<8)
SV9-5V	5	6/10/2023	ND (<6)	ND (<6)	**239**	**5J**	**14**	**17**	ND (<7)	**30**	ND (<8)	ND (<5)	ND (<4)	ND (<5)	**14**	**7J**	ND (<6)	**55**	**66**	ND (<8)
SV9-15V	15	6/10/2023	**8J**	ND (<6)	**21**	ND (<3)	**8J**	**16J**	ND (<7)	**14J**	ND (<8)	**7J**	**7J**	ND (<5)	**8J**	**7J**	ND (<6)	**254**	**24**	ND (<8)
SV10-5V	5	6/10/2023	ND (<6)	ND (<6)	**395**	**5J**	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	**68**	**198**	ND (<8)
SV10-15V	15	6/10/2023	ND (<6)	ND (<6)	**88**	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	**646**	**16**	ND (<8)
SV11-5V	5	6/10/2023	ND (<6)	ND (<6)	**366**	**6J**	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	**54**	**231**	ND (<8)
SV11-15V	15	6/10/2023	ND (<6)	ND (<6)	ND (<5)	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	**14J**	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	**926**	**11**	**31**
SV12-5V	5	6/10/2023	ND (<6)	ND (<6)	**15**	ND (<3)	ND (<6)	ND (<12)	ND (<7)	**16J**	**12J**	**14J**	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	ND (<8)	**93**	ND (<8)
SV12-15V	15	6/10/2023	ND (<6)	ND (<6)	**29**	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	**82**	**14**	**98**
SV13-5V	5	6/10/2023	**15**	ND (<6)	**301**	**14**	**49**	ND (<12)	ND (<7)	**201**	ND (<8)	ND (<5)	ND (<4)	ND (<5)	**69**	ND (<4)	ND (<6)	**222**	**153**	ND (<8)
SV13-15V	15	6/10/2023	ND (<6)	ND (<6)	ND (<5)	ND (<3)	ND (<6)	ND (<12)	ND (<7)	ND (<11)	ND (<8)	ND (<5)	ND (<4)	ND (<5)	ND (<5)	ND (<4)	ND (<6)	**2,600**	**10**	ND (<8)

NOTES:

$\mu g/m^3$ = micrograms per cubic meter

RSL = Regional Screening Level - Residential Land Use, Environmental Protection Agency (Pacific Southwest, Region 9), updated May 2023 divided by attenuation factor of 0.03

DTSC-SLs = Department of Toxic Substance Control Modified Screening Levels - Residential Land Use, revised May 2022, divided by attenuation factor of 0.03

* - Indoor Air Screening Level of $2\mu g/m^3$ for TCE used per DTSC Hero Note 5: *Health-based Indoor Air Screening Criteria for Trichloroethylene (TCE),* divided by attenuation factor of 0.03

NE = No Screening Level Established

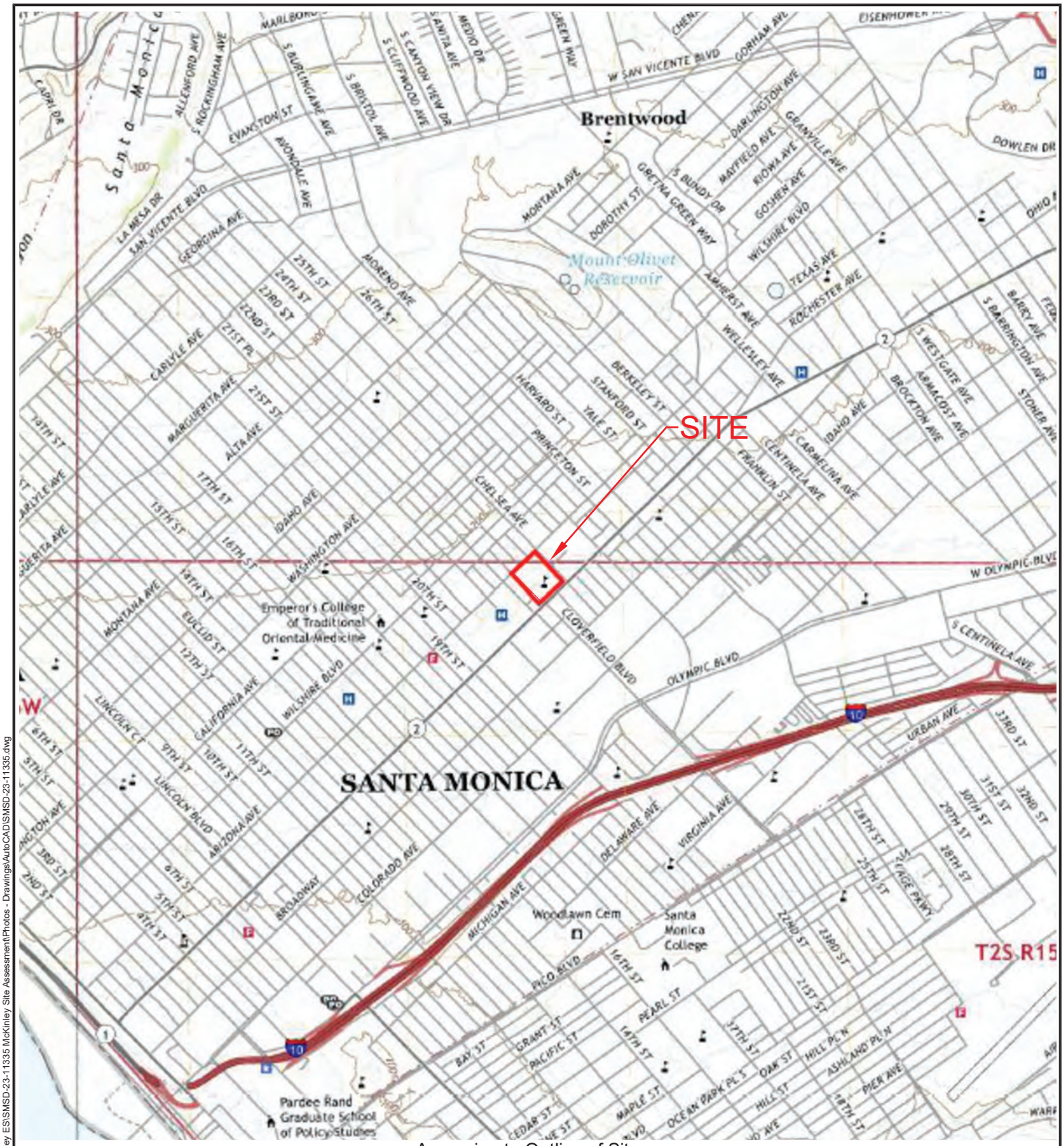
Concentrations highlited in yellow exceeded residential land use screening levels

ND (<MDL) = Not detected at or above the listed laboratory method detection limit (MDL)

REP = Replicate Sample

J = Concentration is below laboratory reporting limit (RL) but above MDL

FIGURES



Approximate Outline of Site

FIGURE 1: Site Location Map

CLIENT: Santa Monica-Malibu Unified School District	SITE LOCATION: 2401 Santa Monica Boulevard Santa Monica, California 90404
PROJECT #: SMSD-23-11532	

NV5 ALTA ENVIRONMENTAL 3777 Long Beach Blvd., Annex Bldg. Long Beach, CA 90807 (562) 495-5777 www.altaenviron.com	DRAWN: ED	APPROVED: EF	NORTH
	SCALE: None	DATE: 7/10/2023	

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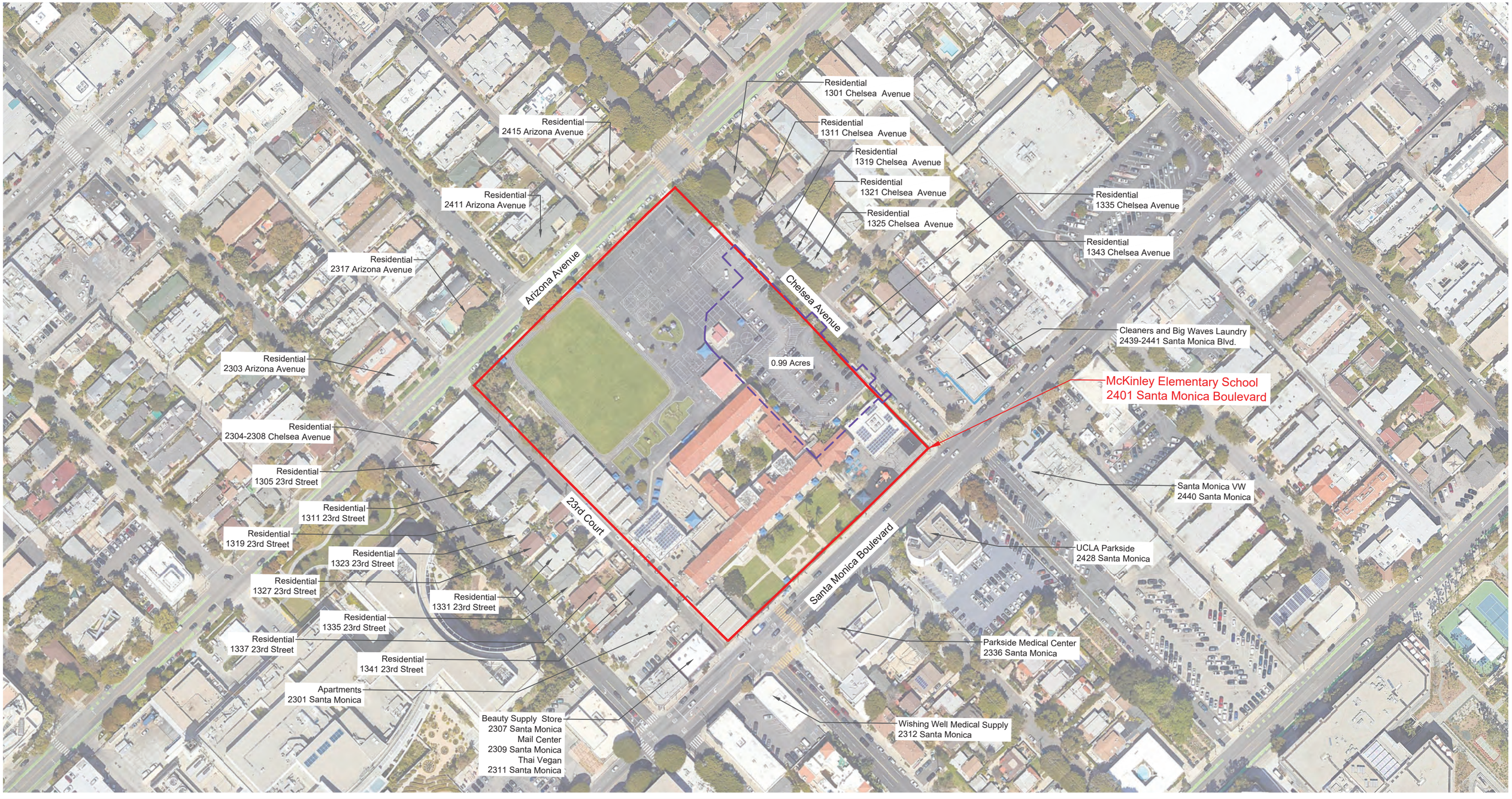

LEGEND:

Approximate Site Boundary

Approximate Extents of Earthwork

APPX. SCALE:
1" = 150'
0 1" 150'

NORTH

FIGURE 2: Site Vicinity Map

CLIENT: Santa Monica Malibu Unified School District	DRAWN: AHL	APPROVED: EF
	SCALE: NTS	DATE: JULY 2023
SITE LOCATION: McKinley Elementary School 2401 Santa Monica Boulevard Santa Monica, California 90404	NV5 ALTA ENVIRONMENTAL	
PROJECT #: SMSD-23-11532	3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	

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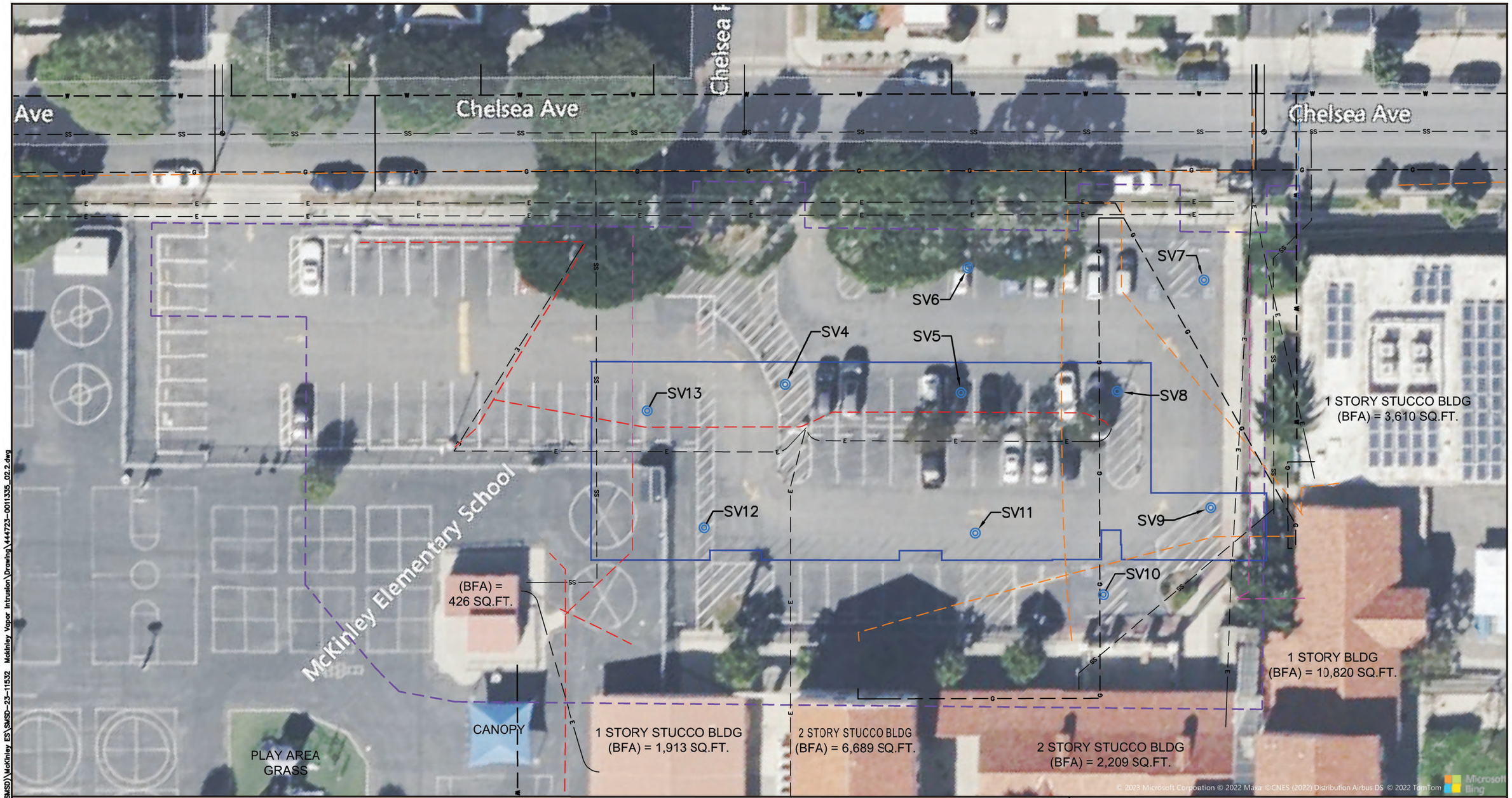

LEGEND:

- Approximate New Structure Outline
- Approximate Exterts of Earthwork
- Approximate Soil Vapor Probe Locations
- Electrical Line Paintmark
- Unknown Utility Line Paintmark
- Water Line Paintmark
- Gas Line Paintmark
- Electric Line
- Sanitary Sewer
- Gas Line
- Water Line

APPX. SCALE: 1" = 30' (0 – 30' – 1")

NORTH

FIGURE 3: Sample Locations

CLIENT: Santa Monica Malibu Unified School District	DRAWN: PD	APPROVED: EF
	SCALE: 1" = 30'	DATE: JULY 2023
SITE LOCATION: McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California 90404	NV5 ALTA ENVIRONMENTAL, 3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807, P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	
PROJECT #: SMSD-23-11532		

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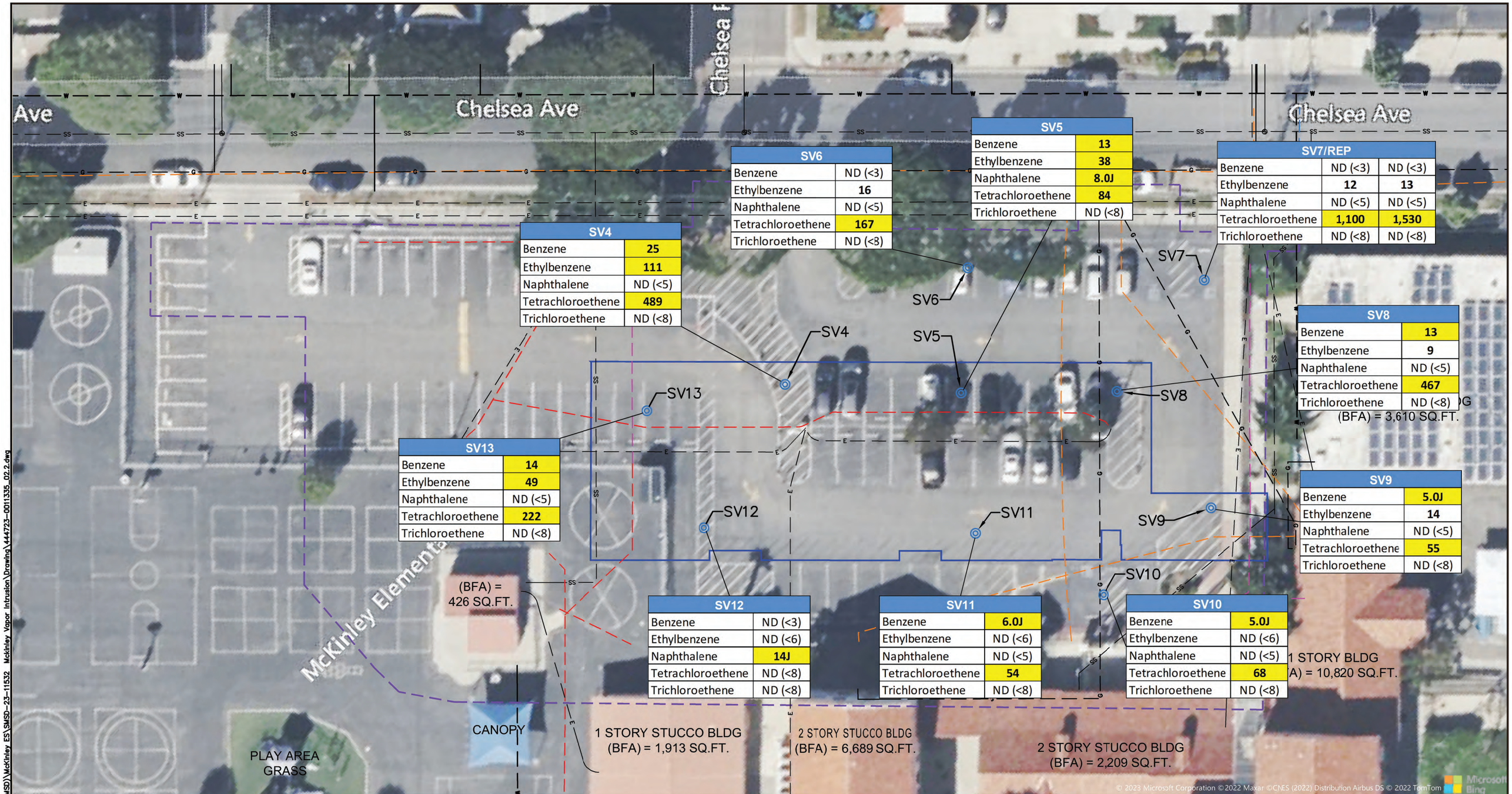

SV4	
Benzene	25
Ethylbenzene	111
Naphthalene	ND (<5)
Tetrachloroethene	489
Trichloroethene	ND (<8)

SV5	
Benzene	13
Ethylbenzene	38
Naphthalene	8.0J
Tetrachloroethene	84
Trichloroethene	ND (<8)

SV6	
Benzene	ND (<3)
Ethylbenzene	16
Naphthalene	ND (<5)
Tetrachloroethene	167
Trichloroethene	ND (<8)

SV7/REP		
Benzene	ND (<3)	ND (<3)
Ethylbenzene	12	13
Naphthalene	ND (<5)	ND (<5)
Tetrachloroethene	1,100	1,530
Trichloroethene	ND (<8)	ND (<8)

SV8	
Benzene	13
Ethylbenzene	9
Naphthalene	ND (<5)
Tetrachloroethene	467
Trichloroethene	ND (<8)

SV9	
Benzene	5.0J
Ethylbenzene	14
Naphthalene	ND (<5)
Tetrachloroethene	55
Trichloroethene	ND (<8)

SV10	
Benzene	5.0J
Ethylbenzene	ND (<6)
Naphthalene	ND (<5)
Tetrachloroethene	68
Trichloroethene	ND (<8)

SV11	
Benzene	6.0J
Ethylbenzene	ND (<6)
Naphthalene	ND (<5)
Tetrachloroethene	54
Trichloroethene	ND (<8)

SV12	
Benzene	ND (<3)
Ethylbenzene	ND (<6)
Naphthalene	14J
Tetrachloroethene	ND (<8)
Trichloroethene	ND (<8)

SV13	
Benzene	14
Ethylbenzene	49
Naphthalene	ND (<5)
Tetrachloroethene	222
Trichloroethene	ND (<8)

LEGEND:

- Approximate New Structure Outline
- Approximate Extents of Earthwork
- Approximate Soil Vapor Probe Locations
- 1,530 — VOC concentration above screening level
- 16 — VOC concentration
- ND (<3) — VOC concentration Not Detected
- Electrical Line Paintmark
- Unknown Utility Line Paintmark
- Water Line Paintmark
- Gas Line Paintmark
- Electric Line
- Sanitary Sewer
- Gas Line
- Water Line

NOTE:

1. Concentrations are reported in micrograms per cubic meter (µg/m3)

APPX. SCALE: 1" = 30' (0 – 30' – 1")

NORTH

FIGURE 4: Select VOC Concentrations in Soil Vapor at 5ft bgs

CLIENT: Santa Monica Malibu Unified School District

DRAWN: RB | APPROVED: EF | SCALE: 1" = 30' | DATE: JULY 2023

SITE LOCATION:
McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, California 90404

PROJECT #: SMSD-23-11532

NV5 ALTA ENVIRONMENTAL
3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807
P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com

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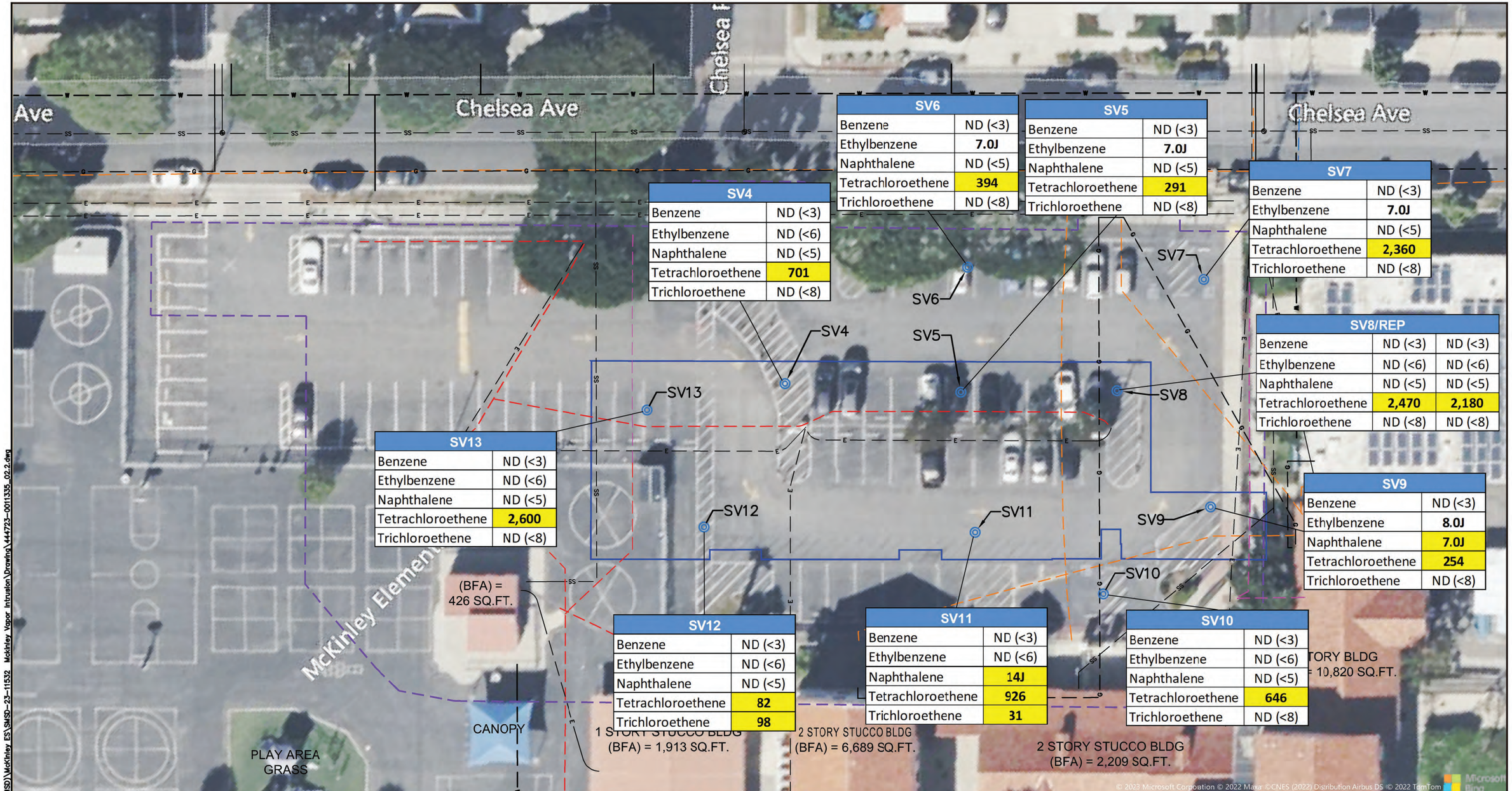

LEGEND:

- Approximate New Structure Outline
- Approximate Exterts of Earthwork
- Approximate Soil Vapor Probe Locations
- 1,530 VOC concentration above screening level
- 16 VOC concentration
- ND (<3) VOC concentration Not Detected
- Electrical Line Paintmark
- Unknown Utility Line Paintmark
- Water Line Paintmark
- Gas Line Paintmark
- Electric Line
- Sanitary Sewer
- Gas Line
- Water Line

NOTE:

1. Concentrations are reported in micrograms per cubic meter (µg/m3)

APPX. SCALE: 1" = 30' (0 – 30', 1")

NORTH

FIGURE 5: Select VOC Concentrations in Soil Vapor at 15ft bgs

CLIENT: Santa Monica Malibu Unified School District

DRAWN: RB | APPROVED: EF

SCALE: 1" = 30' | DATE: JUNE 2023

SITE LOCATION:
McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, California 90404

PROJECT #: SMSD-23-11532

NV5 ALTA ENVIRONMENTAL
3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807
P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com

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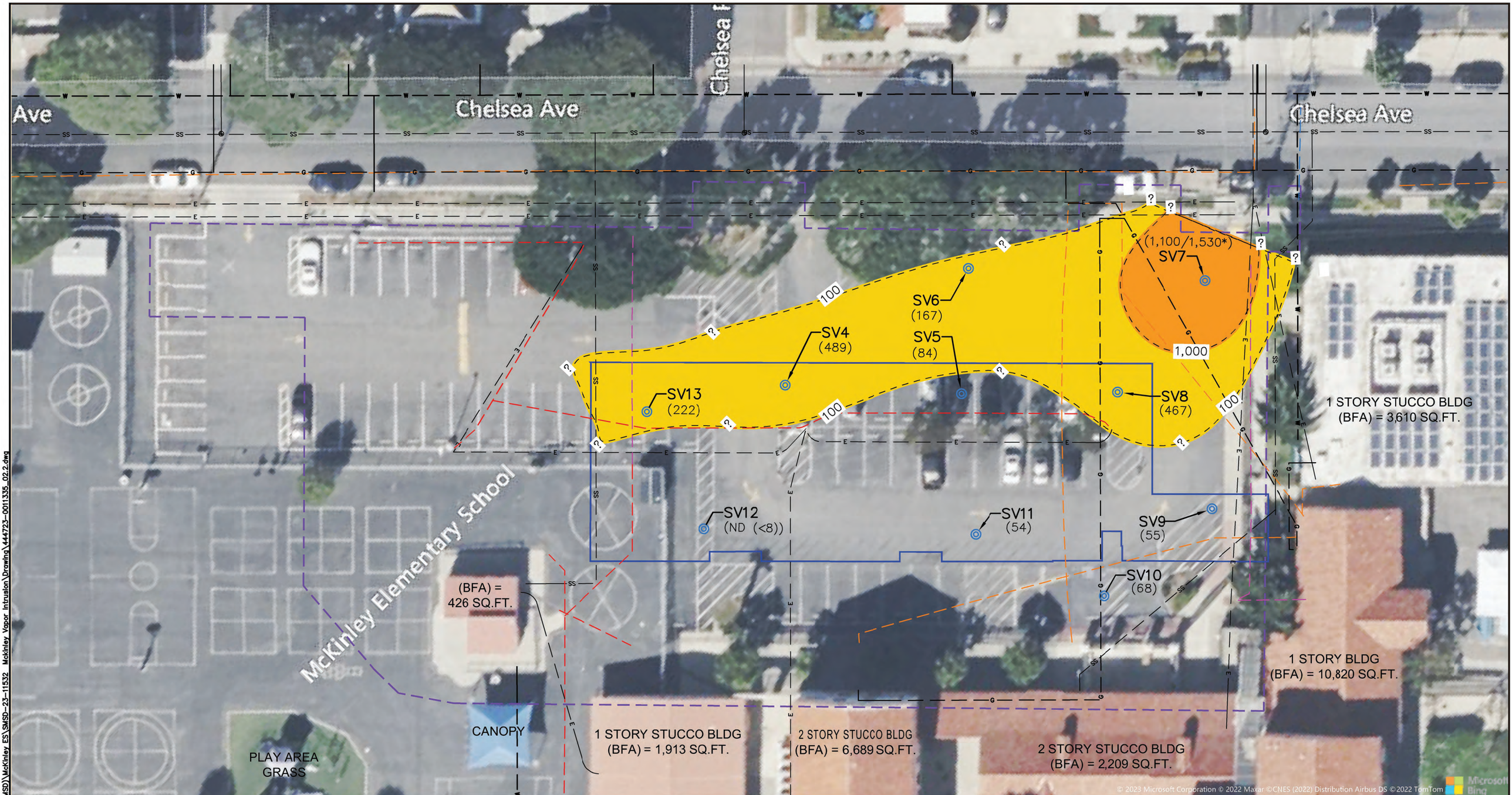

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LEGEND:

- Approximate New Structure Outline
- Approximate Extents of Earthwork
- Approximate Soil Vapor Probe Locations
- PCE Contour lines
- Electrical Line Paintmark
- Unknown Utility Line Paintmark
- Water Line Paintmark
- Gas Line Paintmark
- Electric Line
- Sanitary Sewer
- Gas Line
- Water Line

NOTE:

1. Concentrations are reported in micrograms per cubic meter (µg/m3)

KEY:

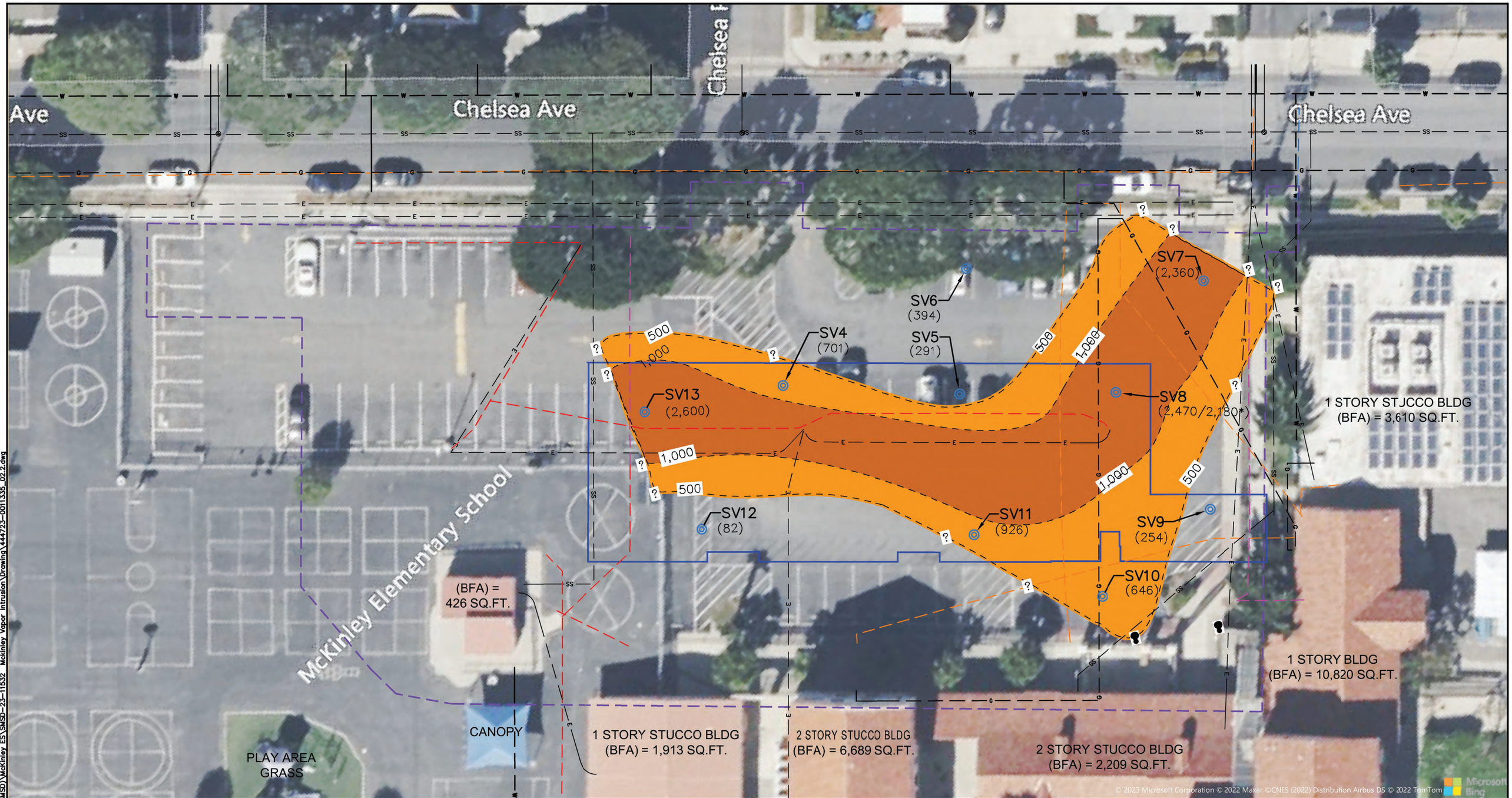
- PCE Concentration: 100 to 1,000 µg/m3
- PCE Concentration: > 1,000 µg/m3

APPX. SCALE: 1" = 30' (0 – 30', 1")

NORTH

FIGURE 6: PCE in Soil Vapor at 5ft bgs

CLIENT: Santa Monica Malibu Unified School District	DRAWN: RB	APPROVED: EF
	SCALE: 1" = 30'	DATE: JULY 2023
SITE LOCATION: McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California 90404	NV5 ALTA ENVIRONMENTAL	
PROJECT #: SMSD-23-11532	3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	



LEGEND:

- Approximate New Structure Outline
- Approximate Extents of Earthwork
- Approximate Soil Vapor Probe Locations
- PCE Contour lines
- Electrical Line Paintmark
- Unknown Utility Line Paintmark
- Water Line Paintmark
- Gas Line Paintmark
- Electric Line
- Sanitary Sewer
- Gas Line
- Water Line

NOTE:

1. Concentrations are reported in micrograms per cubic meter (µg/m3)

KEY:

- PCE Concentration: 500 to 1,000 µg/m3
- PCE Concentration: > 1,000 µg/m3

APPX. SCALE:
1" = 30'
0 — 1" — 30'

NORTH

FIGURE 7: PCE in Soil Vapor at 15ft bgs

CLIENT: Santa Monica Malibu Unified School District	DRAWN: RB	APPROVED: EF
	SCALE: 1" = 30'	DATE: JULY 2023
SITE LOCATION: McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California 90404	NV5 ALTA ENVIRONMENTAL	
PROJECT #: SMSD-23-11532	3777 Long Beach Blvd Annex Bldg. Long Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	

W:\Clients N-S\Santa Monica-Malibu USD (SMSD)\McKinley ES\SMSD-23-11532 Mckinley Vapor Intrusion\Drawing\44723-0011335_02.2.dwg

INDOOR AIR SAMPLING REPORT

McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, California 90404

Prepared for:

Santa Monica-Malibu Unified School District
2828 4th Street
Santa Monica, California 90405

Project Number: SMSD-23-11646
August 16, 2023

Alta Environmental LP, an NV5 Company
3777 Long Beach Boulevard, Annex Building
Long Beach, CA 90807 www.NV5.com

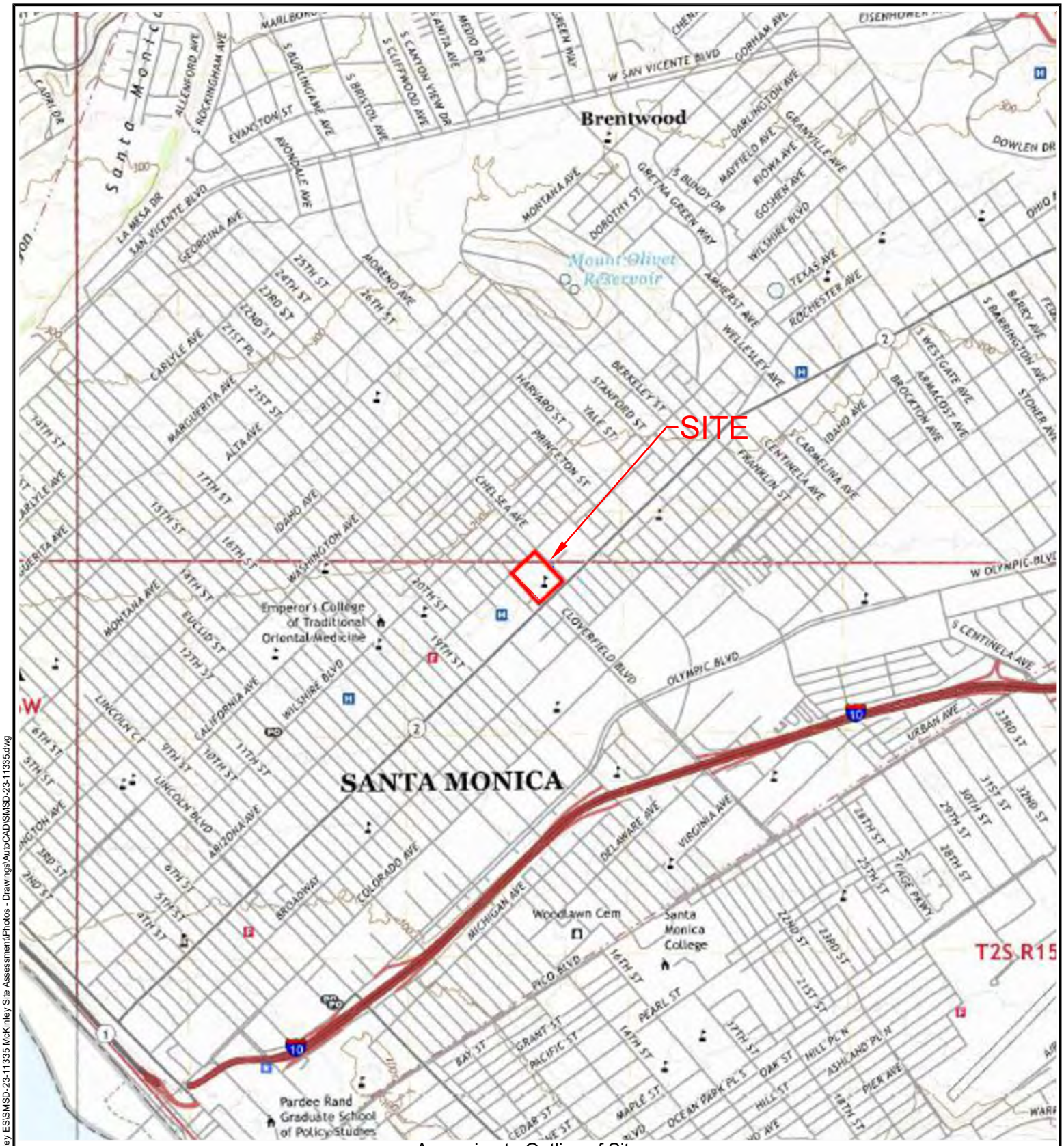
TABLES

Table 1: Air Sampling Laboratory Analysis Summary
McKinley Elementary School
2401 Santa Monica Boulevard, Santa Monica, California

Analyte	CAS Number	Sample Date	Sample ID		OA1	OA2	OA3	OA4	IA1	IA2	IA3	IA3 DUP	IA4	IA5	IA6	IA7	IA8	IA9	IA10	IA11	IA12	IA13	IA14	IA15	IA16	IA17	IA18	IA19	IA20
			Sample Location		Chelsea Parking Lot	Main Playground	South-Western Lawn	South-Eastern Playground	Building D Room 71D	Building D Room 70	Building D Room 71	Building D Room 71	Modular Building Room B10	Portable Classroom Building B7	Portable Classroom Building B2	Building A Cafeteria	Building B Basement	Building B Room 109	Building B Room 107	Building B Room 207	Building C Admin Office	Building C Library	Building C Room 102	Building C Room 105	Building C Auditorium	Building C STEM Lab	Building C Basement	Building C Room 202	Building C Boys Bathroom
			Screening Level																										
			RSL	DTSC-SL																									
Dichlorodifluoromethane (12)	75-71-8	7/13/2023	100	NE	2	1.6	2.1	2	2.1	2.1	2.1	2.1	2	1.9	1.9	2	2	2	2	2	2	1.9	2	2	2	2	2	2	2
Chloromethane	74-87-3	7/13/2023	94	NE	1	0.89	1.1	1.1	1.1	1.3	1.2	1.1	1.2	1.1	1.1	1.1	1	1.2	1.1	1.1	1.1	1	1	1.1	1.1	1.1	1	1.2	1.1
Vinyl Chloride	75-01-4	7/13/2023	0.17	0.0095	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	0.0072J	0.0075J	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)	ND (<0.0060)
Chloroethane	75-00-3	7/13/2023	4200	NE	0.035	0.052	0.085	0.088	0.11	0.13	0.11	0.099	0.05	0.048	0.088	0.065	0.041	0.052	0.042	0.043	0.1	0.067	0.052	0.074	0.063	0.068	0.059	0.078	ND (<0.0080)
Trichlorofluoromethane (11)	75-69-4	7/13/2023	NL	1300	1	0.78	1.1	1	1	1.1	1.1	1	0.99	0.96	0.96	0.98	1	0.98	1	0.99	0.99	0.97	0.99	1	1	1	1	0.98	1
1,1,2-Cl 1,2,2-F ethane (113)	76-13-1	7/13/2023	5200	NE	0.44	0.36	0.45	0.43	0.43	0.45	0.45	0.44	0.44	0.43	0.43	0.43	0.44	0.44	0.45	0.44	0.44	0.43	0.43	0.44	0.44	0.44	0.44	0.43	0.44
1,1-Dichloroethene	75-35-4	7/13/2023	210	73	0.0030J	ND (<0.0025)	ND (<0.0025)	0.0031J	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	0.0025J	0.0029J	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	0.0046J	0.0032J	0.0029J	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)	ND (<0.0025)
Methylene Chloride	75-09-2	7/13/2023	100	1	0.29	0.31	0.32	0.3	0.32	0.31	0.31	0.31	0.42	0.3	0.29	0.29	0.28	0.34	0.36	0.35	0.32	0.28	0.33	0.31	0.28	0.3	0.29	0.31	0.28
t-1,2-Dichloroethene	156-60-5	7/13/2023	42	83	0.0039J	ND (<0.0029)	0.0040J	0.0038J	0.0038J	ND (<0.0029)	0.0041J	ND (<0.0029)	0.0039J	0.0029J	0.0081J	ND (<0.0029)	0.0037J	ND (<0.0029)	0.0045J	0.0031J	ND (<0.0029)	0.0036J	0.0056J	0.0041J	0.0047J	ND (<0.0029)	ND (<0.0029)	0.0029J	ND (<0.0029)
1,1-Dichloroethane	75-34-3	7/13/2023	1.8	1.8	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)	ND (<0.0076)
c-1,2-Dichloroethene	156-59-2	7/13/2023	42	8.3	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	0.0039J	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)	ND (<0.0033)
Chloroform	67-66-3	7/13/2023	0.12	NE	0.11	0.1	0.11	0.1	0.12	0.1	0.11	0.12	0.1	0.18	0.12	0.11	0.11	0.18	0.17	0.11	0.12	0.11	0.15	0.14	0.1	0.21	0.12	0.11	0.095
1,1,1-Trichloroethane	71-55-6	7/13/2023	5200	1000	0.0065J	0.0074J	0.0076J	0.0088J	0.0085J	0.0089J	0.0079J	0.0072J	0.0069J	0.0070J	0.0093J	0.0074J	0.0085J	0.076	0.48	0.21	0.025J	0.0075J	0.064	0.067	0.022J	0.015J	0.0075J	0.057	0.0066J
Carbon Tetrachloride	56-23-5	7/13/2023	0.47	0.47	0.45	0.44	0.46	0.45	0.45	0.47	0.46	0.46	0.45	0.44	0.44	0.44	0.46	0.45	0.45	0.45	0.45	0.44	0.44	0.45	0.45	0.44	0.45	0.45	0.45
Benzene	71-43-2	7/13/2023	0.36	0.097	0.26	0.32	0.34	0.33	0.29	0.3	0.32	0.31	0.23	0.28	0.56	0.29	0.27	0.27	0.29	0.32	0.29	0.3	1.2	0.33	0.29	0.29	0.28	0.31	0.26
1,2-Dichloroethane	107-06-2	7/13/2023	0.11	NE	0.05	0.049	0.049	0.051	0.097	0.067	0.073	0.073	0.048	0.055	0.29	0.049	0.076	0.066	0.054	0.05	0.078	0.047	0.067	0.064	0.046	0.063	0.065	0.055	0.044
Trichloroethene	79-01-6	7/13/2023	0.48	2*	0.07	0.091	0.098	0.079	0.067	0.066	0.09	0.087	0.03	0.085	0.041	0.084	0.075	0.023J	0.043	0.17	0.078	0.059	0.071	0.09	0.069	0.059	0.048	0.095	0.047
1,2-Dichloropropane	78-87-5	7/13/2023	0.76	NE	0.016J	0.010J	0.013J	0.011J	0.021J	0.011J	0.013J	0.017J	0.014J	0.014J	0.062	0.011J	0.014J	0.020J	0.019J	0.014J	0.016J	ND (<0.0098)	0.018J	0.038J	0.015J	0.021J	0.013J	0.012J	ND (<0.0098)
Bromodichloromethane	75-27-4	7/13/2023	0.076	0.076	ND (<0.0071)	ND (<0.0071)	ND (<0.0071)	ND (<0.0071)	0.012J	0.011J	ND (<0.0071)	0.0093J	0.0094J	0.1	0.013J	0.014J	0.0073J	0.0080J	ND (<0.0071)	0.0081J	ND (<0.0071)	0.0094J	0.015J	ND (<0.0071)	0.011J	ND (<0.0071)	0.011J	0.023J	0.0099J
Toluene	108-88-3	7/13/2023	5200	310	0.52	0.28	0.68	0.66	1	0.99	1	0.99	0.69	0.74	1.6	0.59	0.6	2.1	1.8	0.94	0.86	0.7	3	0.91	0.6	0.87	1.5	0.79	0.5
t-1,3-Dichloropropene	10061-02-6	7/13/2023	0.7	NE	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	0.0077J	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	0.019J	0.0059J	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	ND (<0.0059)	0.077	ND (<0.0059)
1,1,2-Trichloroethane	79-00-5	7/13/2023	0.18	NE	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)	ND (<0.0022)
Tetrachloroethene	127-18-4	7/13/2023	11	0.46	0.017J	0.016J	0.016J	0.019J	0.12	0.1	0.15	0.15	0.018J	0.024J	0.031J	0.018J	0.019J	0.022J	0.020J	0.023J	0.028J	0.055J	0.035J	0.034J	0.017J	0.019J	0.018J	0.021J	0.028J
1,2-Dibromoethane	106-93-4	7/13/2023	0.0047	0.0047	ND (<0.0017)	ND (<0.0017)	ND (<0.0017)	ND (<0.0017)	0.0030J	0.0045J	ND (<0.0017)	ND (<0.0017)	0.0048J	0.0023J	0.016J	ND (<0.0017)	ND (<0.0017)	ND (<0.0017)	0.0050J	ND (<0.0017)	0.0046J	ND (<0.0017)	ND (<0.0017)	ND (<0.0017)	ND (<0.0017)	ND (<0.0017)	0.0020J	ND (<0.0017)	ND (<0.0017)
Ethylbenzene	100-41-4	7/13/2023	1.1	NE	0.12	0.19	0.15	0.14	0.2	0.19	0.19	0.2	0.23	0.3	0.25	0.17	0.16	0.26	0.32	0.19	0.21	0.14	0.35	0.33	0.14	2	0.24	0.21	0.12
p,&m-Xylene	--	7/13/2023	100	NE	0.4	0.71	0.49	0.46	0.63	0.62	0.65	0.64	0.76	0.6	0.6	0.57	0.53	0.78	1	0.62	0.55	0.44	1.1	1	0.44	7.7	0.83	0.58	0.39
o-Xylene	95-47-6	7/13/2023	100	NE	0.16	0.24	0.18	0.18	0.3	0.28	0.3	0.3	0.28	0.22	0.25	0.21	0.23	0.31	0.38	0.22	0.21	0.16	0.38	0.37	0.16	1.9	0.26	0.25	0.16
Styrene	100-42-5	7/13/2023	1000	940	0.048J	0.054J	0.041J	0.16	0.18	0.18	0.24	0.16	0.17	0.38	0.48	0.066J	0.23	0.37	0.3	0.16	0.16	0.2	0.26	0.16	0.098	0.44	0.21	0.31	0.054J
1,1,2,2-Tetrachloroethane	79-34-5	7/13/2023	0.048	0.048	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)	ND (<0.0061)
Naphthalene	91-20-3	7/13/2023	0.083	NE	0.14	0.09	0.14	1.1	0.33	0.36	0.36	0.35	0.15	0.23	0.39	0.27	0.19	0.53	0.37	0.24	0.17	0.24	0.28	0.21	0.24	0.2	0.16	0.22	0.12

Notes:
All concentrations are reported in micrograms per cubic meter (µg/m3)
Concentrations highlighted in yellow exceeded a regulatory screening level
RSL: United States Environmental Protection Agency Region IX - Regional Screening Level for Residential Air (May 2023)
DTSC-SL: California Department of Toxic Substances Control Modified Screening Levels for Residential Air (June 2020 - Revised May 2022)
NE: Not Established
ND: Not detected above reported laboratory method detection limit (ND < MDL)
J: Reported concentration is below laboratory reporting limit but below the laboratory method detection limit
* DTSC-SL for TCE is the residential Accelerated Response Action Level for Residential Land use as described in the DTSC Hero Note 5 (August 2014)

FIGURES



Approximate Outline of Site

FIGURE 1: Site Location Map

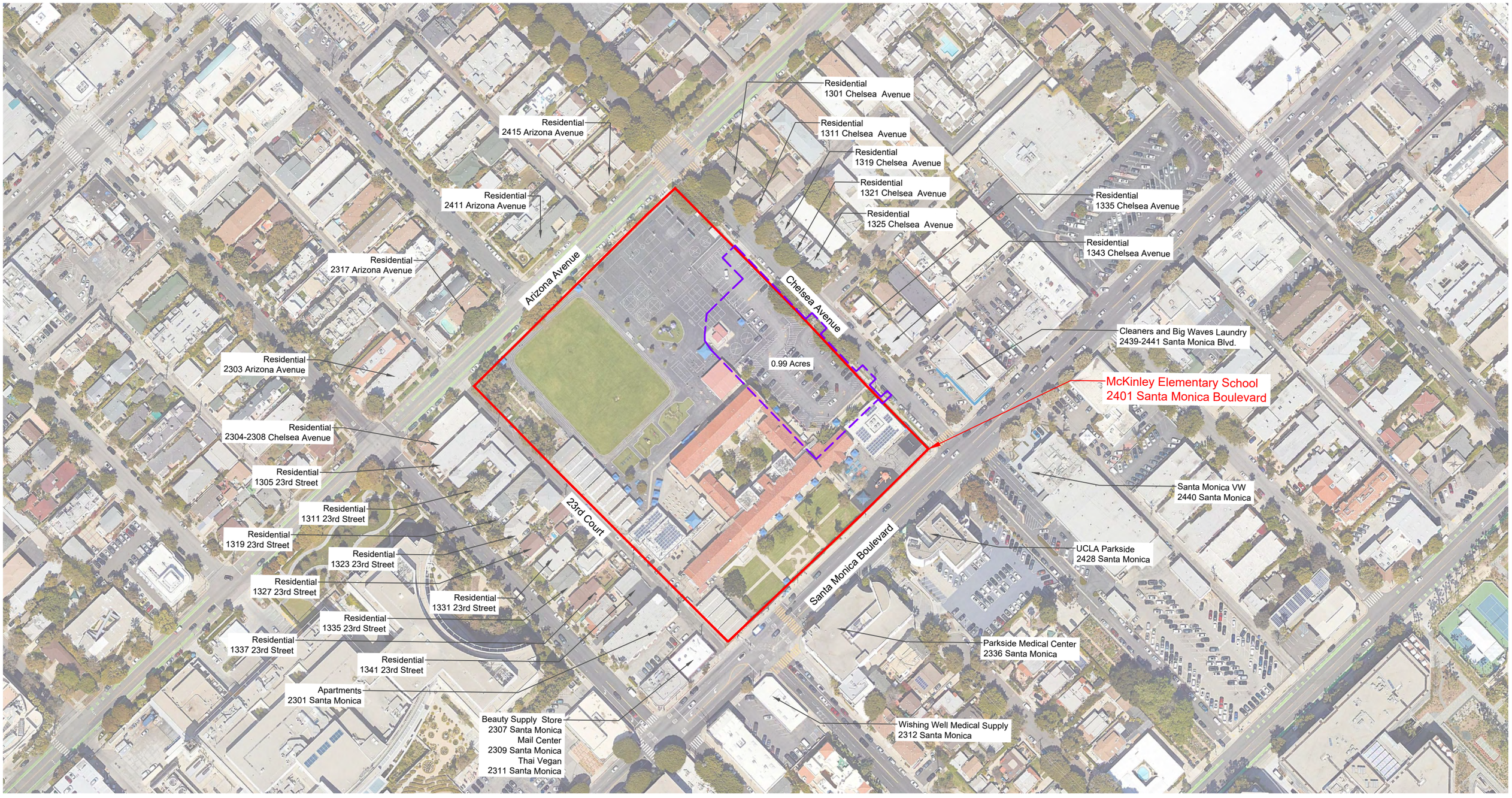
CLIENT: Santa Monica-Malibu Unified School District	SITE LOCATION: 2401 Santa Monica Boulevard Santa Monica, California 90404
PROJECT #: SMSD-23-11646	

NV5 ALTA ENVIRONMENTAL

3777 Long Beach Blvd., Annex Bldg.
Long Beach, CA 90807
(562) 495-5777 www.altaenviron.com

DRAWN: ED	APPROVED: EF	NORTH
SCALE: None	DATE: 7/10/2023	

W:\Clients N-S\Santa Monica-Malibu USD (SMSD)\McKinley ES\SMSD-23-11335 McKinley Site Assessment\Photos - Drawings\AutoCAD\SMSD-23-11335.dwg



LEGEND:

Approximate Site Boundary

Approximate Extents of Earthwork

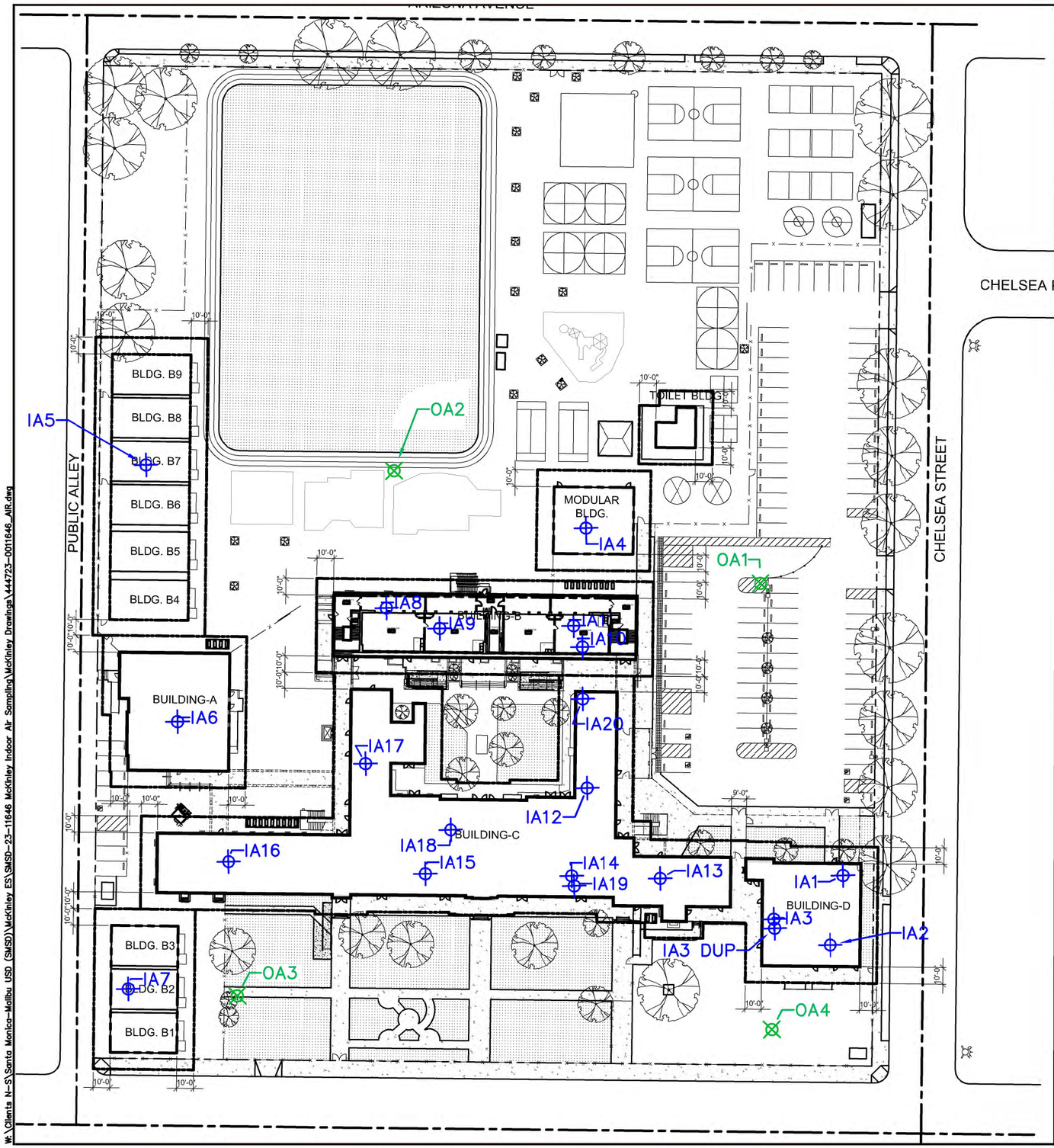
APPX. SCALE:
1" = 150'
0 150' 1"

NORTH

FIGURE 2: Site Vicinity Map

CLIENT: Santa Monica Malibu Unified School District	DRAWN: AHL	APPROVED: EF
	SCALE: NTS	DATE: JULY 2023
SITE LOCATION: McKinley Elementary School 2401 Santa Monica Boulevard Santa Monica, California 90404	ALTA ENVIRONMENTAL	
PROJECT #: SMSD-23-11646	3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	

W:\Clients N-S\Santa Monica-Malibu USD (SMSD)\McKinley ES\SMSD-23-11335 McKinley Site Assessment\Photos - Drawings\AutoCAD\SMSD-23-11335.dwg



LEGEND:

IA20 Indoor Air Sample

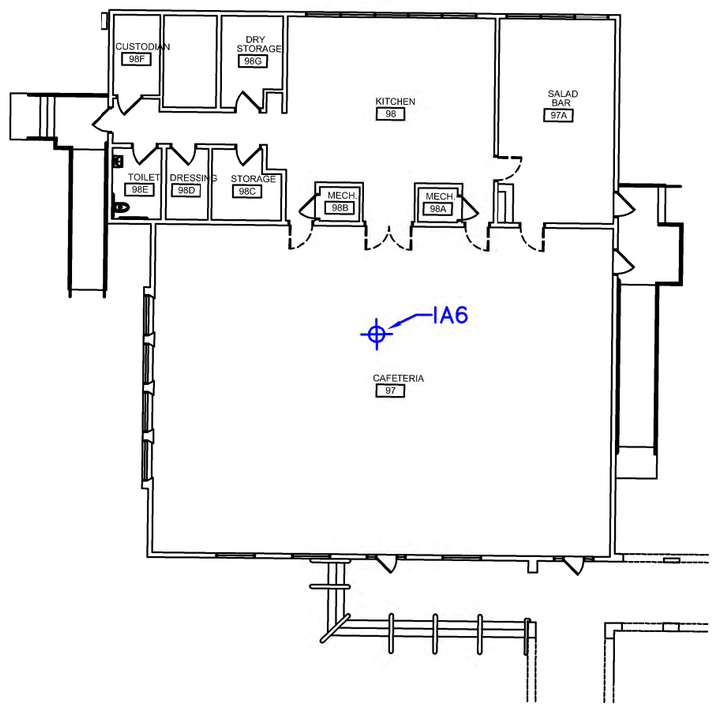
OA4 Outdoor Air Sample

APPX. SCALE:
1" = 70'
0 1" 70'

FIGURE 3: General Air Sample Locations

CLIENT: Santa Monica Malibu Unified School District	DRAWN: RB	APPROVED: EF
	NOT TO SCALE	DATE JULY 2023
SITE LOCATION: McKinley Elementary School 2401 Santa Monica Boulevard Santa Monica, California 90404	NV5 ALTA ENVIRONMENTAL 3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	
PROJECT #: SMSD-23-11646		

W:\Clients N-S\Santa Monica-Malibu USD (SMSD)\McKinley ES\SMSD-23-11646 McKinley Indoor Air Sampling\McKinley Drawings\444723-0011646_AIR.dwg



Building A Floor Plan

NOT TO SCALE
Approx. 1"=20'

LEGEND:

IA20 Indoor Air Sample

OA4 Outdoor Air Sample

KEY PLAN

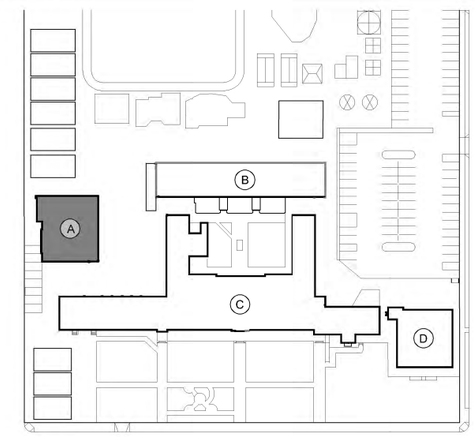
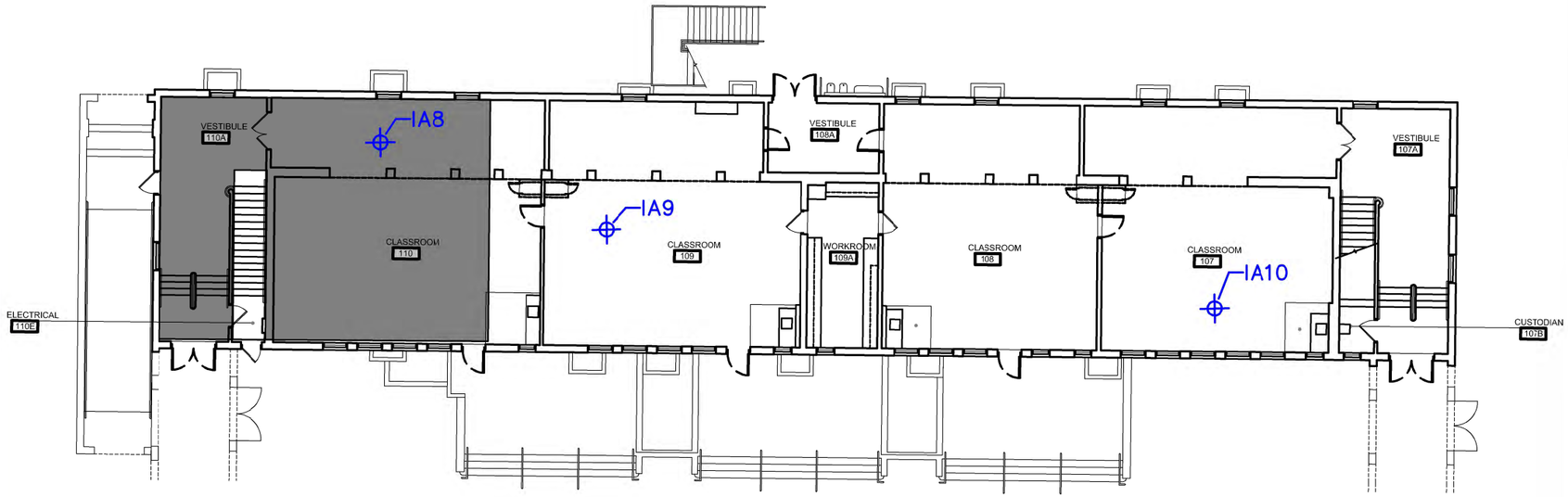


FIGURE 4: Building A Sample Location

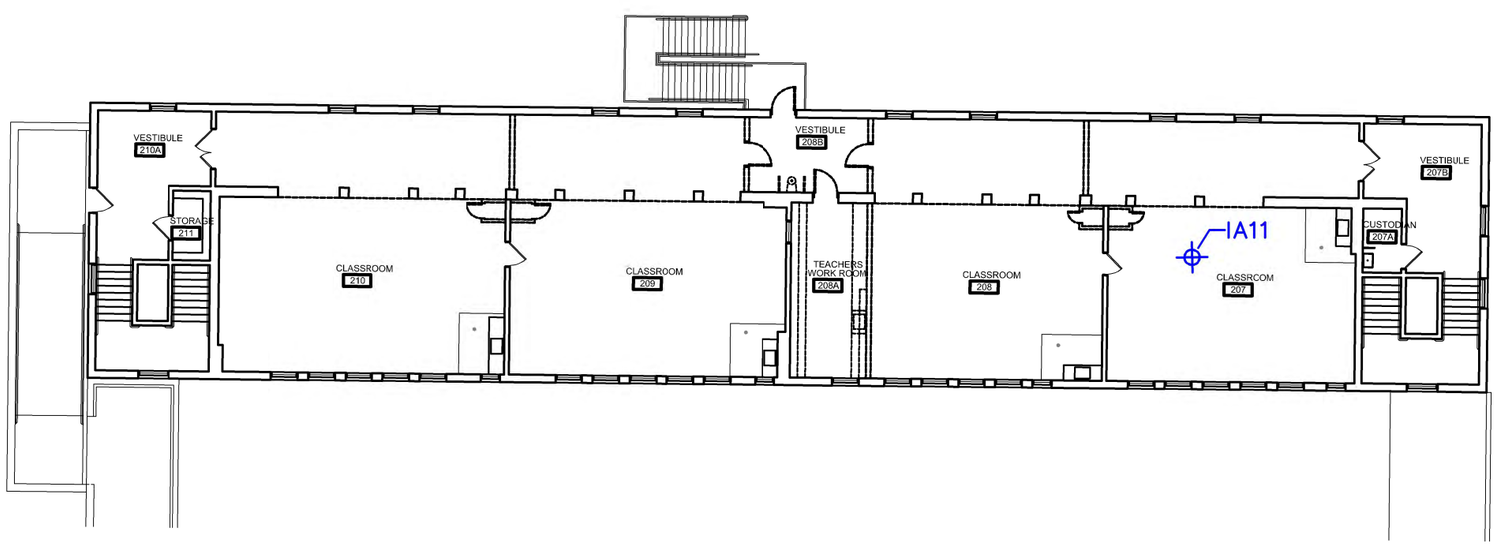
CLIENT: Santa Monica Malibu Unified School District	DRAWN: RB	APPROVED: EF
	NOT TO SCALE	DATE JULY 2023
SITE LOCATION: McKinley Elementary School 2401 Santa Monica Boulevard Santa Monica, California 90404	NV5 ALTA ENVIRONMENTAL 3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	
PROJECT #: SMSD-23-11646		

W:\Clients N-S\Santa Monica-Malibu USD (SMSD)\McKinley ES\SMSD-23-11646 McKinley Indoor Air Sampling\McKinley Drawings\444723-0011646_AIR.dwg



BULDING B FIRST FLOOR

NOT TO SCALE
Approx. 1"=20'



BULDING B SECOND FLOOR

NOT TO SCALE
Approx. 1"=20'

LEGEND:

IA20 Indoor Air Sample

Approximate Basement Location

KEY PLAN

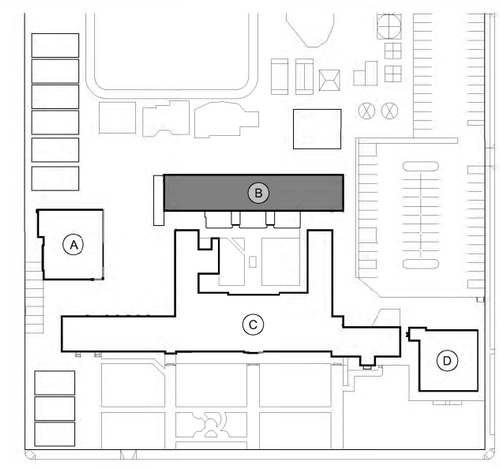
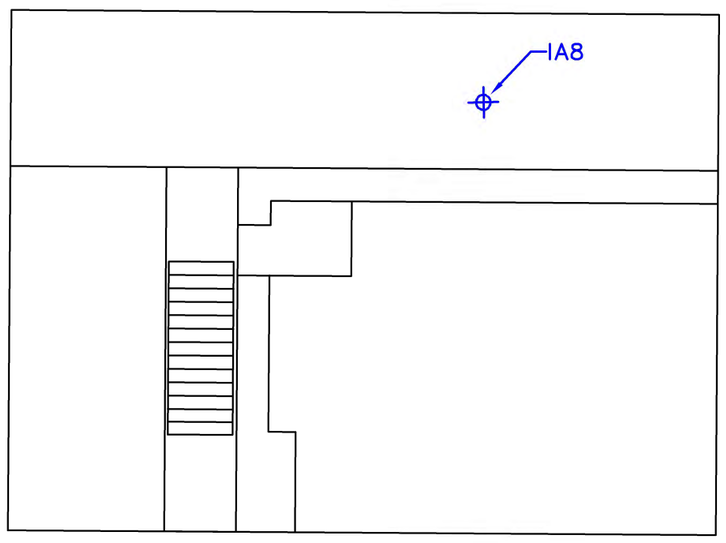


FIGURE 5: Building B Sample Locations

CLIENT: Santa Monica Malibu Unified School District	DRAWN: RB	APPROVED: EF
	NOT TO SCALE	DATE JULY 2023
SITE LOCATION: McKinley Elementary School 2401 Santa Monica Boulevard Santa Monica, California 90404	NV5 ALTA ENVIRONMENTAL 3777 Long Beach Blvd. Annex Bldg. Lorg Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	
PROJECT #: SMSD-23-11646		

W:\Clients N-S\Santa Monica-Malibu USD (SMSD)\McKinley ES\SMSD-23-11646 McKinley Indoor Air Sampling\McKinley Drawings\444723-0011646_AIR.dwg



BASEMENT B

NOT TO SCALE
Approx. 1"=20'

LEGEND:

IA20 Indoor Air Sample

KEY PLAN

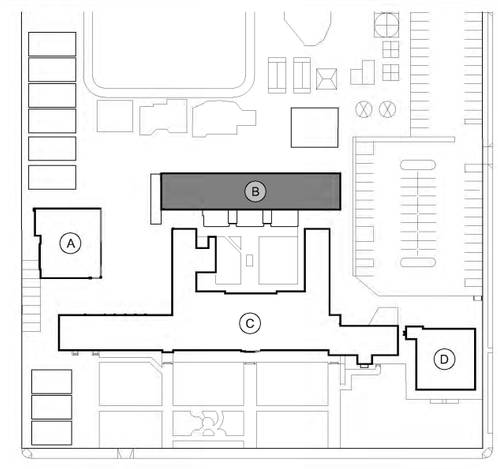
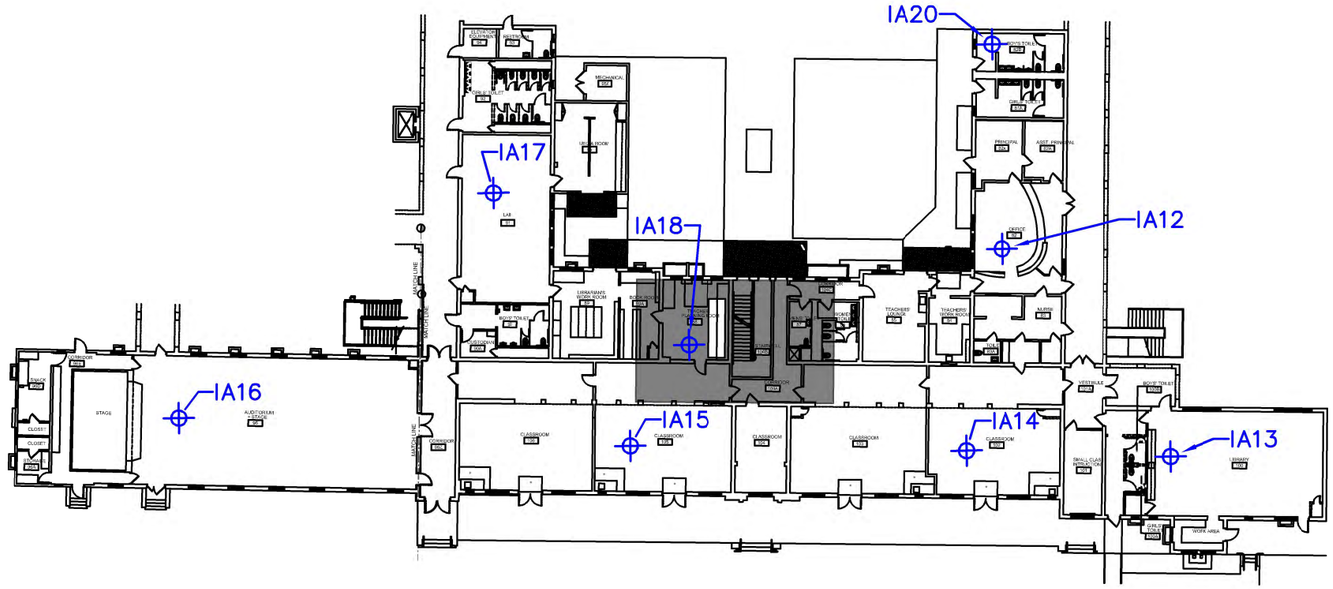


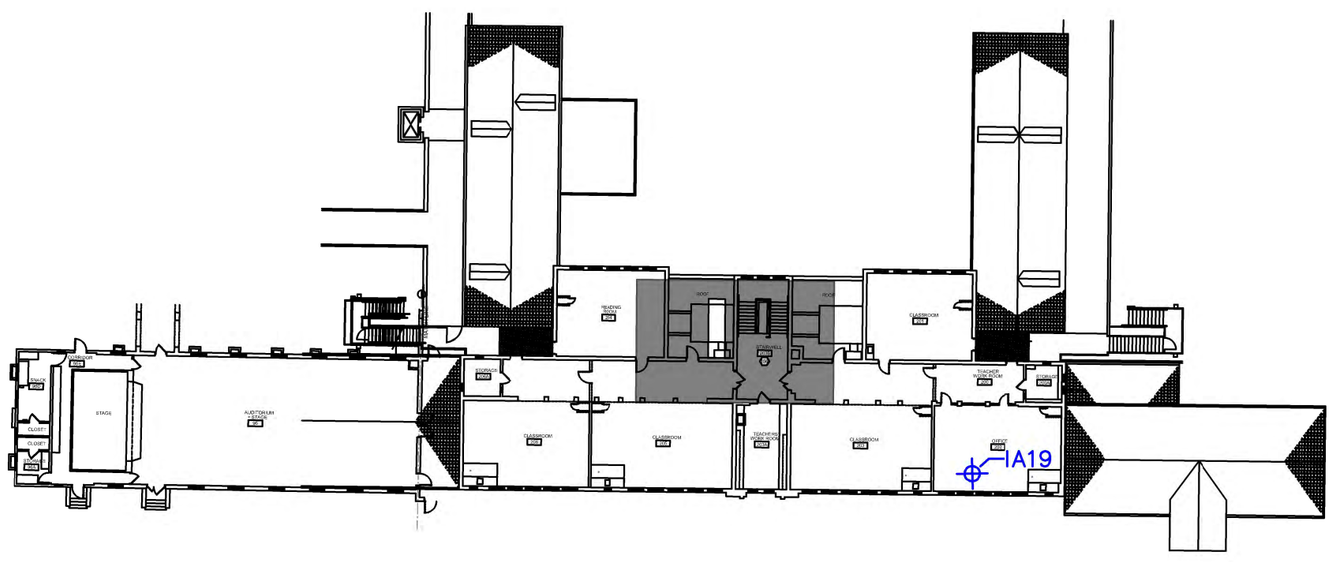
FIGURE 5A: Building B Basement Locations

CLIENT: Santa Monica Malibu Unified School District	DRAWN: RB	APPROVED: EF
	NOT TO SCALE	DATE JULY 2023
SITE LOCATION: McKinley Elementary School 2401 Santa Monica Boulevard Santa Monica, California 90404	NV5 ALTA ENVIRONMENTAL 3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	
PROJECT #: SMSD-23-11646		

W:\Clients N-S\Santa Monica-Malibu USD (SMSD)\McKinley ES\SMSD-23-11646 McKinley Indoor Air Sampling\McKinley Drawings\44723-0011646_AIR.dwg



BULDING C FIRST FLOOR



BULDING C SECOND FLOOR

LEGEND:

IA20 Indoor Air Sample

Approximate Basement Location

KEY PLAN

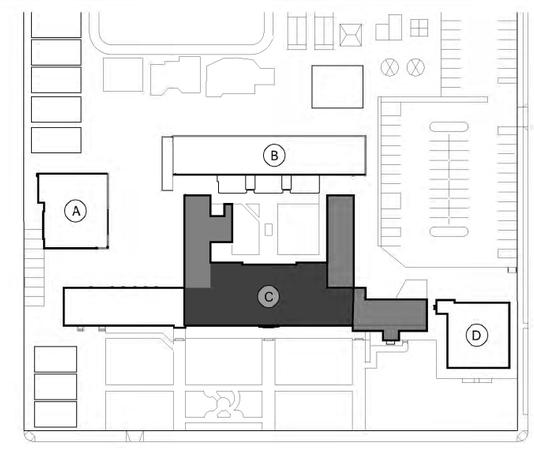
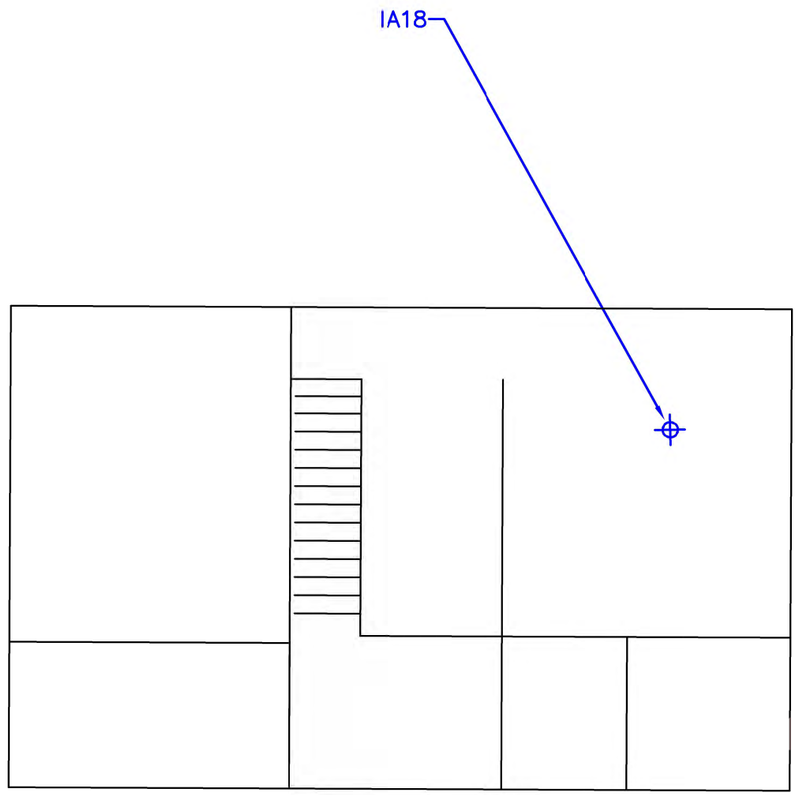


FIGURE 6: Building C Sample Locations

CLIENT: Santa Monica Malibu Unified School District	DRAWN: RB	APPROVED: EF
	NOT TO SCALE	DATE JULY 2023
SITE LOCATION: McKinley Elementary School 2401 Santa Monica Boulevard Santa Monica, California 90404	NV5 ALTA ENVIRONMENTAL 3777 Long Beach Blvd. Annex Bldg. Lorg Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	
PROJECT #: SMSD-23-11646		

W:\Clients N-S\Santa Monica-Malibu USD (SMSD)\McKinley ES\SMSD-23-11646 McKinley Indoor Air Sampling\McKinley Drawings\444723-0011646_AIR.dwg



BASEMENT C

NOT TO SCALE
Approx. 1"=10'

LEGEND:

IA20 Indoor Air Sample

KEY PLAN

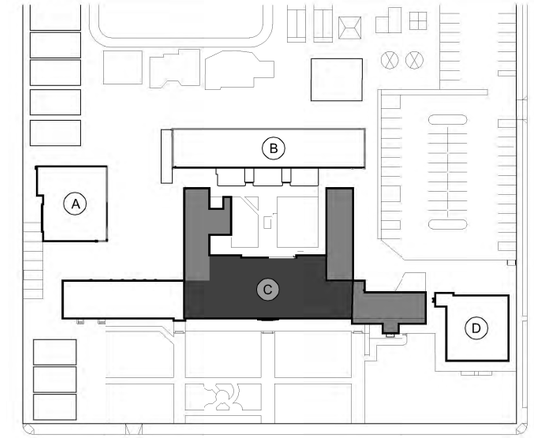
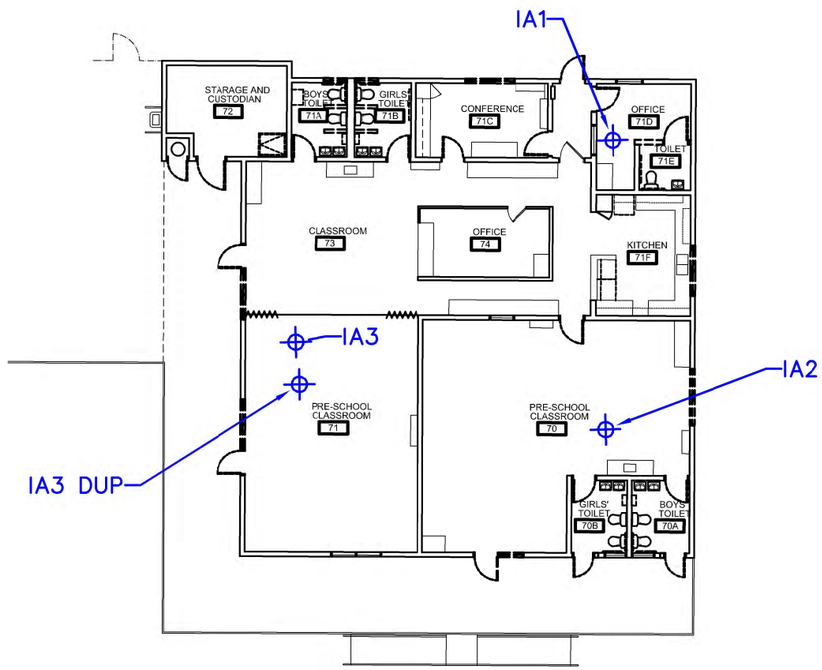


FIGURE 6A: Building C Basement Location

CLIENT: Santa Monica Malibu Unified School District	DRAWN: RB	APPROVED: EF
	NOT TO SCALE	DATE JULY 2023
SITE LOCATION: McKinley Elementary School 2401 Santa Monica Boulevard Santa Monica, California 90404	NV5 ALTA ENVIRONMENTAL 3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	
PROJECT #: SMSD-23-11646		

W:\Clients N-S\Santa Monica-Malibu USD (SMSD)\McKinley ES\SMSD-23-11646 McKinley Indoor Air Sampling\McKinley Drawings\44723-0011646_AIR.dwg



BULDING D

NOT TO SCALE
Approx. 1"=20'

LEGEND:

IA20 Indoor Air Sample

KEY PLAN

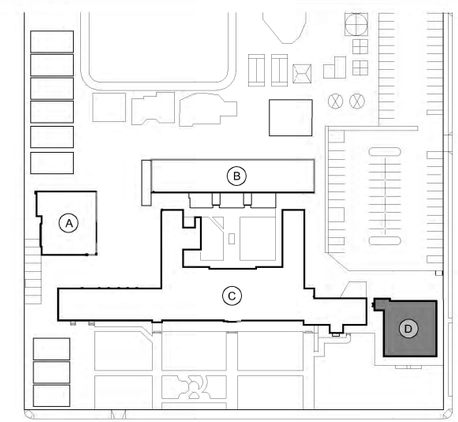


FIGURE 7: Building D Sample Locations

CLIENT: Santa Monica Malibu Unified School District	DRAWN: RB	APPROVED: EF
	NOT TO SCALE	DATE JULY 2023
SITE LOCATION: McKinley Elementary School 2401 Santa Monica Boulevard Santa Monica, California 90404	ALTA ENVIRONMENTAL 3777 Long Beach Blvd. Annex Bldg. Lorg Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	
PROJECT #: SMSD-23-11646		

W:\Clients N-S\Santa Monica-Malibu USD (SMSD)\McKinley ES\SMSD-23-11646 McKinley Indoor Air Sampling\McKinley Drawings\44723-0011646_AIR.dwg

STEP-OUT SOIL SAMPLING REPORT

McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, California 90404

Prepared for:

Santa Monica-Malibu Unified School District
2828 4th Street
Santa Monica, California 90405

Project Number: SMSD-23-11670
September 15, 2023

Alta Environmental LP, an NV5 Company
3777 Long Beach Boulevard, Annex Building
Long Beach, CA 90807 www.NV5.com

TABLES

Table 1: Arsenic in Site Soil
McKinley Elementary School
2401 Santa Monica Boulevard, Santa Monica, California

Sample ID	Sample Date	Sample Depth (ftbgs)	Arsenic (mg/kg)
B2-0.5	2/20/2023	0.50	9.9
B2-2	2/20/2023	2	9.2
B3-0.5	2/20/2023	0.50	6.2
B3-2	2/20/2023	2	7.8
B4-0.5	2/20/2023	0.50	6.9
B4-2	2/20/2023	2	9
B5-0.5	2/20/2023	0.50	9.8
B5-2	2/20/2023	2	9.1
B6-0.5	2/20/2023	0.50	8.7
B6-2	2/20/2023	2	10
B7-0.5	2/20/2023	0.50	9.6
B7-0.5 DUP	2/20/2023	0.50	9.5
B7-2	2/20/2023	2	19
B7-4	2/20/2023	4	16
B07A-2	7/25/2023	2	16.9
B07A-4	7/25/2023	4	13.8
B07A-6	7/25/2023	6	9.69
B07A-6 DUP	7/25/2023	6	18.4
B07A-8	7/25/2023	8	9.42
B07E-2	7/25/2023	2	10.6
B07E-4	7/25/2023	4	16.2
B07E-6	7/25/2023	6	11.7
B07E-8	7/25/2023	8	10.3
B07EE-2	7/25/2023	2	9.96
B07EE-4	7/25/2023	4	17.4
B07EE-6	7/25/2023	6	7.9
B07EE-8	7/25/2023	8	9.96
B07N-2	7/25/2023	2	19.2
B07N-4	7/25/2023	4	13.2
B07N-6	7/25/2023	6	11.5
B07N-8	7/25/2023	8	7.85
B07NN-2	7/25/2023	2	17.1
B07NN-4	7/25/2023	4	15.6
B07NN-6	7/25/2023	6	10.1
B07NN-8	7/25/2023	8	7.5
B07W-2	7/25/2023	2	16.8
B07W-4	7/25/2023	4	15.7
B07W-6	7/25/2023	6	11
B07W-8	7/25/2023	8	8.84
B07WW-2	7/25/2023	2	20.9
B07WW-4	7/25/2023	4	13.8
B07WW-6	7/25/2023	6	7.07
B07WW-8	7/25/2023	8	6.68
B8-0.5	2/20/2023	0.50	8.7

Table 1: Arsenic in Site Soil
McKinley Elementary School
2401 Santa Monica Boulevard, Santa Monica, California

Sample ID	Sample Date	Sample Depth (ftbgs)	Arsenic (mg/kg)
B8-2	2/20/2023	2	18
B8-4	2/20/2023	4	17
B08A-2	7/25/2023	2	16
B08A-4	7/25/2023	4	7.95
B08A-6	7/25/2023	6	11.3
B08A-8	7/25/2023	8	10.8
B08E-2	7/25/2023	2	10.3
B08E-4	7/25/2023	4	17.3
B08E-6	7/25/2023	6	10.6
B08E-8	7/25/2023	8	10.1
B08EE-2	7/25/2023	2	14.4
B08EE-4	7/25/2023	4	16.9
B08EE-6	7/25/2023	6	10.1
B08EE-8	7/25/2023	8	9.14
B08S-2	7/25/2023	2	13.6
B08S-4	7/25/2023	4	15.7
B08S-6	7/25/2023	6	14.6
B08S-8	7/25/2023	8	11.8
B08SS-2	7/25/2023	2	13.8
B08SS-4	7/25/2023	4	17.2
B08SS-6	7/25/2023	6	11.5
B08SS-8	7/25/2023	8	10.5
B08W-2	7/25/2023	2	16.8
B08W-2 DUP	7/25/2023	2	8.99
B08W-4	7/25/2023	4	14.3
B08W-6	7/25/2023	6	11.4
B08W-8	7/25/2023	8	9.74
B08WW-2	7/25/2023	2	15.3
B08WW-4	7/25/2023	4	15.9
B08WW-6	7/25/2023	6	10.9
B08WW-8	7/25/2023	8	8.55
B9-0.5	2/20/2023	0.50	2.5
B9-2	2/20/2023	2.0	10
B10-0.5	2/20/2023	0.50	10
B10-2	2/20/2023	2	18
B10-4	2/20/2023	4	17
B10A-2	7/26/2023	2	9.66
B10A-4	7/26/2023	4	13.8
B10A-6	7/26/2023	6	12.6
B10A-8	7/26/2023	8	12.4
B10E-2	7/26/2023	2	6.04
B10E-2 DUP	7/26/2023	2	7.17
B10E-4	7/26/2023	4	17.1
B10E-6	7/26/2023	6	11.9

Table 1: Arsenic in Site Soil
McKinley Elementary School
2401 Santa Monica Boulevard, Santa Monica, California

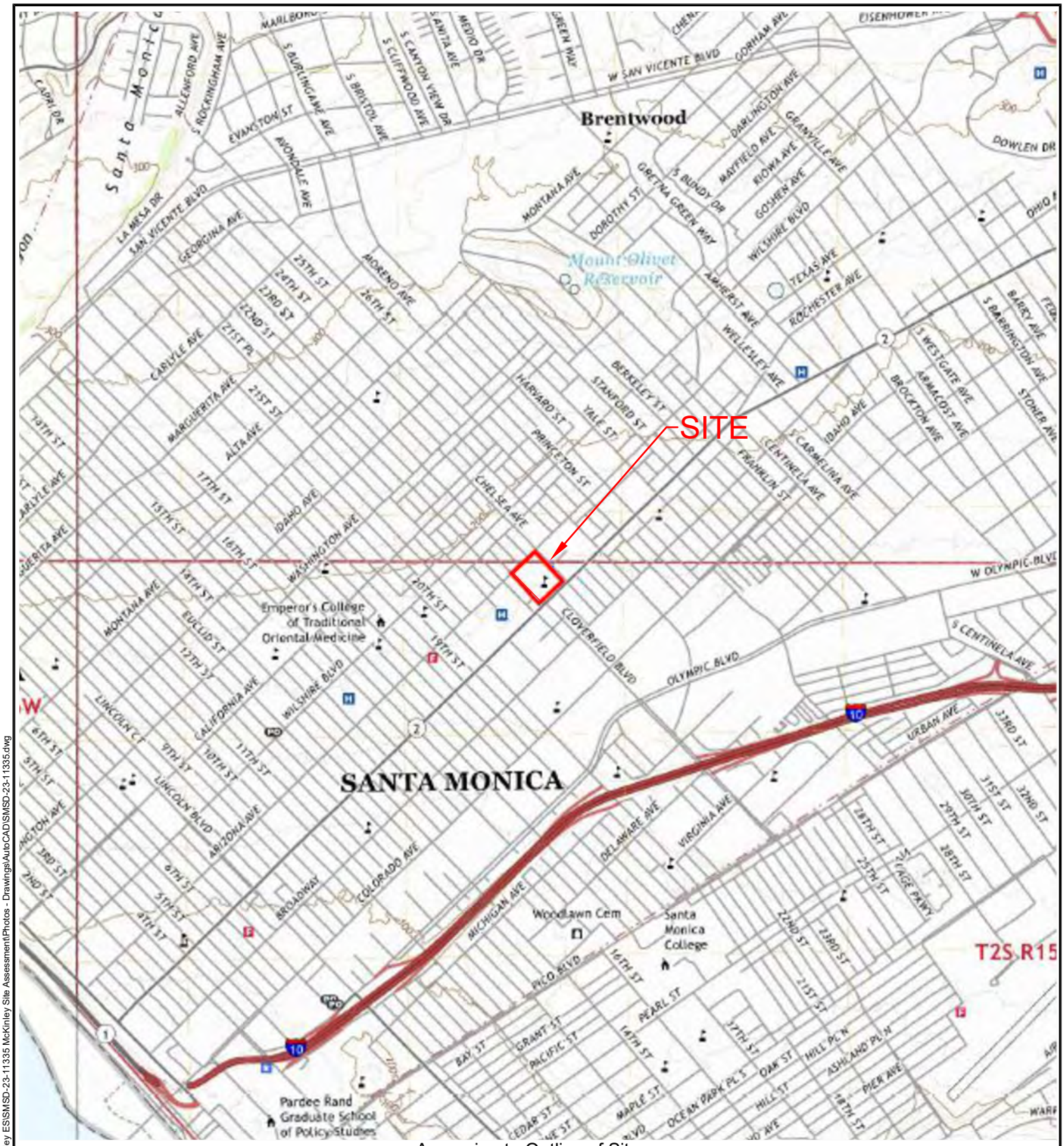
Sample ID	Sample Date	Sample Depth (ftbgs)	Arsenic (mg/kg)
B10E-8	7/26/2023	8	11.3
B10EE-2	7/26/2023	2	8.8
B10EE-4	7/26/2023	4	14.8
B10EE-6	7/26/2023	6	8.1
B10EE-8	7/26/2023	8	11.6
B10N-2	7/26/2023	2	16.8
B10N-4	7/26/2023	4	16
B10N-6	7/26/2023	6	10.8
B10N-8	7/26/2023	8	12.2
B10NN-2	7/26/2023	2	19.6
B10NN-4	7/26/2023	4	16
B10NN-6	7/26/2023	6	11
B10NN-8	7/26/2023	8	11.6
B10S-2	7/26/2023	2	6.83
B10S-4	7/26/2023	4	16
B10S-6	7/26/2023	6	11.5
B10S-8	7/26/2023	8	11.9
B10SS-2	7/26/2023	2	12.9
B10SS-4	7/26/2023	4	16.1
B10SS-6	7/26/2023	6	11.1
B10SS-8	7/26/2023	8	12.7
B10W-2	7/26/2023	2	10.1
B10W-4	7/26/2023	4	16
B10W-6	7/26/2023	6	12.5
B10W-8	7/26/2023	8	13.5
B10WW-2	7/26/2023	2	14.6
B10WW-4	7/26/2023	4	16
B10WW-6	7/26/2023	6	10.3
B10WW-8	7/26/2023	8	10.1
B11-0.5	2/20/2023	0.50	8.9
B11-2	2/20/2023	2	13
B11-4	2/20/2023	4	19
B11A-2	7/25/2023	2	10.8
B11A-4	7/25/2023	4	11.9
B11A-6	7/25/2023	6	12.7
B11A-8	7/25/2023	8	14.6
B11E-2	7/25/2023	2	8.53
B11E-4	7/25/2023	4	18.9
B11E-4 DUP	7/25/2023	4	8.79
B11E-6	7/25/2023	6	16.3
B11E-8	7/25/2023	8	12.9
B11EE-2	7/25/2023	2	13.5
B11EE-4	7/25/2023	4	19
B11EE-6	7/25/2023	6	12.9

Table 1: Arsenic in Site Soil
McKinley Elementary School
2401 Santa Monica Boulevard, Santa Monica, California

Sample ID	Sample Date	Sample Depth (ftbgs)	Arsenic (mg/kg)
B11EE-8	7/25/2023	8	11.6
B11N-2	7/25/2023	2	10.8
B11N-4	7/25/2023	4	13.7
B11N-6	7/25/2023	6	17.6
B11N-8	7/25/2023	8	13
B11NN-2	7/25/2023	2	9.96
B11NN-4	7/25/2023	4	15.3
B11NN-6	7/25/2023	6	14.1
B11NN-8	7/25/2023	8	11.2
B11S-2	7/25/2023	2	9.38
B11S-4	7/25/2023	4	17.7
B11S-6	7/25/2023	6	15.7
B11S-8	7/25/2023	8	16.5
B11SS-2	7/25/2023	2	10.1
B11SS-4	7/25/2023	4	18.3
B11SS-6	7/25/2023	6	15.4
B11SS-8	7/25/2023	8	13.9
B11W-2	7/25/2023	2	9.63
B11W-4	7/25/2023	4	16.7
B11W-6	7/25/2023	6	16
B11W-8	7/25/2023	8	12.3
B11WW-2	7/25/2023	2	14.7
B11WW-4	7/25/2023	4	18.9
B11WW-6	7/25/2023	6	15.3
B11WW-8	7/25/2023	8	14.8
B12-0.5	2/20/2023	0.50	8.1
B12-2	2/20/2023	2	ND (<.0.74)

Notes:
All concentrations are reported in milligrams per kilogram (mg/kg)
Sample depths are reported in feet below ground surface (ftbgs)
ND: Not detected above the reported laboratory method detection limit
DUP: Duplicate sample

FIGURES



Approximate Outline of Site

FIGURE 1: Site Location Map

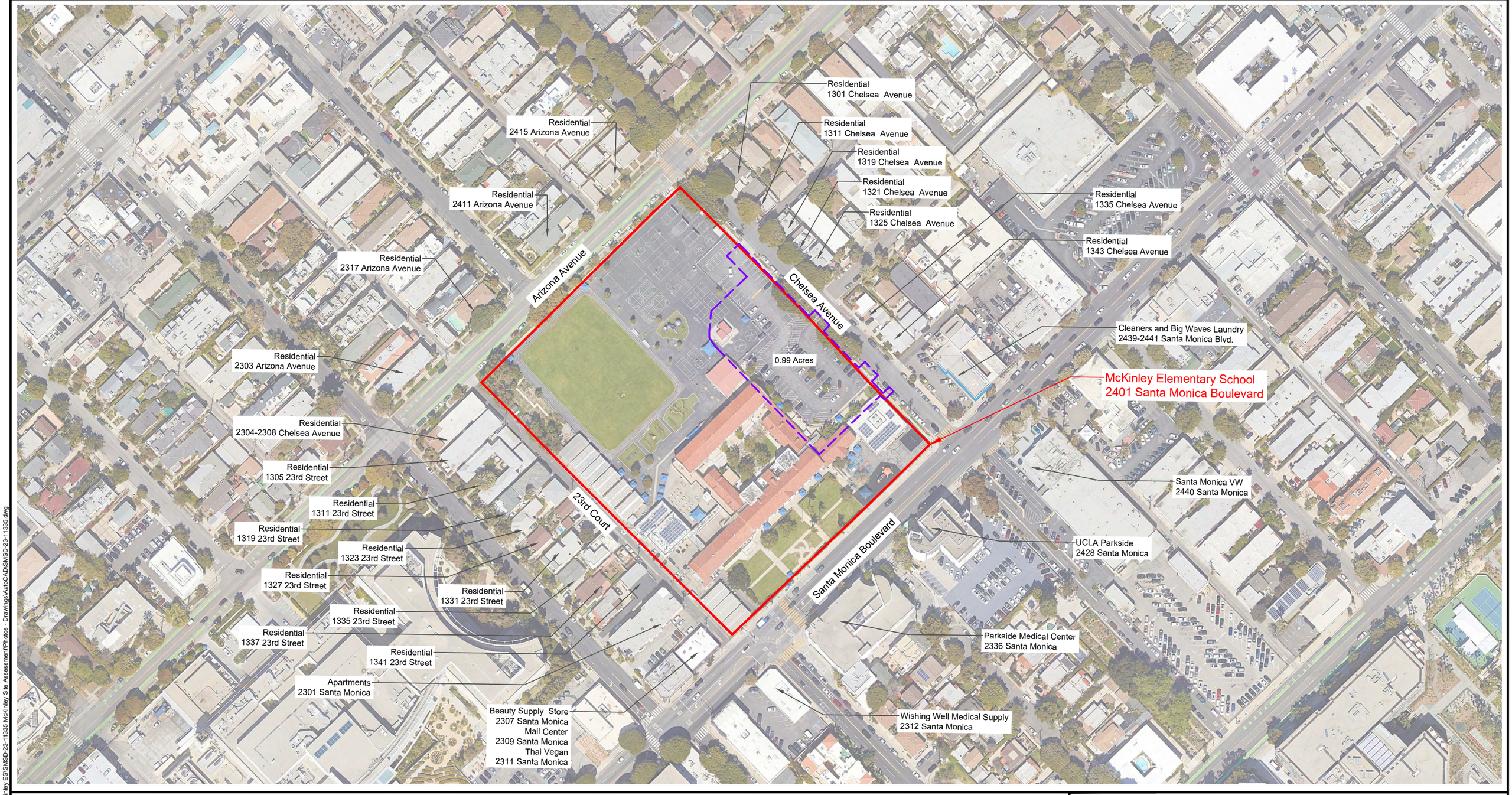
CLIENT: Santa Monica-Malibu Unified School District	SITE LOCATION: 2401 Santa Monica Boulevard Santa Monica, California 90404
PROJECT #: SMSD-23-11670	

NV5 ALTA ENVIRONMENTAL

3777 Long Beach Blvd., Annex Bldg.
Long Beach, CA 90807
(562) 495-5777 www.altaenviron.com

DRAWN: ED	APPROVED: EF	NORTH
SCALE: None	DATE: 7/10/2023	

W:\Clients N-S\Santa Monica-Malibu USD (SMSD)\McKinley ES\SMSD-23-11335 McKinley Site Assessment\Photos - Drawings\AutoCAD\SMSD-23-11335.dwg



LEGEND:

Campus Boundary

Site Boundary

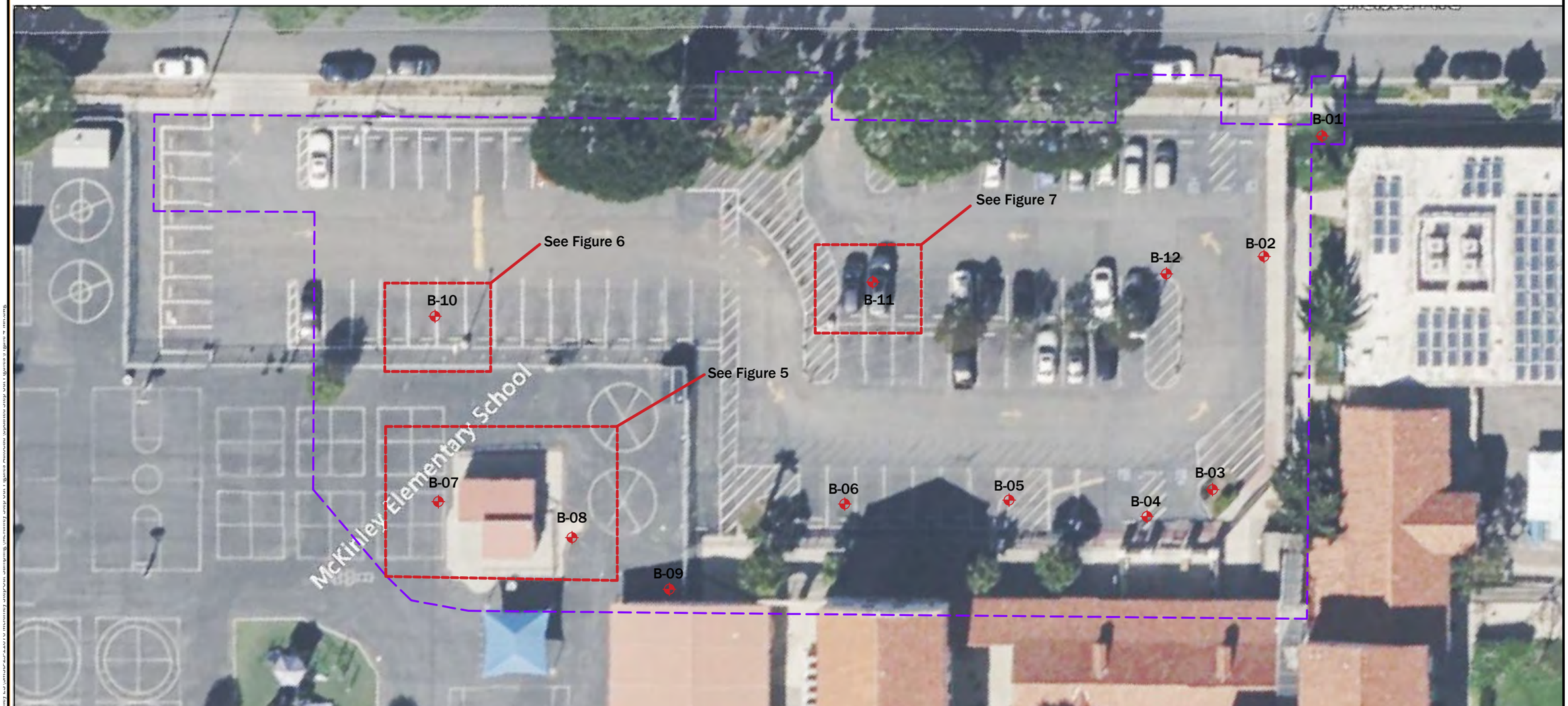
APPX. SCALE:
1" = 150'
0 150' 1"

NORTH

FIGURE 2: Site Vicinity Map

CLIENT: Santa Monica Malibu Unified School District	DRAWN: AHL	APPROVED: EF
	SCALE: NTS	DATE: JULY 2023
SITE LOCATION: McKinley Elementary School 2401 Santa Monica Boulevard Santa Monica, California 90404	ALTA ENVIRONMENTAL	
PROJECT #: SMSD-23-11670	3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	

W:\Clients N-S\Santa Monica-Malibu USD (SMSD)\McKinley ES\SMSD-23-11335 McKinley Site Assessment\Photos - Drawings\AutoCAD\SMSD-23-11335.dwg



LEGEND:

Approximate Site Boundary

Approximate Extents of Step Out Borings, July 2023

Approximate Location of Previous Soil Borings, February 2023

APPX. SCALE:
1" = 30'
0 1" 30'

NORTH

FIGURE 3: Soil Boring Locations

CLIENT: Santa Monica Malibu Unified School District	DRAWN: NS	APPROVED: EF
	SCALE: 1" = 30'	DATE: Aug. 2023
SITE LOCATION: McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California 90404	NV5 ALTA ENVIRONMENTAL	
PROJECT #: SMSD-23-11670	3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807 P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com	

LEGEND:

- Approximate Site Boundary
- Approximate Step Out Boring Locations, July 2023
- Approximate Location of Previous Soil Borings, February 2023

APPX. SCALE:
1" = 10'
0 1" 10'

NORTH

FIGURE 4: B-07 and B-08 Associated Step Out Borings

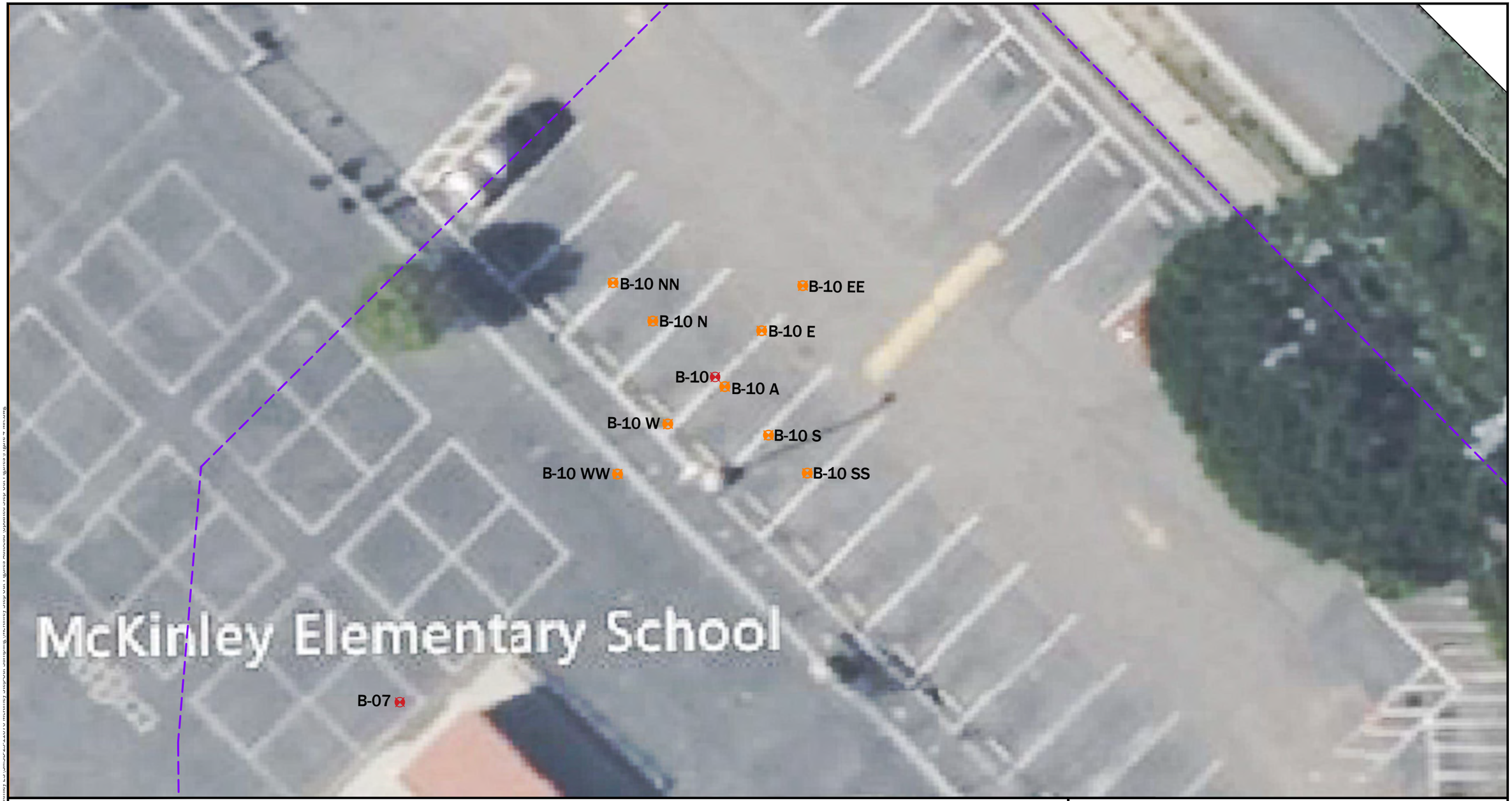
CLIENT: Santa Monica
Malibu Unified School District

DRAWN: NS
APPROVED: EF
SCALE: 1" = 10'
DATE: Aug. 2023

SITE LOCATION:
McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, California 90404

PROJECT #: SMSD-23-11670

NV5 ALTA ENVIRONMENTAL
3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807
P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com



LEGEND:

- Approximate Site Boundary
- Approximate Step Out Boring Locations, July 2023
- Approximate Location of Previous Soil Borings, February 2023

APPX. SCALE:
1" = 10'
0 1" 10'

NORTH

FIGURE 5: B-10 Associated Step Out Borings

CLIENT: Santa Monica
Malibu Unified School District

DRAWN: NS
APPROVED: EF
SCALE: 1" = 10'
DATE: Aug. 2023

SITE LOCATION:
McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, California 90404

PROJECT #: SMSD-23-11670

NV5 ALTA ENVIRONMENTAL
3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807
P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com

LEGEND:

Approximate Site Boundary

Approximate Step Out Boring Locations, July 2023

Approximate Location of Previous Soil Borings, February 2023

APPX. SCALE:
1" = 10'
0 1" 10'

NORTH

FIGURE 6: B-11 Associated Step Out Borings

CLIENT: Santa Monica
Malibu Unified School District

DRAWN: NS
APPROVED: EF
SCALE: 1" = 10'
DATE: Aug. 2023

SITE LOCATION:
McKinley Elementary School
2401 Santa Monica Boulevard
Santa Monica, California 90404

PROJECT #: SMSD-23-11670

NV5 ALTA ENVIRONMENTAL
3777 Long Beach Blvd. Annex Bldg. Long Beach CA 90807
P: (562) 495-5777 ♦ F: (562) 495-5877 ♦ altaenviron.com

APPENDIX C

VIMMEC System Design and Basis of Design

BASIS OF DESIGN
VAPOR INTRUSION MITIGATION & MIGRATION ENGINEERING CONTROLS

McKinley Elementary School
New Classroom Building
2401 Santa Monica Boulevard
Santa Monica, California 90404

Prepared for:

Santa Monica-Malibu Unified School District
Facilities Improvements Projects
2828 4th Street
Santa Monica, California 90405

Prepared by:

NV5
3777 Long Beach Boulevard, Annex Building
Long Beach, California 90807

DTSC Case Number: 304687
EnviroStor ID: 600003412
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CONTENTS

PROFESSIONAL CERTIFICATION IV

1 INTRODUCTION AND OBJECTIVES 1

1.1 Basis of Design 1

2 BACKGROUND 1

2.1 Site Location and Description 1

2.2 Planned Site Development 2

2.3 Topography, Geology, and Hydrogeology 2

2.4 Subsurface Environmental Conditions 2

2.5 Type, Source, and Location of Contaminants 3

2.6 Extent and Volume of Contamination 3

2.7 Exposure Pathways 3

3 RISK EVALUATION AND DESIGN BASIS 3

3.1 Vapor Intrusion Risk Evaluation 3

3.1.1 Estimated Carcinogenic Risk – Soil Vapor Only 4

3.1.2 Estimated Noncarcinogenic Risk – Soil Vapor Only 5

3.2 Vapor Intrusion Risk Evaluation Summary 5

4 VIMMEC SYSTEM DESIGN INTENT 6

4.1 VIMMEC System Description 6

4.2 VIMMEC System Design Details 6

4.3 VIMMEC System Design Elements 7

4.3.1 Gravel Venting Layer: 7

4.3.2 Environmental Monitoring 7

4.3.3 Sub-Slab Ventilation System: 7

4.3.4 Vapor Migration Controls 7

CONTENTS

4.3.5 Vapor Barrier 7

5 DESIGN ELEMENTS: GRAVEL VENTING LAYER 8

6 DESIGN ELEMENTS: SUB-SLAB VENTILATION SYSTEM 8

6.1 Below Grade Collection/Dispersion Piping 8

6.2 Conveyance Piping and Riser 8

6.2.1 Conveyance Piping and Vent Riser (Below Grade) 8

6.2.2 Conveyance Piping and Vent Riser Encapsulation (Above Grade) 9

6.3 Vent Riser Termination Details 9

6.3.1 Roof Vent Riser Termination Details 9

6.3.2 Make-Up Air Intake Riser Termination Details 9

7 DESIGN ELEMENTS: VAPOR MIGRATION CONTROLS 10

7.1 Migration Controls 10

7.1.1 Trench Dams 10

7.2 Preferential Pathway Controls 10

7.2.1 Conduit Seals 10

7.2.2 Wet Utility Seals 10

8 DESIGN ELEMENTS: ENVIRONMENTAL MONITORING 10

8.1 Sub-Slab Monitoring Probes 11

8.2 Access Points 11

8.2.1 Riser monitoring infrastructure 11

8.3 Indoor and Ambient Monitoring Infrastructure 11

9 DESIGN ELEMENTS: VAPOR BARRIER 11

9.1 Vapor Barrier Description 12

9.1.1 Geo-Seal® BASE 12

9.1.2 Geo-Seal® CORE 12

9.1.3 Geo-Seal® BOND: 12

CONTENTS

9.2	**Geo-Seal ® 100 Details**	**13**
9.3	**Vapor Barrier Diffusion Testing**	**13**
9.4	**Vapor Barrier Installation**	**13**
10	**CONSTRUCTION QUALITY ASSURANCE INSPECTIONS**	**14**
10.1	**EPRO Recommended Thickness Testing Protocol.**	**14**
10.2	**EPRO Recommended Smoke Testing Protocol.**	**14**
10.3	**CQA Summary / Warranty**	**15**
11	**VIMMEC SYSTEM REPORTING**	**15**
11.1	**VIMMEC System Installation Summary Report**	**15**
11.2	**Operations, Maintenance, Monitoring and Reporting Plan.**	**16**
12	**REFERENCES**	**16**

APPENDICIES

Appendix A VIMMEC System Design Plans

Appendix B VIMMEC System Miscellaneous Design Details & Cut-Sheets

PROFESSIONAL CERTIFICATION

This Basis of Design for the Vapor Intrusion Mitigation and Migration Engineering Controls System proposed for installation at McKinley Elementary School located at 2401 Santa Monica Boulevard in Santa Monica, California was prepared by NV5, Inc. for the Santa Monica – Malibu Unified School District in a manner consistent with the level of care and skill ordinarily exercised by professional engineers, geologists, and environmental scientists. This report was prepared under the technical direction of the undersigned.

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1 INTRODUCTION AND OBJECTIVES

Alta Environmental, LP, DBA NV5 (NV5) submits this *Basis of Design for the Vapor Intrusion Mitigation & Migration Engineering Controls (VIMMEC) System* to the Department of Toxic Substances Control (DTSC) for the mitigation of volatile organic compound (VOC) impacted soil vapors, that were identified beneath the location of the proposed New Classroom Building at the McKinley Elementary School (Site), located at 2401 Santa Monica Boulevard in Santa Monica, Los Angeles County, California. This Basis of Design document is based on the requirements presented in the DTSC's October 23, 2023 *Preliminary Environmental Assessment Equivalent Determination* letter, and their subsequent Memorandum (dated December 20,2023).

1.1 Basis of Design

This Basis of Design document will describe the objectives, intent, and rationale for design of the VIMMEC system for the soil vapor impact at the Site. The scope of work as outlined in this Basis of Design will be conducted under the oversight of a Licensed California Professional Civil Engineer (PE-Civil), having knowledge of specific practices and procedures relevant to the project.

Installation of a VIMMEC System beneath the new classroom building is the preferred alternative for this Site. Prior to engagement with the DTSC, a VIMMEC system design was completed by NV5 for the Site. After it was determined that the DTSC would lead the environmental oversight of the Site, NV5 submitted a draft design of the VIMMEC System to the DTSC for initial comment (October 2023).

Initial Correspondence from the DTSC (October 23, 2023) indicated that formal approval of the design would be done through the review and approval of the Removal Action Workplan (RAW). Subsequent correspondence in a memorandum from the DTSC (dated December 20, 2023) requested that NV5 should include sufficient basis of design and rationale with the VIMMEC plans. DTSC requested that additional documentation in a formal Basis of Design document should include adequate engineering calculations for the design, sizing, and layout of equipment, collector piping, sampling port, and air intake line spacing, chemical compatibility information of materials specified with the site VOCs, adequate references to industry standards, and equipment specifications and cut-sheets.

2 BACKGROUND

This section identifies the current and planned conditions at the Site and identifies assumptions and conditions which drive the need for engineering controls. Technical justification for the assumptions or conditions are included in other documents but will also be summarized for clarity.

2.1 Site Location and Description

McKinley Elementary School is an approximately 6.50-acre rectangular shaped campus located at 2401 Santa Monica Boulevard in the City of Santa Monica, serving approximately 450 students in grade levels from transitional kindergarten through fifth grade. The current campus is developed with four educational buildings and 11 portable buildings, as well as play yards and sports fields, staff and visitor parking, and programmed and unprogrammed open space. Vehicular access is from Chelsea Avenue, with student drop-off/pick-up occurring on-site. The school campus is bounded by Santa Monica Boulevard and commercial uses to the southeast, Arizona Avenue and multi-family residential uses to the northwest, and mixed multi-family and commercial uses to the northeast across Chelsea Avenue and to the southwest

across 23rd Court. A dry cleaner facility is located across Chelsea Avenue near the eastern corner of the campus.

2.2 Planned Site Development

As part of a proposed campus upgrade, the first phase of work will include new building construction, renovation of existing buildings, and new on-campus parking and roadways. A new two-story classroom and administration building will be constructed within the area that currently serves as staff and visitor parking. In addition, renovations of the existing main campus building will include new ground and second floor connections to the main building, new staff and visitor parking lots, and construction of a new on campus drop-off/pick-up lane adjacent to Chelsea Avenue.

2.3 Topography, Geology, and Hydrogeology

The soils encountered at the Site during NV5's subsurface investigations were noted to generally consist of sandy clays and clayey and silty sands.

Groundwater data published nearby suggest that groundwater in the vicinity of the Site is approximately 140 feet below ground surface and flows towards the southeast. Groundwater is not expected to be encountered during the construction of the School and VIMMEC system.

2.4 Subsurface Environmental Conditions

Environmental investigations at the Site conducted by NV5 have identified the presence of soil vapor impacted with VOCs at concentrations that were reported to exceed the appropriate regulatory screening levels throughout the footprint of the proposed two-story classroom building. This assessment included the collection of soil vapor samples from three soil vapor probe locations on the eastern portion of the Site.

Concentrations of multiple VOCs in excess of risk screening levels were identified in soil vapor samples collected from both the 5-foot and 15-foot depth probes at all three soil vapor sample locations (SV1 through SV3). Concentrations of PCE tended to increase with depth and proximity to the existing adjoining upgradient dry-cleaner property. Conversely, concentrations of petroleum hydrocarbon (benzene, toluene, ethylbenzene, etc.) related constituents decreased with depth and proximity to the adjoining dry-cleaner.

Additional soil vapor sampling at the Site and indoor air sampling throughout the McKinley Elementary School campus was conducted throughout June and July 2023. This assessment was conducted in the parking lot portion of the campus along Chelsea Avenue. During the assessment, soil and soil vapor samples were collected from ten locations (SV4 to SV13) throughout the parking lot and analyzed for VOCs to further assess the VOC impacted soil vapor identified during the April 2023 investigation.

Concentrations of multiple VOCs were detected in soil vapor samples collected throughout the Site. However, only the concentrations of benzene, ethylbenzene, naphthalene, and PCE at 5 feet below ground surface (bgs) and PCE, TCE, and naphthalene at 15 feet bgs exceeded the applicable compound specific health screening levels.

The results of the laboratory analysis of the soil and soil vapor samples collected during this assessment did not indicate evidence of an on-site release of VOCs. Concentrations of VOCs in soil vapor, specifically PCE, generally decreased from east to west across the Site and appear to originate from an off-site unknown source. No evidence for the past use of chlorinated solvents (PCE and TCE) or petroleum hydrocarbons (benzene, ethylbenzene, and naphthalene) at the school was identified during the previous

Phase I ESA (NV5, 2022). However, the Phase I did identify the presence of nearby off-site dry cleaning and automotive repair businesses along Santa Monica Boulevard.

2.5 Type, Source, and Location of Contaminants

Soil and soil vapor sampling was conducted throughout the Site between February and July 2023. Based on the sampling results, the primary contaminants of concern (COCs) at the Site consists VOCs in soil vapor. Figures and Tables from the PEA-Equivalent documents are presented in the RAW.

As detailed in previous assessment reports, VOCs in soil vapor were identified at all vapor probe sample locations and have not been fully delineated. The source of the impacts has not been identified, but based on Site history is suspected to be an off-Site source. Concentrations of PCE decrease laterally east to west across the Site. Concentrations of other VOCs (benzene, bromodichloromethane, chloroform, dibromochloromethane, and ethylbenzene) appear to decrease with depth.

2.6 Extent and Volume of Contamination

Between February 2023 to June 2023, thirteen soil vapor 13 soil vapor probes were installed throughout the Site to characterize potential impacts from offsite dry-cleaning activities. Samples were collected from a depth of 5 and 15 feet-bgs. Soil vapor was evaluated for volatile organic compounds (VOCs) by USEPA Test Method 8260. VOCs which exceeded their respective USEPA or DTSC SLs, derived using an attenuation factor of 0.03, include benzene (ND to 751 micrograms per cubic meter [$\mu g/m^3$]), bromodichloromethane (ND to 53 $\mu g/m^3$), dibromochloromethane (ND to 22 $\mu g/m^3$), tetrachloroethylene (PCE) (ND to 2,600 $\mu g/m^3$), chloroform (ND to 163 $\mu g/m^3$), ethylbenzene (ND to 702 $\mu g/m^3$), and trichloroethylene (TCE) (ND to 93 $\mu g/m^3$).

2.7 Exposure Pathways

A conceptual site model (CSM) that identifies the receptors that may contact the COCs and the exposure pathways through which they may contact the COCs has been developed and presented in the RAW. The completed exposure pathway for VOC impacted soil vapor includes inhalation. The potential exposed populations are construction workers (during construction) and students, staff and visitors both during construction and subsequent long-term occupancy.

3 RISK EVALUATION AND DESIGN BASIS

This section identifies vapor intrusion risk conditions at the Site and identifies assumptions and conditions which drive the need for engineering controls. This section provides technical justification for the assumptions or conditions and explanation of risk drivers. Each of the exposure pathways will be closed through implementation of engineering control measures.

3.1 Vapor Intrusion Risk Evaluation

As presented in NV5's Soil Vapor Investigation Report, dated July 19, 2023, NV5 engaged a board-certified toxicologist (Enviro-Tox) to conduct a Vapor Intrusion Risk Evaluation (VIRE) to assess whether the presence of VOCs detected in soil gas beneath the Site could pose a potential health risk or hazard to onsite receptors (students and faculty) at the Site.

The VIRE included a screening-level risk evaluation utilizing standard equations and methods developed by the USEPA and the California Environmental Protection Agency for similar exposure conditions.

The VIRE incorporated conservative (health-protective) assumptions in evaluating potential exposures, so that potential health impacts from chemical exposures could be evaluated and not underestimated. For the purpose of this risk evaluation and in accordance with DTSC's Preliminary Endangerment Assessment (PEA) Guidance Manual (2015), the potential risks were calculated based on a hypothetical residential land-use scenario, regardless of the current and future use and zoning for the site.

Additionally, a default attenuation factor (AF) is used to estimate concentrations of VOCs in indoor air by multiplying the AF by known soil vapor concentrations. For the purposes of the VIRE, exposure scenarios were assessed based on maximum detected VOC concentrations at the 5-foot depth and the 15-foot depth. In accordance with DTSC (2011) guidance, the default AF for future residential sites (0.001) was used in this VIRE along with the detected subsurface concentrations. The default AF of 0.001 was used to evaluate volatilization and vapor intrusion for all sampling depths evaluated in this VIRE. The DTSC default AF reflects reasonably protective assumptions for conditions in California for the contamination of indoor air due to vapor intrusion (DTSC, 2011). However, DTSC (2023) also recommends that risk assessments evaluate vapor intrusion using the United States Environmental Protection Agency (USEPA) default AF of 0.03 (USEPA, 2015).

It should be noted that the intent of this type of screening level assessment is to provide a health-protective estimates of potential risk. Per the methodology prescribed by the State of California and Federal regulatory agencies, risk probabilities are calculated using several standardized conservative exposure parameters such as:

- An occupant exposure time of 24 hours per day for 350-days per year with a duration of 20 years for an adult and 6 years for a child.
- Continued exposure to the maximum detected concentrations of all VOCs, regardless of location on the Site and without allowing for natural degradation, for the entire exposure duration.
- An attenuation rate developed by the USEPA for residential sites where the source of the contamination is located directly under the affected building, as opposed to an off-site source.

Health hazards to potential receptors are estimated using conservative exposure durations, maximum detected soil vapor concentrations, and chemical specific toxicological data. For the purposes of calculating exposure criteria to be used in risk assessments, adverse health effects are classified into two broad categories: carcinogens and non-carcinogens. A hazardous quotient (HQ) is calculated to evaluate non-carcinogenetic health hazards, and an incremental probability of an individual to develop cancer over a lifetime as a result of exposure to a potential carcinogen is used to evaluate carcinogenic risks. The VIRE is presented in the RAW.

3.1.1 Estimated Carcinogenic Risk – Soil Vapor Only

The cancer risks estimated in the VIRE for hypothetical residential receptors at the Site are:

- 4E-04 when using an AF of 0.03 and maximum detected concentrations at a depth of 5 feet bgs
- 1E-05 when using an AF of 0.001 and maximum detected concentrations at a depth of 5 feet bgs
- 2E-04 when using an AF of 0.03 and maximum detected concentrations at a depth of 15 feet bgs
- 6E-06 when using an AF of 0.001 and maximum detected concentrations at a depth of 15 feet bgs

All estimated cancer risks exceed the acceptable cancer risk point of departure of 1E-06. The "risk drivers" for VOCs detected at a depth of 5 feet and using an AF of 0.03 were benzene, chloroform, ethylbenzene, naphthalene and PCE (Table 14). Benzene, chloroform, and PCE were the "risk drivers" when using an AF of 0.001 (Tables 15 and 17). The "risk drivers" identified in soil gas sampled at a depth of 15 feet bgs and using an AF of 0.03 were naphthalene, PCE and trichloroethene (TCE).

3.1.2 Estimated Noncarcinogenic Risk – Soil Vapor Only

The HQs estimated for the hypothetical onsite residential receptors are:

- 11 when using an AF of 0.03 and maximum detected concentrations at 5 feet bgs.
- 0.4 when using an AF of 0.001 and maximum detected concentrations at a depth of 5 feet bgs.
- 4 when using an AF of 0.03 and maximum detected concentrations at a depth of 15 feet bgs.
- 0.1 when using an AF of 0.001 and maximum detected concentrations at a depth of 15 feet bgs.

Only the HQs estimated using an AF of 0.03 exceed the benchmark value of 1. The "risk drivers" for the exceedance were benzene, tetrachloroethene (PCE) and trichloroethene (TCE).

3.2 Vapor Intrusion Risk Evaluation Summary

As documented in the prior reports and in the RAW, soil gas beneath the Site contains PCE and, to a significantly lesser extent, other related chlorinated volatile organic compounds (VOCs; e.g., benzene, ethylbenzene, naphthalene, and TCE). The magnitude and extent of PCE in soil gas, as defined prior to construction (sample date of June 10, 2023), is provided on Drawing VM2.0 of the VIMMEC plans.

The results of the VIRE indicated that the calculated potential non-carcinogenic and carcinogenic health risks associated with the reported VOC concentrations in soil vapor beneath the investigation area exceeded acceptable regulatory limits. Based on these results, design and installation of a vapor intrusion mitigation system was recommended for future structures built at the Site to mitigate the findings of the VIRE.

For purposes of this design, based on the data from the VIRE report, the VIRE concluded the following:

- The highest Cancer Risk from inhalation of indoor air estimated using an attenuation factor of 0.03 (using maximum PCE concentrations detected at a depth of 5 feet), was 4.E-4 (Enviro-tox 12/10/2023, Table 14). This equates to a High risk design.
- The highest Cancer Risk from inhalation of indoor air estimated using an attenuation factor of 0.001 (using maximum PCE concentrations detected at a depth of 5 feet) was 1.E-05 (Enviro-tox 12/10/2023, Table 15). This equates to a Moderate risk design.

Neither of these values takes into consideration the VIMMEC system components and are much more conservative than the Site-specific attenuation factors values calculated for the Site.

- Based on the data from the Existing Structures (indoor air evaluation) VIRE report (Enviro-tox 02/15/2024), the VIRE concluded that the Site-specific Attenuation Factor was 0.00004.
- The highest Cancer Risk from inhalation of indoor air estimated using the Site-specific Attenuation Factor of 0.00004 (using maximum concentrations detected at a depth of 15 feet) was 2.E-07 (Enviro-tox 2/15/2024, Table 7). This equates to a Low/Acceptable risk design.

4 VIMMEC SYSTEM DESIGN INTENT

Multiple VOCs were identified in soil vapor beneath the Site at concentrations that exceeded the established health risk screening levels and applicable risk quotients. The source and extent of these impacts have not been identified; however, it is believed that the source is an off-site property. To mitigate potential risks to future occupants of the new classroom building, NV5 believes that installation of a VIMMEC System is the most appropriate remedy.

4.1 VIMMEC System Description

Installation of a VIMMEC System beneath the new classroom building has generally been accepted as the preferred alternative for similar site conditions (subsurface VOC impacted vapor migration from an unidentified off-site source) at other similar locations. The method for sub-slab vapor intrusion mitigation consists of installing a barrier membrane system and a passive vapor collection system beneath the building slab.

The vapor barrier consists of an impermeable membrane that is installed beneath the building slab to reduce the potential for subsurface vapors entering the building. The membrane would consist of a sprayed-in-place continuous bituminous barrier system. This technology uses base layer impermeable plastic, coated with a spray-applied flexible membrane and geotextile layer that provides the ability to adhere to concrete footings and utility penetrations, and to create a seamless membrane vapor barrier layer beneath the concrete slab. A sub-slab collection and venting system is typically installed beneath the vapor barrier. The vent system is designed to function under passive conditions (i.e., venting will occur via natural processes, without powered blowers). The sub-slab venting system consists of a connected array of low-profile collection/infiltration piping installed in a high permeability layer (such as gravel) beneath the building slab. The purpose of sub-slab collection/infiltration system is to prevent build-up of accumulated subsurface vapors beneath the barrier and to provide a low resistance pathway for vapors to escape to the atmosphere. The vent piping is connected to vent riser exhaust stacks. The venting system is designed so it can operate under both passive and active operating conditions (as necessary) utilizing a vacuum blower to further reduce levels of vapors (if/as necessary) under active operation (as a contingency measure).

This alternative would meet the Site's Removal Action Objectives of protecting future site occupants by mitigating the potential vapor intrusion risk from residual VOC impacts in soil vapor into indoor occupied spaces. Below grade vapor intrusion protection and components of the VIMMEC system will reduce vapor intrusion risk associated with common building entry points such as cracks, openings and utility penetrations in the building foundation floor slab, by providing vapor intrusion mitigation components and migration engineering control strategies.

4.2 VIMMEC System Design Details

The updated VIMMEC plans (Revision 3, dated February 19, 2024) includes the following sections: Title page with Project Information (VM1.0), General notes and specifications (VM1.1), VOC concentrations (VM2.0), Basis of Design Details (VM2.1), Site plan and preferential pathway controls (VM3.0), Layout details from Subgrade to the Roof (VM3.1 to VM3.4), construction details (VM4.0 and VM4.1), contingency measures (VM4.2) and parts requirements list (VM5.0). The most recent version of the VIMMEC design plans (Revision 3, Dated February 19, 2024) are included in **Appendix A**.

4.3 VIMMEC System Design Elements

As described in the RAW, a VIMMEC system will be installed as the presumptive remedy for the Vapor intrusion risks to the future building. Based on a comparison of the VIRE data, NV5 believes that this project should be designed with components applicable to a Site with a moderate risk for Vapor Intrusion (see VIMMEC Strategy and Design Element Selection on Drawing VM2.1 of the VIMMEC plans). The VIMMEC system consists of the following primary design elements:

4.3.1 Gravel Venting Layer:

A layer of permeable gravel will be installed beneath the vapor barrier and around the horizontal vapor collection/dispersion lines to allow vapors which may accumulate beneath the building slab to be removed during passive venting system operation. See Drawing VM3.1 and Section 5.0 for details.

4.3.2 Environmental Monitoring

Sub-Slab Monitoring Probes will be installed beneath the vapor barrier and concrete slab and routed to the exterior of the building to allow for evaluating sub-slab vapor concentrations and/or pressures without penetrating through the vapor barrier and slab.

Indoor Air Continuous Monitoring Devices will be installed inside the school building to measure VOCs, temperature, humidity, pressure and radon. See Drawing VM3.1 and VM3.2 and Section 9.0 for details.

4.3.3 Sub-Slab Ventilation System:

A passive venting system will be installed to provide ongoing vapor mitigation benefits after contaminant concentrations in soil vapors have sufficiently declined. The passive venting system includes horizontal collection lines and 4 associated exhaust vent riser (VR) lines;

In addition, a passive diffusion system will be utilized in combination with the passive venting system to allow dilution air to help minimize and dissipate soil vapor concentrations beneath the building. The passive diffusion system includes horizontal dispersion lines and 3 associated Make-Up Air Intake (MUAI) lines. See Drawing VM3.1 and Section 6.0 for details.

4.3.4 Vapor Migration Controls

Migrations Controls to prevent vapors from preferential pathways (i.e. permeable fill) will be mitigated using trench dams for all utilities entering the building envelope. Preferential Pathway Controls and Point of Entry Controls will be used to prevent vapor from the interior of utility conduits (electrical, communication and plumbing lines) will be mitigated using conduit or cable seals (for dry utility lines) and wet utility sealants and self-priming sealants (for sewer and/or storm drains). See Drawing VM3.0 and Section 7.0 for details.

4.3.5 Vapor Barrier

A low permeability and chemical resistant vapor barrier will be installed beneath the building slab to work in combination with the passive venting system to provide long-term control of vapor intrusion. See Drawing VM3.1 and Section 9.0 for details.

5 DESIGN ELEMENTS: GRAVEL VENTING LAYER

A 4-inch thick rounded gravel venting layer will be placed directly beneath the vapor barrier. The purpose of the venting layer is to promote ventilation of the sub-slab during passive venting. Clean rounded gravel has been specified to provide low resistance ventilation of sub-slab areas to vapor collection pipes for either active or passive venting to atmosphere.

The gravel layer shall be ¾-inch or less with no more than 1 fractured face and shall contain minimal fines, in accordance with the Los Angeles Department of Building Safety, Standard Plan: Methane Hazard Mitigation. The gravel layer must be compacted and rolled flat. See Drawing Specifications and Drawing VM3.1, VM4.0 and VM4.1 for details.

6 DESIGN ELEMENTS: SUB-SLAB VENTILATION SYSTEM

The collection piping layout avoids foundation and sub-slab plumbing elements and is designed for passive venting in that no portion of the sub-slab is more than approximately 25 feet from a section of slotted pipe. Vertical risers are incorporated to convey sub-slab vapors to passive vent risers to allow passive ventilation to atmosphere during passive venting operational mode. The design includes a total of 4 passive vent risers and 3 dispersion vent risers, which exceeds the minimum requirements of the Los Angeles Methane Code of one 3-inch vent riser per every 7,500 square feet of sub-slab area (with a minimum of 4 vent risers). Detail sheets include sections both above and below the slab, and show the following features of the VIMMEC system. Associated VIMMEC piping details include the following:

6.1 Below Grade Collection/Dispersion Piping

The piping beneath the Slab is used to collect vapors. A low-profile vapor collection (and dispersion) piping shall consist of a Vapor-Vent™ vapor collection system. This system is a composite, low-profile, pressure relief and collection system designed to mitigate the build-up of contaminated vapor under an overlying structure. Vapor-Vent is most commonly designed to operate passively, but it can also be designed to work as an active system when conditions require. Vapor-Vent features a lightweight, three dimensional, highly flexible polypropylene core and a nonwoven geotextile filter fabric. The filter fabric is bonded to the polypropylene core to prevent fine substrates, such as sand, from clogging the vent pipe. It is a cost-effective alternative to traditional trenched PVC pipe systems, designed to be placed directly below the barrier system in order to drastically reduce vapor accumulation under the structure. The Vapor-Vent™ system has a radius of influence of 25 feet on each side of the vent allowing for maximum spacing between Vapor-Vent runs of up to 50 feet. See Drawing Specifications and Drawing VM3.1, VM4.0 and VM4.1 for details.

6.2 Conveyance Piping and Riser

6.2.1 Conveyance Piping and Vent Riser (Below Grade)

This section provides specifications for the sold conveyance pipe from below grade to the above grade transition (through the concrete slab). Solid PVC Conveyance piping will be used for horizontal conveyance piping below grade (as needed to transition though footings and the concrete slab). The conveyance pipe will transition from horizontal to vertical using 90 degree sweeps to convert from conveyance pipe to the vertical vent risers (through the slab). After penetrating the concrete slab, vent risers remain PVC up to 24 inches (maximum) above the concrete slab.

6.2.2 Conveyance Piping and Vent Riser Encapsulation (Above Grade)

This section describes the design and specifications for encapsulation or protection of above grade vapor conveyance piping and vent risers. After penetrating the concrete slab, vent risers remain PVC up to 24 inches (maximum) above the concrete slab. The PVC pipe will terminate above grade at a 3-inch true union Ball Valve. Vertical pipe will then transition to Cast Iron Pipe and the risers will continue routing through the building until they reach the roof.

Please note that all valve and sample ports must be access controlled. For vent risers encapsulated in a walls this may require installation of a lockable access panel. For vent risers that are not otherwise encapsulated, such as those mounted on exterior walls or support columns, this may require installation of a lockable cage or locks on valves. See Architectural elevations for precise dimensioned locations for access panels. Locate valves and sample ports within access panel as shown on architectural plans.

6.3 Vent Riser Termination Details

6.3.1 Roof Vent Riser Termination Details

The Vent Riser Pipe will run horizontally (as needed) along the ceiling of the next floor (while maintaining a 2 percent slope to allow drainage back to the slab). Prior to penetration through the roof, the vertical pipe will transition to Galvanized Pipe, where the vent riser stack terminates at the designated vent location above the roof (as shown on Drawing VM3.4 and VM4.0 Detail H).

Please note that Contractor shall verify there is a 10-feet (ft) minimum. setback from any windows, doors, roof hatch, opening, or air intake into the building. Also verify 10-ft minimum Setback from property line & 3-ft minimum setback from parapet walls. Contractor shall also provide 10-ft vertical setback from top of riser to openings/air intakes in case horizontal setbacks are not met. Contractor shall provide sufficient setback from rooftop equipment to 1) facilitate construction and maintenance of the equipment, and 2) provide unobstructed air flow from the risers.

The Vent Stack termination shall be finished with a Vacu-stack® cap, which is a non mechanical ventilator that does not require permitting with the air district. Details on how the Vacu-Stack ® works in included with the supporting documentation in **Appendix B**.

6.3.2 Make-Up Air Intake Riser Termination Details

The Make-up Air Intake (MUAI) Riser Pipe will run vertically inside the wall of the first floor and terminates at the designated MUAI location (approximately 10-ft above grade) near the second floor (as shown on Drawing VM3.3 and VM4.1 Detail J).

Please note that Contractor shall verify that there is a 10-ft minimum. setback from any windows, doors, roof hatch, opening, or air intake into the building. Also verify 10-ft minimum Setback from property line & 3-ft minimum setback from parapet walls. Contractor shall also provide 10-ft vertical setback from top of MUAI to other openings/air intakes in case horizontal setbacks are not met.

Installation Notes: The MAUI valves are a contingency measure and shall be plumbed in then capped (using NPT threaded plug)/sealed until required. Actual termination locations of Air Intake shall be installed per applicable plumbing code(s). Mono-directional Air Admittance / Intake low cracking pressure septum valves (e.g., Oatley 500 DFU Sure-Vent, or approved equal) shall be installed and may require vertical installation with screening or protection from UV exposure. All exterior portions of intake piping shall be

fully encapsulated in protective 20-gauge galvanized metal covering. Refer to Architect for metal covering specifications and installation details.

7 DESIGN ELEMENTS: VAPOR MIGRATION CONTROLS

Vapor Migration and preferential pathway controls are installed to prevent fugitive vapors from entry into the building footprint via preferential pathways or from the interior of damaged utility lines.

7.1 Migration Controls

Migration Controls are used to prevent vapors from preferential pathways (i.e. permeable fill) along utility conduits entering the building envelope.

7.1.1 Trench Dams

Trench Dams are intended to prevent travel of underground gas into buildings or structures along the trench backfill. A Trench Dam shall be installed in all electrical, plumbing, gas, or other trenches beneath the building foundation as shown on detail L (drawing VM4.1). If piping and conduits are placed before certified compacted soil as part of the site preparation for the building pad, then trench dams will not be required. Trench dams shall be installed in the trench immediately adjacent to the exterior perimeter of the building Foundation. A Trench Dam shall have a minimum length of twice the width of the trench (with a minimum of 36 inches in length). Trench dams will consist of a Bentonite Cement Slurry or a mixture of 4% Type II Cement and 2% Powdered Bentonite. The entire cross section of trenches shall be backfilled to provide a minimum of 6 inches of trench dam material around all conduits and pipes.

7.2 Preferential Pathway Controls

Preferential Pathway Controls will be used to prevent vapor from the interior of utility conduits (electrical, communication and plumbing lines) will be mitigated using conduit or cable seals (for dry utility lines) and wet utility sealants and self-priming sealants (for sewer and/or storm drains).

7.2.1 Conduit Seals

Conduit Seals shall be installed as shown on Detail K (Drawing VM4.1) in each non pressurized, dry utility conduit that enters the building envelope from below grade. Conduit Seals shall be installed in accordance with the requirements for Class 1 Division 1 areas as specified in chapters of the California Electric Code to prevent hazardous vapors from entering the building through damaged conduits.

7.2.2 Wet Utility Seals

Non Pressurized wet utilities (Storm water, or Sanitary sewer) that enter the building envelope from below grade shall incorporate a wet utility seal in accordance with California Plumbing Code. Trap Primers are requires for all Floor Drains, emergency or overflow drains, traps associated with storm water systems penetrating the building envelope or other traps subject to evaporation.

8 DESIGN ELEMENTS: ENVIRONMENTAL MONITORING

Environmental and system monitoring infrastructure shall consist of the following:

8.1 Sub-Slab Monitoring Probes

Sub-Slab Monitoring Probes will be installed beneath the vapor barrier and concrete slab and routed to the exterior of the building to allow for the collection and evaluation of sub-slab vapor concentrations and/or pressures without penetrating through the vapor barrier and slab.

Subgrade elements for each sub-slab monitoring probe (SSMP) shall be installed prior to construction of vapor barrier and floor slab. Sample tubing associated with each SSMP shall be continuous and shall be protected from puncture and/or kinks by routing inside of electrical conduit. The use of glues, primers, or solvent welds is prohibited. At the ground level, an access point shall be installed to protect the sample ports and valves.

8.2 Access Points

Access points (Well boxes or utility cabinets) shall be provided for monitoring probes and risers. Access points shall be protected against tampering by the general public by installation behind lockable access doors or by locating this infrastructure in areas inaccessible to the public (such as access controlled rooms). Access points may also be installed in a manner that they can be accessed from public spaces or spaces that are under the control of property management (e.g., utility, mechanical rooms, etc). Access points shall be closeable while valves associated with risers and/or sample locations are oriented in either the open or closed positions. Each point of control probe and riser sample port shall be labeled at the access point with permanently affixed indelible labels (e.g. Stamped metal tag).

8.2.1 Riser monitoring infrastructure

Each riser shall have a shut-off valve installed. Sample ports shall be installed on each riser in accordance with the following requirements: sample ports on risers shall be at least 8 pipe diameters from the nearest change in the direction of the conveyance piping. all sample ports shall be valved. sample ports and shut-off valves shall be accessible for future inspections and sampling, but access controlled via installation of locking doors or installation in areas that are not generally accessible.

8.3 Indoor and Ambient Monitoring Infrastructure

Indoor Air Continuous Monitoring Devices will be installed inside the school building to allow for near continuous measurements and evaluation of VOCs, temperature, humidity, pressure and radon. Indoor ambient air meters are to be to be installed after painting within installation area ls completed. Installation of air meters within the building envelope shall meet the following requirements:

- No less than 7-ft above surrounding grade and no more than 10-ft above surrounding grade.
- No less than 10-ft from an air supply register or air louvers.
- Lateral air movement within 10-ft of the meter shall be unobstructed for a 180 degree arc.
- The air meter shall be accessible for future maintenance and inspection.

9 DESIGN ELEMENTS: VAPOR BARRIER

An EPRO Services Inc. (EPRO) vapor barrier to protect the building from sub-slab vapors and serves as a functioning low-permeability and chemical resistant vapor intrusion barrier. The vapor barrier system includes standard industry components that are integrated into a layered system. The system includes a

10-year manufacturer warranty from EPRO. The vapor barrier specific components are described in the next section;

9.1 Vapor Barrier Description

The EPRO Geo-Seal® system is a chemical vapor barrier system that is designed to be pre-applied to protect the building against contaminant vapor intrusion to interior building spaces. Geo-Seal® 100 is an industry leading and patented sub-slab vapor intrusion barrier system that eliminates vapor intrusion for brownfields or any environmentally-impaired site. With more than 50 million square feet installed, the Geo-Seal® 100 system has been in use for more than 20 years. Geo-Seal is the most chemically resistant vapor intrusion barrier on the market today according to third party independent testing. Geo-Seal® 100 consists of three layers: The primary components of the Geo-Seal system include, from bottom to top:

9.1.1 Geo-Seal® BASE

Geo-Seal BASE is designed to be a sturdy and versatile base course for Geo-Seal vapor intrusion barrier system. Geo-Seal BASE blends the durability of a geotextile fabric with the chemical resistant benefits of a high density polyethylene (HDPE) sheet into one geocomposite membrane. When combined with Geo-Seal CORE and Geo-Seal BOND, the redundant Geo-Seal system prevents harmful vapors from permeating the slab, protecting the health and well-being of building occupants.

Composition: Geo-Seal BASE is a base course comprised of an HDPE film and non-woven polypropylene geotextile fabric. The film is cross laminated to create ridges that enhance the bond between the Geo-Seal BASE and Geo-Seal CORE. Layer thickness of 18 mils.

9.1.2 Geo-Seal® CORE

Geo-Seal CORE is a polymer modified asphalt (PMA) applied to nominal dry thicknesses depending on the configuration of the Geo-Seal system vapor intrusion barrier system. Spray applied to form a seamless barrier, Geo-Seal CORE is an integral component to all Geo-Seal systems due to its ability to bond to and seam high density polyethylene (HDPE), polyolefin sheets. Geo-Seal CORE is applied with a proprietary self-contained sprayer designed to produce a high build, monolithic, and rapidly curing membrane.

Composition: Geo-Seal CORE is a non-hazardous, low-viscosity, water-based, anionic asphalt emulsion modified with a blend of synthetic polymerized rubbers and proprietary additives. Geo-Seal CORE is highly stable during transit and proper storage, but becomes highly reactive during the spray application to form a rapidly cured membrane with exceptional bonding, elongation, and hydrophobic characteristics. Layer thickness of 60 mils.

9.1.3 Geo-Seal® BOND:

Geo-Seal BOND has been specifically designed to for use as a high performance protection course for application over Geo-Seal CORE in Geo-Seal system assemblies. In addition to the advantages gained by combining a high density polyethylene film (HDPE) and geotextile, Geo-Seal BOND mechanically bonds the Geo-Seal system to the concrete slab.

Composition: Geo-Seal BOND is an extremely durable, high strength protection course made from the lamination of HDPE film and nonwoven polypropylene geotextile fabric.. Layer thickness of 18 mils.

9.2 Geo-Seal ® 100 Details

Designed to be thick and robust, Geo-Seal® 100 can withstand the rigors of modern-day construction by providing high tensile strength, puncture resistance and robust seals around penetrations and terminations. Thoroughly tested and proven highly effective against VOC vapors — such as chlorinated solvents, petroleum hydrocarbons and methane gas — Geo-Seal® 100 earns full approval with multiple federal and state regulatory agencies. Geo-Seal® 100 provides peace of mind knowing that a healthy indoor air environment will keep occupants safe while also significantly reducing remediation costs and expediting the development and construction process.

The vapor barrier components create a 96-mil thick protective layer which is integrated with related EPRO products to seal slab penetrations and other subgrade elements of the building foundation. A copy of the Geo-Seal ® 100 submittal package is included in **Attachment B**.

9.3 Vapor Barrier Diffusion Testing

Independent testing of EPRO systems have shown effective chemical resistance to a variety of solvent vapor diffusion through the membrane. The industry standard test method typically includes exposing membranes to relatively high concentrations of VOC solvent vapors (TCE, PCE, benzene, etc.) to simulate extreme exposure conditions for establishing diffusion coefficients. If needed, the diffusion coefficients may be used to estimate rates at which solvents may be expected to migrate across intact membranes. In addition, EPRO has received approval from the County of Los Angeles Department of Public works for the Geo-Seal® product as a vapor intrusion barrier.

9.4 Vapor Barrier Installation

The vapor barrier system will be installed per the attached EPRO standard specification by an EPRO Authorized Applicator (Advanced Construction Technologies of Irvine, CA or equivalent). The EPRO specifications include detailed requirements for construction of a warrantable vapor barrier system including submittals, quality assurance, material handling, products and auxiliary materials, surface preparation, weather conditions and limitations, materials installation methods, sealing pipe and conduit penetrations, inspections and testing, and repairs. Quality assurance inspections will be performed concurrent with installation by an EPRO certified inspector (NV5) and is described in the next section.

General instructions for installing the geocomposite layers (Geo-Seal® BASE) include rolling out the materials in a predetermined orientation with EPRO specified overlaps, sealing the overlapped seams with specified thickness of spray (Geo-Seal® CORE), and fabricating and sealing pipe and conduit penetrations. Special procedures may be required for handling and installing bentonite materials in damp conditions to prevent premature activation of the bentonite.

General instructions for installing the Geo-Seal® CORE polymer modified asphalt membrane include masking off the application area, ensuring ambient air temperatures are within the manufacturer recommendations (e.g., 40 degrees Fahrenheit and rising with certain exceptions), ensuring surfaces are clean and free from standing moisture, starting the application in the presence of the approved inspector, application of Geo-Seal® CORE spray in accordance with manufacturer's instructions to obtain a seamless membrane with minimum dry film thickness of 60 mils, application of Geo-Seal® CORE around penetrations and cavities to ensure formation of a monolithic seal, and thickness verification every 500 square feet.

10 CONSTRUCTION QUALITY ASSURANCE INSPECTIONS

Construction quality assurance inspections will be performed per EPRO's recommended procedures by an EPRO certified inspector. Quality control procedures include documentation of materials, quantities, and photographing, performing applied spray thickness testing, and performing smoke testing on the installed vapor barrier system. Installation and inspection records are to be submitted to EPRO prior to warranty request and issuance.

Non-destructive thickness (coupon) testing and smoke testing will be performed in accordance with the attached EPRO recommended protocols. The tests will be performed approximately 24 hours after the application of Geo-Seal® CORE to allow the material to fully cure (and shrink). The thickness and smoke testing work in tandem to provide feedback to the applicator regarding 1) whether enough Geo-Seal® CORE is being applied to achieve the specified 60-mil thickness, and 2) whether the Geo-Seal® CORE is being applied consistently and evenly to avoid light areas, shadows, pinholes, etc. Areas with deficient thickness or visible leaks during smoke testing will be repaired per the EPRO recommended protocols. The following is a summary of the testing procedures. A description of the protocols is attached.

10.1 EPRO Recommended Thickness Testing Protocol.

Thickness will be performed at a rate of one sample per 500 square feet of Geo-Seal® CORE application. Each test includes measuring the thickness on all four sides of a 1 ft by 1 ft square "coupon" and determining an average membrane thickness after application of Geo-Seal® CORE to the Geo-Seal® BASE. To avoid taking destructive coupon samples (i.e., cutting coupons from the applied membrane), EPRO recommends applying target coupons every 500 square feet to ensure a proper application of Geo-Seal® CORE. A target coupon consists of a 1 ft by 1 ft square piece of Geo-Seal® BASE material, and the coupon is affixed to the top-side of the installed Geo-Seal® BASE layer prior to application of Geo-Seal® CORE.

Prior to testing, the inspector will develop a target coupon sample plan. The plan will consist of drawing a grid over a site plan and creating 500 square foot sections over the entire foundation. Each grid section will be assigned a unique identifier, and the location of each target coupon sample will be marked within the grid areas. A copy of the target coupon sample plan will be provided to the applicator who will use the plan to fabricate and apply the target coupons in the planned location(s) for the area(s) to be tested.

After the deployment of the target coupons, the applicator will install the Geo-Seal® CORE across the planned application area. Following sufficient time for the Geo-Seal® CORE to cure, each target coupon will be lifted and thickness will be measured. The condition and acceptance of each target coupon sample shall be agreed upon by the applicator and the inspector. If the mil thickness meets specification, Geo-Seal® CORE will be applied over the area where the target coupon sample was taken. If the mil thickness does not meet specification, Geo-Seal® CORE will be applied over the area where the target coupon sample was taken, and the deficiency thickness plus 10 mils will be applied to the entire 500 square foot grid represented by the target coupon. No additional target coupon samples are required.

10.2 EPRO Recommended Smoke Testing Protocol.

Smoke testing will be performed at a rate of one test per 500 square foot building area or greater depending on both job conditions (i.e., wind speed, barometric pressure, slab pour schedule) and the size area which can be verified based on the type of substrate beneath the membrane (e.g., packed soil or mud slab yield higher square footage per test compared to gravel). Prior to testing the third-party inspector will

calibrate the number and locations of smoke testing. The project slab pour schedule will be delineated on a site plan to develop and understanding of the sequencing and square footage of each pour.

The first three smoke tests will help to calibrate the number of square feet that can be verified with each smoke test. EPRO suggests that a 500 square foot test area is prudent, and acknowledges that most substrates will yield more depending on job conditions. When conducting the first series of smoke tests, the third-party inspector will determine the minimum number of smoke tests required based on the planned pour area and identify the approximate location of each smoke test. Smoke test locations will be assigned near the centers of each area. After the third smoke test, the inspector may develop an alternate minimum number of smoke tests and approximate locations and present the plan to the applicator.

The smoke test procedure includes using either a vent riser pipe or cutting test port (e.g., slit) through the base sheet, inserting the smoke testing hose, constructing a gasket around the hose, activating the smoke generator, and pumping smoke beneath the membrane for a minimum of 15 minutes following purging of the membrane. Pressure should be reduced if membrane lifting of greater than 6 inches occurs. The membrane surface is to be thoroughly inspected for presence of leaks, and the leaked areas are to be marked for documentation and repaired with Geo-Seal® CORE until no more smoke is visible. When the smoke test is complete and test port is no longer needed, the smoke testing hose will be removed, and the test port repaired per EPRO specifications. Smoke testing equipment will be removed, and inspection performed that no equipment, materials, debris, etc. is left on the membrane.

Each smoke test is to be documented on an EPRO provided inspection report. Notes include date, test performed by, number of leaks identified, type of leaks identified (i.e., tears, seam leaks, boot leaks, etc.), and indication of successful completion of the smoke test.

10.3 CQA Summary / Warranty

The EPRO Geo-Seal® system has been specified to function as a vapor barrier and will be warranted by the manufacturer for a period of 10 years. The Geo-Seal® system, when installed per manufacturer specifications, has been documented to provide ample solvent vapor resistance against vapor intrusion of the contaminant concentrations at the Site.

11 VIMMEC SYSTEM REPORTING

11.1 VIMMEC System Installation Summary Report

Following approval, installation oversight and pre-occupancy sampling of the VIMMEC system, NV5 will prepare a summary report documenting the installation and construction quality control and quality assurance for the VIMMEC system. This summary report will include identification of identified deviations from the approved VIMMEC design (if any). The report will be reviewed and signed by a California Professional Civil Engineer. Preparation and submittal of CQA inspection forms which will include completed copies of vender required inspection forms, photo logs, and materials / specifications sheets shall be included in this submittal.

Following completion of construction activities, a land use restriction will be executed between DTSC and the property owner and recorded to ensure that the VIMMEC system performance is regularly monitored and the integrity of the VIMMEC system components (membrane, ventilation piping, etc.) are adequately maintained.

11.2 Operations, Maintenance, Monitoring and Reporting Plan.

Following approval of VIMMEC system installation and prior to occupancy, an operation, maintenance, monitoring and reporting (OMM&R) Plan will be submitted and for approval by DTSC. This OMM&R Plan will present long term stewardship and monitoring requirements for ensuring the integrity and functionality of vapor intrusion mitigation and migration engineering controls for the Site. This OMM&R Plan will be implemented until VIMMECs are no longer necessary to control potential vapor intrusion risk, as determined by the DTSC. This OMM&R Plan will also include a summary of installed engineering controls and a description of inspection, sampling and monitoring events to be conducted at the site including Commissioning Event(s), Full Routine Monitoring Events, Reduced Routine Monitoring Events; and Annual Inspections. The actual operational configuration (passive vs. active sub-slab ventilation) for the VIMMEC system will be based on the Cancer Risk results from the actual sub-slab (pre-occupancy) vapor sampling.

The Plan will also include a Contingency Plan detailing instructions for repairs to the VIMMEC system and Conditions warranting conversion from Passive to an Active ventilation system.

12 REFERENCES

California Department of Toxic Substance Control Human and Ecological Risk Office - Human Health Risk Assessment Note Number 5, Health-based Indoor Air Screening Criteria for Trichloroethylene (TCE). August 2014.

California Department of Toxic Substance Control Human and Ecological Risk Office - Human Health Risk Assessment Note Number 3, DTSC-modified Screening Levels. Revised May 2022.

California Department of Toxic Substances Control and California State Water Resources Control Board - Supplemental Guidance: Screening and Evaluating Vapor Intrusion – Final Draft. February 2023.

Enviro-Tox Services, Inc, Technical Memorandum: Vapor Intrusion Risk Evaluation, McKinley Elementary School – New Classroom Building – 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for NV5. December 10, 2023.

Enviro-Tox Services, Inc, Technical Memorandum: Vapor Intrusion Risk Evaluation, McKinley Elementary School – Existing Structures – , 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for NV5. February 15, 2024.

NV5, Phase I Environmental Site Assessment Report – McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. April 19, 2022.

NV5, Environmental Site Investigation Report – McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. April 27, 2023.

NV5, Soil Vapor Investigation Report – McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. July 19, 2023.

NV5, Indoor Air Sampling Report - McKinley Elementary School, 2401 Santa Monica Boulevard, Santa Monica, California. Prepared for the Santa Monica-Malibu Unified School District. August 16, 2023.

United States Environmental Protection Agency Region IX Regional Screening Level (RSLs) Summary Table. May 2023.

APPENDIX A

VIMMEC System Design Plans

VAPOR INTRUSION MITIGATION & MIGRATION ENGINEERING CONTROLS (VIMMEC) SYSTEM

McKinley Elementary School (New Building)

2401 Santa Monica Boulevard, Santa Monica, California

Site Location

Site Plan

Project Information

Lead Agency:
Department of Toxic Substances Control (DTSC)
DTSC Case Number: 304687
EnviroStor ID: 600003412

Prepared For:
Santa Monica-Malibu Unified School District
1717 4th Street
Santa Monica, CA 90401

Prepared By:
NV5
3777 Long Beach Blvd., Annex Building
Long Beach, CA 90807

Architect
Johnson Favaro
Architecture and Urban Planning
5898 Blackwelder St., Ground Floor
Culver City, CA 90232

Structural Engineer
Englekirk Institutional
888 S. Figuroa Street, 18th Floor
Los Angeles, CA 90017

Sheet Index

VM1.0	Title Sheet
VM1.1	General Notes & Specifications
VM2.0	VOC Concentrations in Soil Vapor
VM2.1	Basis of Design Details
VM3.0	Site Plan & Preferential Pathway Controls
VM3.1	VIMMEC Layout (Subgrade)
VM3.2	VIMMEC Layout (1st Floor)
VM3.3	VIMMEC Layout (2nd Floor)
VM3.4	VIMMEC Layout (Roof)
VM4.0	VIMMEC System Construction Details (1)
VM4.1	VIMMEC System Construction Details (2)
VM4.2	VIMMEC System Contingency Measures
VM5.0	VIMMEC Part Requirements List

NV5

MCKINLEY ELEMENTARY SCHOOL
NEW CLASSROOM BUILDING
2401 SANTA MONICA BOULEVARD
SANTA MONICA, CALIFORNIA 90404

Client:
Santa Monica-Malibu Unified School District

Revisions:

No.	Description	Date
2	INITIAL ORDERS	8/18/2020
1	90% SUBMIT	10/9/2020
0	SUBMIT TO DTSC	10/22/2020
1	PRELIMINARY TO DTSC FOR REVIEW	2/12/2021

Project No. SMMUSD-23-117150
Drawn By: E. ATKINSON
Reviewed By: E. ATKINSON
Scale: AS NOTED
Date: 9/10/2020
Filename: MCK_VIMM_MONITOR

Sheet Title: TITLE SHEET

Sheet #: VM1.0

PROJECT SUMMARY & WORK SCOPE

THE WORK DESCRIBED HEREIN IS ASSOCIATED WITH THE INSTALLATION OF THE VAPOR INTRUSION MITIGATION AND MIGRATION ENGINEERING CONTROLS (VIMMEC) SYSTEM AT THE PROPERTY LOCATED AT MCKINLEY ELEMENTARY SCHOOL, 2401 SANTA MONICA BOULEVARD, SANTA MONICA, CALIFORNIA (THE "SITE") AND IS BEING CONDUCTED AS PART OF THE EARLY EDUCATION CLASSROOM BUILDING PROJECT (THE "DEVELOPMENT PROJECT")..

THE VIMMEC SYSTEM IS COMPRISED OF AN ENGINEERED VAPOR BARRIER SYSTEM, VAPOR COLLECTION AND DISPERSION SYSTEM, AND VAPOR MIGRATION PATHWAY CONTROLS (I.E., TRENCH DAMS, CONDUIT SEALS, AND WET UTILITY SEALS). PLACARDS WILL BE PLACED ON THE BUILDING TO COMMUNICATE HAZARDS. AN ENVIRONMENTAL RISK MANAGEMENT PLAN AND AN OPERATIONS, MAINTENANCE, MONITORING, AND REPORTING (OMM&R) PLAN WILL BE PREPARED INCLUDING RISER SAMPLING PORTS, VOC MONITORING, AND SUB-SLAB MONITORING POINTS.

THE DEVELOPMENT PROJECT (EARLY EDUCATION CLASSROOM BUILDING PROJECT) WILL CONSIST OF A TWO-STORY CLASSROOM AND OFFICE BUILDING. THE GROUND FLOOR WILL BE USED FOR CLASSROOMS, RESTROOMS, OFFICES, AND COMMON AREAS FOR STUDENTS. FLOOR TWO WILL INCLUDE CLASSROOMS, RESTROOMS AND A COMMON AREA. TWO STAIRWELLS (OPEN TO AMBIENT AIR) AND ONE ELEVATOR (WITH A FOUR-FEET DEEP PIT) WILL CONNECT THE UPPER AND LOWER FLOORS. THE FOUNDATION WILL CONSIST OF A FOOTINGS, GRADE BEAMS AND A 5-INCH-THICK SLAB.

THE SCOPE OF THIS PLAN SET IS ONLY FOR ACTIVITIES ASSOCIATED WITH THE INSTALLATION OF THE VIMMEC SYSTEM. THE SCOPE OF WORK PRESENTED HEREIN SHALL NOT BE CONSTRUED TO PERMIT DEVIATIONS FROM ARCHITECTURAL, STRUCTURAL, CIVIL ENGINEERING, GRADING OR GEOTECHNICAL REQUIREMENTS ESTABLISHED BY OTHER DISCIPLINES.

PROJECT TEAM

PROJECT OWNER	SANTA MONICA-MALIBU UNIFIED SCHOOL DISTRICT ATTN: CAREY UPTON (CHIEF OPERATIONS OFFICER) 2828 4TH STREET SANTA MONICA, CALIFORNIA 90405 CUPTON@SMMUSD.ORG 310-450-8338 X79383
LEAD ENVIRONMENTAL REGULATORY OVERSIGHT AGENCY	DEPARTMENT OF TOXIC SUBSTANCES CONTROL (DTSC) ATTN: LINA HIJAZI (PROJECT MANAGER) 5796 CORPORATE AVENUE CYPRESS, CA 90630 LINA.HIJAZI@DTSC.CA.GOV 714-484-5334
VIMMEC ENGINEER AND CONSTRUCTION QUALITY ASSURANCE (CQA) ENGINEER	NV5 ATTN: TREVOR ATKINSON, P.E. 3777 LONG BEACH BLVD, ANNEX BUILDING LONG BEACH, CA 90807 TREVOR.ATKINSON@NV5.COM 303-345-1740
ARCHITECT	JOHNSON FAVARO ARCHITECTURE AND URBAN PLANNING ATTN: INGRID DENNERT 5898 BLACKWELDER ST., GROUND FLOOR CULVER CITY, CA 90232 IDENNERT@JOHNSONFAVARO.COM 310-559-5720
GENERAL CONTRACTOR (GC)	BALFOUR BEATTY ATTN: RAFI ELHAGE 13520 EVENING CREEK DRIVE NORTH, SUITE 270 SAN DIEGO, CA 92128 RELHAGE@BALFOURBEATTYUS.COM (657) 977-3280
AIR QUALITY OVERSIGHT AGENCY	SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT 21865 COPLEY DR. DIAMOND BAR, CA 91765-4182. (909) 396-2000

APPLICABLE CODES

- 2019 CALIFORNIA BUILDING CODE
- 2019 CALIFORNIA PLUMBING CODE (CPC)
- 2021 CALIFORNIA CODE OF REGULATIONS, TITLE 8

APPLICABLE PERMITS

- ENGINEERING (APPROACH IN PUBLIC RIGHT OF WAY) - (APPROVED)
- DEPARTMENT OF STATE ARCHITECT (NOT CITY) - (IN PROGRESS)

I. GENERAL NOTES

A. APPLICABILITY

1. THE SUBSLAB VIMMEC SYSTEM DETAILS PRESENTED IN THESE PLANS AND SPECIFICATIONS SHALL BE UTILIZED IN THE CONSTRUCTION OF THE BUILDING AS SHOWN ON THIS PLAN SET.

B. QUALITY ASSURANCE

1. A PRE-INSTALLATION CONFERENCE SHALL BE HELD AT THE PROJECT SITE PRIOR TO THE INSTALLATION OF THE VIMMEC SYSTEM TO ASSURE PROPER SUBGRADE CONDITIONS AND INSTALLATION PROCEDURES. THE CONSTRUCTION OF SLAB DEPRESSIONS, AS APPLICABLE, SHALL BE DISCUSSED TO ENSURE THAT THE VIMMEC PIPING WILL BE PROTECTED IN THESE AREAS. THE CONTRACTOR, SITE SUPERINTENDENT FOR THE GENERAL CONTRACTOR, THE FOUNDATION SUBCONTRACTOR, THE VIMMEC ENGINEER, THE CQA ENGINEER, AND A REPRESENTATIVE FROM DTSC (AS APPLICABLE) SHALL BE PRESENT AT THIS MEETING.
2. THE INSTALLATION OF THE VENT SYSTEM SHALL BE OBSERVED BY THE CQA ENGINEER (OR A DESIGNATED REPRESENTATIVE). INSPECTIONS SHALL TYPICALLY BE PERFORMED PRIOR TO, DURING, AND SUBSEQUENT TO THE APPLICATION OF THE SYSTEM AS LISTED BELOW:
   - PREPARED SUBGRADE;
   - VENTILATION CONCOURSE;
   - RISER INSPECTION;
   - TRENCH DAM INSPECTION; AND
   - FINAL INSPECTION.
3. MATERIALS (EXCLUDING BULK AGGREGATES, PIPE FITTINGS, AND CONVEYANCE PIPING) ARE TO BE DELIVERED TO THE PROJECT SITE IN THEIR ORIGINAL UNBROKEN PACKAGES BEARING THE MANUFACTURERS LABEL SHOWING BRAND, WEIGHT, VOLUME AND BATCH NUMBER, WHERE APPLICABLE. MATERIALS ARE TO BE STORED AT THE PROJECT SITE IN STRICT COMPLIANCE WITH THE MANUFACTURER'S INSTRUCTIONS. DO NOT ALLOW MATERIALS TO FREEZE IN CONTAINERS.

C. SUBMITTALS

1. THE FOUNDATION SUBCONTRACTOR SHALL SUBMIT REPRESENTATIVE SAMPLES AND MANUFACTURER'S CUT-SHEETS OF THE FOLLOWING TO THE VIMMEC ENGINEER AND CQA ENGINEER FOR APPROVAL:
   - LOW PROFILE VENT PIPING.
   - TRENCH DAM MIX DESIGN;
   - CONDUIT SEALANT;
   - VENT RISER CAPS; AND
   - VENT PIPE WARNING LABELS.
2. AT THE COMPLETION OF THE INSTALLATION, THE CONTRACTOR SHALL SUBMIT A LETTER TO THE OWNER AND VIMMEC ENGINEER CERTIFYING THAT INSTALLATION WAS COMPLETED IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS AS WELL AS THE PROCEDURES RECOMMENDED BY THE MANUFACTURER. THE SUBMITTAL SHALL INCLUDE MATERIALS SHEETS THAT IDENTIFIES THE LOT/BATCH NUMBER, QUANTITY DELIVERED, AND QUANTITY USED OF EACH MATERIAL, INCLUDING CONVEYANCE PIPING, VENT PIPING, SUBSLAB SAMPLING PROBE MATERIALS, FITTINGS, VALVES, AND ALL OTHER NON-DISPOSABLE MATERIALS.

D. JOB CONDITIONS

1. ALL PLUMBING, ELECTRICAL, MECHANICAL, AND STRUCTURAL ITEMS THAT ARE LOCATED BENEATH, OR THAT PASS THROUGH (IF ANY), THE VAPOR BARRIER MEMBRANE SHALL BE POSITIVELY SECURED IN THEIR PROPER POSITIONS AND APPROPRIATELY PROTECTED PRIOR TO POURING THE PAD.
2. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO PREPARE THE SUBGRADE TO THE DESIRED CONDITION AND APPROPRIATE ELEVATION PRIOR TO THE INSTALLATION OF THE VENT AND COLLECTION PIPING.

II. PASSIVE VENT SYSTEM

THE SUBSLAB PORTION OF THE VENT SYSTEM SHALL BE INSTALLED BENEATH THE CONCRETE FLOOR SLAB OF THE BUILDINGS AS SHOWN ON SHEET VM3.0, AND VM3.1 OF THIS PLAN SET. THE VENT SYSTEM SHALL CONSIST OF PERFORATED HORIZONTAL VENT LINES INSTALLED IN A GRAVEL LAYER UNDER THE SLAB AND VENT RISERS. GENERAL SPECIFICATIONS FOR THIS SYSTEM ARE AS FOLLOWS:

A. GENERAL

1. SUBSLAB HORIZONTAL VENT LINES SHALL BE PLACED SUCH THAT NO PORTION OF THE FOUNDATION IS MORE THAN 25 FEET FROM THE VENT LINES.
2. WHERE SOLID PIPING TRANSITIONS THROUGH BUILDING FOOTINGS, THE PENETRATION SHALL BE ACCOMPLISHED IN COMPLIANCE WITH THE INTERNATIONAL BUILDING CODE AND WITH THE APPROVAL OF THE ARCHITECT AND THE BUILDING OFFICIAL.
3. VENT RISERS MAY BE LOCATED WITHIN THE BUILDING WALLS, FURRED PILASTERS, OR SHALL BE SIMILARLY PROTECTED FROM PHYSICAL DAMAGE. VENT RISERS SHALL NOT BE LOCATED WITHIN FIRE WALLS OR SHEAR WALLS.
4. A DE-WATERING SYSTEM IS NOT REQUIRED AS SITE TESTING HAS SHOWN GROUNDWATER TO BE MORE THAN 12 INCHES BELOW THE BOTTOM OF THE SUBSLAB HORIZONTAL VENT LINES.

B. MATERIALS

1. THE GRAVEL LAYER SHALL BE ¾-INCH OR LESS WITH NO MORE THAN 1 FRACTURED FACE AND SHALL CONTAIN MINIMAL FINES, IN ACCORDANCE WITH THE LOS ANGELES DEPARTMENT OF BUILDING SAFETY, STANDARD PLAN: METHANE HAZARD MITIGATION AND AS LISTED IN THE TABLE BELOW. THE GRAVEL LAYER MUST BE COMPACTED AND ROLLED FLAT.

SPECIFICATIONS FOR ¾-INCH GRAVEL

SIEVE SIZE	PERCENTAGE PASSING SIEVE
1-1/2-INCH (37.5 MM)	100
1-INCH (25.0 MM)	90-100
3/4-INCH (19.0 MM)	55-85
3/8-INCH (9.5 MM)	8-20
NO. 4 (4.75 MM)	0-5
NO. 8 (2.36 MM)	0-5
NO. 200 (75 μM)	0-2
ASTM C 131 TEST GRADING	B

2. SUBSLAB HORIZONTAL VENT LINES (LOW PROFILE) SHALL BE VAPOR-VENT MANUFACTURED BY LAND SCIENCE TECHNOLOGIES, OR AN EQUIVALENT PRODUCT APPROVED BY THE VIMMEC ENGINEER. CONNECTOR FITTINGS THAT CONNECT THE LOW PROFILE VENT LINES TO SOLID VENT PIPING SHALL BE FROM THE SAME MANUFACTURER AS THE LOW PROFILE VENT LINES.
3. SOLID SUBSLAB VENT PIPING SHALL BE 3-INCH DIAMETER SCH. 40 PVC. SUBSLAB VENT PIPING SHALL TRANSITION TO 3-INCH DIAMETER SCH. 80 PVC VENT RISERS AT THE BUILDING SLAB. THE VENT RISER PIPING ABOVE THE SLAB SHALL BE SCH. 80 PVC AND TRANSITION TO CAST IRON PIPE (CIP) AT A HEIGHT NO GREATER THAN 24-INCHES ABOVE GRADE.

C. INSTALLATION

1. LOW PROFILE VENT PIPING SHALL BE PLACED IN CONJUNCTION WITH THE GRAVEL VENTING LAYER. INSTALL THE LOW PROFILE VENT PIPING NEAR THE TOP OF THE GRAVEL LAYER AND COVER WITH ONE INCH OF GRAVEL PRIOR TO POURING CONCRETE.
2. AT POINTS OF INTERSECTION, CUT AWAY VENT PIPING GEOTEXTILE TO PRODUCE RECTANGULAR FLAPS. INTERLOCK EXPOSED DIMPLE BOARDS AND FOLD FLAPS OF GEOTEXTILE IN A MANNER SO THAT THE DIMPLE BOARDS ARE COVERED COMPLETELY. SECURE GEOTEXTILE FOLDS WITH FIBER REINFORCED TAPE SO THAT THE GEOTEXTILE IS COMPLETELY IMPERMEABLE TO THE GRAVEL.
3. SUBGRADE LOW PROFILE VENT PIPES THAT CROSS INTERIOR FOOTINGS SHALL BE CONNECTED TO SOLID VENT PIPE EMBEDDED IN THE CONCRETE SLAB FOOTINGS/GRADE BEAMS WHEN POURED. ALTERNATIVELY, AND WITH APPROVAL OF THE ARCHITECT & VIMMEC ENGINEER, EXISTING CONCRETE FOOTINGS CAN BE CORED AND SOLID VENTING PIPE NO LESS THAN 3-INCH DIAMETER MAY BE PLACED THROUGH THE FOOTING.
4. SUBGRADE LOW PROFILE VENT PIPES SHALL BE CONNECTED TO THE SOLID VENT PIPE USING MANUFACTURER END OUTLETS. SOLID VENT PIPE SHALL NOT BE LESS THAN 3-INCH DIAMETER AND SHALL COMPLY WITH THE UNIFORM PLUMBING AND INTERNATIONAL MECHANICAL CODES. ALL JOINTS SHALL BE TIGHTLY SEALED.
5. WHERE IT PASSES THROUGH CONCRETE FOOTING (OR MAT SLAB), SOLID VENT PIPE SHALL BE CONTINUOUSLY WRAPPED WITH FOAM PIPE WRAP TAPE IN ACCORDANCE WITH THE UNIFORM PLUMBING CODE.
6. VENT RISERS SHALL BE CONSTRUCTED USING 3-INCH DIAMETER PIPE APPROVED BY THE VIMMEC ENGINEER AND BUILDING OFFICIAL IN COMPLIANCE WITH THE UNIFORM PLUMBING CODE. RISERS SHALL TERMINATE AT AN APPROVED OUTLET IN ACCORDANCE WITH THIS PLAN SET AND THE UNIFORM PLUMBING CODE.
7. HORIZONTAL VENT RISER PIPING SHALL BE SET AT AN INCLINE, WITH A SLOPE OF NO LESS THAN 2%, IN ORDER TO ALLOW ANY ENCLOSED MOISTURE OR CONDENSATE TO RUN BACK DOWN THE VERTICAL VENT RISER SECTIONS TO THE SUBGRADE.
8. VENT RISERS SHALL BE LOCATED AS FOLLOWS:
   - 10 FEET ABOVE GRADE;
   - 10 FEET AWAY FROM ANY WINDOW, DOOR, ROOF HATCH, OPENING OR AIR INTAKE INTO THE BUILDING;
   - 3 FEET ABOVE THE HIGHEST POINT OF ROOF WITHIN A 10 FOOT RADIUS OF OUTLET;
   - 3 FEET AWAY FROM ANY PARAPET;
   - 5 FEET FROM ANY ELECTRICAL DEVICE (EXCLUDING DEVICES ASSOCIATED WITH THE CONVERSION OF THE VENT SYSTEM TO "ACTIVE"); AND
   - 4 FEET AWAY FROM THE PROPERTY LINE.
9. VENTING PIPE SHALL BE CLEARLY MARKED WITH WARNING LABELS AS SHOWN ON DETAIL J (VM4.1). THIS MAY BE ACCOMPLISHED THROUGH STENCILS, LABELS, OR OTHER PERMANENT LABELING METHOD. PIPES SHALL BE CLEARLY AND PERMANENTLY LABELED IN ½-INCH HIGH (MINIMUM) LETTERS, NEAR THE VENT PIPING OUTLETS AND AT 5-FOOT (MINIMUM) INTERVALS ALONG THE REMAINDER OF THE VENTING PIPE. THIS INCLUDES SECTIONS ENCASED WITHIN WALLS OR OTHER ENCLOSURES.
10. PRIOR TO PLACING AND POURING THE FOUNDATION, THE CQA ENGINEER SHALL INSPECT THE COLLECTION PIPING, VAPOR PROBES AND VENT RISER LOCATIONS. CONSTRUCTION OF THE FLOOR SLAB SHALL NOT PROCEED WITHOUT WRITTEN CERTIFICATION OF THE SUCCESSFUL INSTALLATION OF THE VENT SYSTEM BY THE CONTRACTOR.

D. SEALING PENETRATIONS

1. CONDUITS PENETRATING THE FOUNDATION SHALL BE SEALED ON THEIR INTERIOR USING EITHER ELECTRICAL "Y" SEALS (EYS FITTINGS) OR, IN CONFORMANCE WITH ELECTRICAL CODE, BY CREATING AN INTERNAL VAPOR SEAL AT A CONDUIT TERMINATION BY PLACING CLOSED-CELL EXPANDABLE POLYURETHANE FOAM (EPF) SEALANT. OPEN-CELL FOAM SEALANTS ARE NOT ACCEPTABLE. THE CLOSED-CELL EPF SEALS SHALL HAVE A LENGTH AT LEAST 6 TIMES THE INSIDE DIAMETER OF THE CONDUIT.

E. INSPECTIONS AND TESTING

1. FIELD QUALITY CONTROL IS A VERY IMPORTANT PART OF ALL SUBSLAB VAPOR SYSTEM APPLICATIONS. THE CONTRACTOR SHALL CHECK HIS OWN WORK FOR COVERAGE, THICKNESS, AND ALL AROUND GOOD WORKMANSHIP, BEFORE CALLING FOR INSPECTIONS.
2. GRAVEL LAYER THICKNESS SHALL BE CHECKED ONCE PER EVERY 1,000 SQUARE FEET OF APPLICATION.

F. INTEGRITY TESTING

FOLLOWING COMPLETION OF VENT RISER CONSTRUCTION, VENT RISER INTEGRITY TESTING (I.E. PRESSURE TESTING) WILL BE PERFORMED ON EACH VENT RISER: TEST PROCEDURES ARE AS FOLLOWS:

1 CLOSE THE BALL VALVE (INSTALLED NEAR THE FIRST FLOOR CONCRETE SLAB)

2 INSTALL A TEMPORARY CAP (THREADED) AT THE ROOF TERMINATION)

3 USE SAMPLE PORTS FOR PRESSURE TESTING AND VERIFICATION

4 PRESSURE TEST WILL BE PERFORMED AT 5 PSI OVER A MINIMUM 15 MINUTE PERIOD IN COMPLIANCE WITH CPC 712.3

5 IF A PRESSURE DROP OF MORE THAN 1 PSI IS OBSERVED DURING THE TEST, THE LINE WILL BE INSPECTED AND REPAIRED AS NECESSARY PRIOR TO RETESTING THE LINE.

A. NOTE: ALL ABOVE GRADE VENT PIPING SHALL BE PRESSURE TESTED ACCORDING TO PROCEDURES ABOVE, OR ACCORDING TO LOCAL SPECIFICATIONS AND WITNESSED BY THE CQA ENGINEER OR AN APPROVED REPRESENTATIVE.

III. ENGINEERED BARRIER SYSTEM

AN ENGINEERED BARRIER SYSTEM (EBS) SHALL BE INSTALLED BENEATH THE CONCRETE FLOOR SLAB IN AREAS SPECIFIED IN THIS PLAN SET. THE EBS PRODUCT USED SHALL BE EPRO "GEO-SEAL® 100" OR EQUIVALENT. SPECIFICATIONS FOR THE EBS ARE AS FOLLOWS:

A. GENERAL

1. THE EBS IS GENERALLY COMPRISED OF THE FOLLOWING COMPONENTS:
   - A SUBSTRATE/BASE LAYER (GEO-SEAL® BASE).
   - A LIQUID SPRAY APPLIED CORE WHICH IS APPLIED TO THE SUBSTRATE LAYER (GEO-SEAL® CORE).
   - A BOND LAYER, DESIGNED TO ENHANCE ADHESION TO THE OVERLYING SLAB AND TO PROTECT THE EBS FROM DAMAGE DURING CONSTRUCTION BY OTHER TRADES (GEO-SEAL® BOND).
   - DETAILING MATERIALS, SUCH AS REINFORCEMENT FABRIC, TROWEL GRADE CORE, AND ZIP TIES.
   - TERMINATION BARS SECURED WITH CONCRETE ANCHORS WHERE THE EBS TERMINATES ONTO CURED CONCRETE SUCH AS FOOTINGS, GRADE BEAMS, WALLS, OR OTHER STRUCTURAL ELEMENTS WHICH ARE POURED PRIOR TO THE INSTALLATION OF THE EBS.
2. INSTALLATION OF THE EBS SHALL NOT BE REQUIRED BENEATH CONCRETE SLABS IN AREAS MEETING ANY OF THE FOLLOWING CONDITIONS:
   - AREAS OUTSIDE OF THE BUILDING ENVELOPE.
   - AREAS WHICH ARE NOT SPECIFIED IN THIS PLAN TO RECEIVE AN EBS.

B. INSTALLATION

1 THE EBS SHALL BE INSTALLED PRIOR TO RE-ENFORCING STEEL AND INSTALLATION OF REINFORCING STEEL SHALL NOT COMMENCE UNTIL THE CQA ENGINEER ISSUES WRITTEN VERIFICATION THAT THE EBS HAS PASSED INSPECTION.

2. PRIOR TO INSTALLATION OF THE EBS, THE APPLICATOR SHALL PROVIDE THE CQA ENGINEER WITH A LETTER FROM THE MANUFACTURER CONFIRMING THAT (A) THE APPLICATOR IS CERTIFIED BY THE MANUFACTURER FOR INSTALLATION OF THE EBS SYSTEM; AND (B) THE MANUFACTURE WILL WARRANT THE INSTALLATION OF THE EBS TO BE FREE OF DEFECTS FOR A MINIMUM OF 1 YEAR AFTER THE DATE OF INSTALLATION IF THE EBS IS INSTALLED BY THE APPLICATOR IN ACCORDANCE WITH THIS PLAN SET.
3. THE EBS SHALL NOT BE INSTALLED IF CONDITIONS ARE INCONSISTENT WITH MANUFACTURER RECOMMENDATIONS FOR THE EBS SYSTEM.
   - AMBIENT TEMPERATURES SHALL BE ABOVE 45 F AND BELOW 95 F.
   - PRECIPITATION SHALL NOT BE FORECAST FOR THE DURATION OF THE INSTALLATION. IF PRECIPITATION OCCURS DURING INSTALLATION, THEN INSTALLATION SHALL BE HALTED UNTIL PRECIPITATION CEASES AND UNTIL THE APPLICATION AREA IS FREE OF POOLED WATER.
4. PRIOR TO INSTALLATION OF THE EBS, THE GC SHALL VERIFY IN WRITING TO THE CQA ENGINEER THE FOLLOWING:
   - THE INSTALLATION AND INSPECTION OF SUB-GRADE COMPONENTS OF ALL OTHER UTILITIES WITHIN THE APPLICATION AREA ARE COMPLETE.
   - AND THE APPLICATOR SHALL VERIFY THAT ALL UTILITIES, CONDUITS, OR OTHER SUB-GRADE ELEMENTS THAT SHALL PENETRATE THE EBS MEET THE CRITERIA DETAILED BELOW.
5. APPLICATION AREAS WHERE THE EBS SHALL TERMINATE, (E.G., DETAILING ALONG PENETRATIONS, LATERAL OR VERTICAL TERMINATION TO FOUNDATION ELEMENTS) SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
   - THE APPLICATION AREA SHALL BE UNIFORM OF SURFACE AND SCARIFIED/ SMOOTHED TO A SURFACE TEXTURE EQUIVALENT TO BRUSHED CONCRETE.
     - SEALING THE EBS AGAINST THREADED PENETRATIONS (E.G., BOLTS OR THREADED RODS) IS STRICTLY PROHIBITED.
     - IF THREADED PENETRATIONS MUST PASS THROUGH THE EBS, COUPLING NUTS THAT ARE A MINIMUM OF 3-IN LONG WITH SEPARATED UPPER AND LOWER CHAMBERS SHALL BE INSTALLED AND THE EBS SHALL BE SEALED TO THE COUPLING NUT.
   - THE APPLICATION AREA SHALL BE FREE OF DEFECTS, CRACKS, OR DAMAGE, WHICH COULD PROVIDE A PATHWAY FOR VAPORS TO PASS THROUGH THE EBS.
   - THE APPLICATION AREA SHALL BE FREE OF JOINTS, CHANGES IN DIRECTION, OR OTHER ANISOTROPIES.
   - ALL GAPS/CRACKS LARGER THAN 1/8-IN SHALL BE REPAIRED PRIOR TO INSTALLATION OF THE EBS.
   - FOR SMOOTH SURFACES SUCH AS COPPER, STEEL, OR FIBERGLASS, THE SURFACE SHALL BE SCARIFIED WITH 40 TO 120 GRIT SANDPAPER, EMERY CLOTH, OR EQUIVALENT SCARIFICATION METHOD.
6. PENETRATIONS TO THE EBS SHALL CONFORM TO THE FOLLOWING CRITERIA:
   - SHALL BE A MINIMUM DIAMETER OF 0.5-IN.
   - SHALL BE CONSTRUCTED OF VAPOR IMPERMEABLE MATERIALS THAT ARE NON-CORROSIVE, NON-SPOILABLE, AND ARE COMPATIBLE WITH ALL IDENTIFIED COCS. THE USE OF REBAR OR WOODEN STAKES AS PENETRATIONS TO THE EBS IS STRICTLY PROHIBITED.
   - SHALL BE POSITIVELY SECURED IN THEIR PROPER POSITIONS. GC SHALL VERIFY THAT ALL PENETRATIONS TO THE EBS ARE SECURED IN THEIR PROPER POSITION PRIOR TO INSTALLATION OF THE EBS.
   - SHALL BE CONSIDERED SACRIFICIAL AND WILL NOT BE REMOVED DURING POURING OF THE CONCRETE SLAB. FOR EXAMPLE, FORM STAKES WHICH PENETRATE THE BARRIER SHALL BE CUT OFF ABOVE THE DETAILING, BUT BELOW THE FINISHED GRADE OF THE CONCRETE SURFACE AND ABANDONED IN PLACE.
7. THE APPLICATION AREA AND ALL SURFACES TO BE SEALED WITH THE EBS SHALL BE DRY AND FREE OF DUST, DEBRIS, OILS, SOLVENTS, PARTICULATES, OR OTHER MATERIALS WHICH MAY OBSTRUCT INSTALLATION OF THE EBS OR IMPEDE ADHESION OF THE EBS TO THE SUBSTRATE OR OTHER SURFACES INTENDED TO BE SEALED WITH THE EBS.
8. THE SUBSTRATE/BASE LAYER SHALL BE INSTALLED PERPENDICULAR TO THE DIRECTION OF AIR FLOW IN THE SUB-SLAB VENTILATION SYSTEM THAT WILL BE INDUCED BY OPERATION OF THE SUB-SLAB VENTILATION SYSTEM (ASSUMING MONO-DIRECTION FLOW).
9. THE BOND LAYER SHALL NOT BE INSTALLED UNTIL THE CQA ENGINEER HAS COMPLETED INSPECTIONS AND HAS RELEASED THE INSPECTION IN WRITING FOR INSTALLATION OF THE BOND LAYER.
10. THE BOND LAYER SHALL BE INSTALLED PARALLEL TO THE DIRECTION OF AIR FLOW IN THE SUB-SLAB VENTILATION SYSTEM THAT WILL BE INDUCED BY OPERATION OF THE SUB-SLAB VENTILATION SYSTEM (ASSUMING MONO-DIRECTION FLOW).

IV. SUBSEQUENT SLAB REPAIRS/PENETRATIONS

A. SLAB ON GRADE:

WHERE THE BUILDING SLAB IS SPECIFIED AS AN ENGINEERING CONTROL, THE BUILDING SLAB SHALL BE INSPECTED PRIOR TO INSTALLATION OF FINISHED FLOORING.

1. ALL CRACKS, OPENINGS, OR ANNULAR SPACES BETWEEN THE SLAB AND PENETRATIONS TO THE SLAB THAT MEET ONE OR MORE OF THE FOLLOWING CRITERIA SHALL BE SEALED USING A VIMMEC ENGINEER APPROVED SEALANT AS SPECIFIED IN THE MATERIALS TABLE OF THIS PLAN SET:
   - CRACKS THAT ARE LONGER THAN 10 LINEAR FEET
   - OPENINGS, CRACKS, OR SPACES THAT ARE LARGER THAN 10 MIL.

B. PRESERVING AND REPAIRING THE SLAB:

1. TO MAINTAIN THE INTEGRITY OF THE VIMMEC SYSTEM, THE COMPLETED SLAB SHALL NOT BE PENETRATED WITHOUT NOTIFICATION TO, AND APPROVAL BY, THE VIMMEC ENGINEER. HOWEVER, IT IS RECOGNIZED THAT IMPROVEMENTS MAY REQUIRE BUILDING IMPROVEMENTS THAT COULD INCLUDE PENETRATING THE CONCRETE SLAB. IF THE SLAB IS PENETRATED, OWNER SHALL CONTACT THE VIMMEC ENGINEER FOR DETAILS ON REPAIRS AND PROCEDURES TO SEAL THE SLAB. ALL REPAIRS SHALL BE INSPECTED AND DOCUMENTED BY THE VIMMEC ENGINEER.

V. PREFERENTIAL PATHWAY MIGRATIONS CONTROLS

A. TRENCH DAMS:

TRENCH DAMS ARE INTENDED TO PREVENT TRAVEL OF UNDERGROUND GAS INTO BUILDINGS OR STRUCTURES ALONG THE TRENCH BACKFILL.

1. A TRENCH DAM SHALL BE INSTALLED IN ALL ELECTRICAL, PLUMBING, GAS, OR OTHER TRENCHES BENEATH THE BUILDING FOUNDATION AS SHOWN ON DETAIL L (DRAWING VM4.1).
2. IF PIPING AND CONDUITS ARE PLACED BEFORE CERTIFIED COMPACTED SOIL AS PART OF THE SITE PREPARATION FOR THE BUILDING PAD, THEN TRENCH DAMS WILL NOT BE REQUIRED;
3. TRENCH DAMS SHALL BE INSTALLED IN THE TRENCH IMMEDIATELY ADJACENT TO THE EXTERIOR PERIMETER OF THE BUILDING FOUNDATION.
4. A TRENCH DAM SHALL HAVE A MINIMUM LENGTH OF TWICE THE WIDTH OF THE TRENCH (WITH A MINIMUM OF 36 INCHES IN LENGTH).
5. TRENCH DAMS MAY BE OF THE FOLLOWING: -BENTONITE CEMENT SLURRY - A MIXTURE OF 4% TYPE II CEMENT AND 2% POWDERED BENTONITE.
6. THE ENTIRE CROSS SECTION OF TRENCHES SHALL BE BACKFILLED TO PROVIDE A MINIMUM OF 6 INCHES OF TRENCH DAM MATERIAL AROUND ALL CONDUITS AND PIPES.

B. CONDUIT SEALS

CONDUIT SEALS SHALL BE INSTALLED AS SHOWN ON DETAIL K (DRAWING VM4.1) IN EACH NON-PRESSURIZED, DRY UTILITY CONDUIT THAT MEETS ONE OF THE FOLLOWING CONDITIONS:

1. THE CONDUIT ENTERS THE BUILDING ENVELOPE FROM BELOW GRADE.
2. THE CONDUIT ENTERS THE BUILDING ENVELOPE FROM ABOVE GRADE, BUT RUNS BELOW GRADE OUTSIDE THE BUILDING ENVELOPE AND IS NOT OPEN TO THE ATMOSPHERE BETWEEN WHERE THE CONDUIT IS UNDERGROUND AND WHERE THE CONDUIT ENTERS THE BUILDING ENVELOPE.
3. CONDUIT SEALS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS FOR CLASSI, DIVISION I AREAS AS SPECIFIED IN CHAPTER 5 OF THE CALIFORNIA ELECTRICAL CODE.
4. CONDUIT SEALS SHALL BE INSTALLED IN A MANNER WHICH IS INSPECTABLE BY THE CQA ENGINEER DURING POST CONSTRUCTION AND ANNUAL INSPECTIONS.

C. WET UTILITY SEALS

1. NON-PRESSURIZED WET UTILITIES (E.G. STORM WATER, SANITARY SEWER) THAT ENTER THE BUILDING ENVELOPE FROM BELOW GRADE SHALL INCORPORATE A WET UTILITY SEAL IN ACCORDANCE WITH CALIFORNIA PLUMBING CODE.
2. TRAP PRIMERS ARE REQUIRED FOR ALL FLOOR DRAINS, EMERGENCY OR OVERFLOW DRAINS, TRAPS ASSOCIATED WITH STORM WATER SYSTEMS PENETRATING THE BUILDING ENVELOPE, OR OTHER TRAPS SUBJECT TO EVAPORATION.

VI. ENVIRONMENTAL AND SYSTEM MONITORING INFRASTRUCTURE

A. GENERAL

1. **PLEASE NOTE:** LOCATIONS SHOWN WITHIN THESE PLANS ARE DIAGRAMMATIC. PLEASE REFERENCE ARCHITECTURAL ELEVATIONS FOR PRECISE DIMENSIONED LOCATIONS.
2. ENVIRONMENTAL AND SYSTEM MONITORING INFRASTRUCTURE SHALL CONSIST OF THE FOLLOWING:
   - POINT OF CONTROL MONITORING POINTS
   - RISER MONITORING INFRASTRUCTURE
   - INDOOR AND AMBIENT AIR MONITORING INFRASTRUCTURE
3. ACCESS POINTS SHALL BE PROVIDED FOR POINT OF CONTROL MONITORING PROBES AND RISERS. ACCESS POINTS SHALL BE PROTECTED AGAINST TAMPERING BY THE GENERAL PUBLIC BY INSTALLATION BEHIND LOCKABLE ACCESS DOORS OR BY LOCATING THESE INFRASTRUCTURE IN AREAS INACCESSIBLE TO THE PUBLIC (E.G. ROOF, ACCESS CONTROLLED ROOMS). ACCESS POINTS SHALL BE INSTALLED IN A MANNER THAT THEY CAN BE ACCESSED FROM PUBLIC SPACES OR SPACES THAT ARE UNDER THE CONTROL OF PROPERTY MANAGEMENT (E.G., UTILITY, MECHANICAL ROOMS, ETC).
4. ACCESS POINTS SHALL BE CLOSEABLE WHILE VALVES ASSOCIATED WITH RISERS AND/OR SAMPLE LOCATIONS ARE ORIENTED IN EITHER THE OPEN OR CLOSED POSITIONS.
5. EACH POINT OF CONTROL PROBE AND RISER SAMPLE PORT SHALL BE LABELED AT THE ACCESS POINT WITH PERMANENTLY AFFIXED INDELIBLE LABELS (E.G. STAMPED METAL TAG).

B. POINT OF CONTROL AND SOURCE AREA MONITORING PROBES

1. SUBGRADE ELEMENTS OF THE POINT OF CONTROL AND SOURCE AREA MONITORING PROBES SHALL BE INSTALLED PRIOR TO CONSTRUCTION OF THE FLOOR SLAB.
2. SAMPLE TUBING ASSOCIATED WITH POINT OF CONTROL AND SOURCE AREA MONITORING PROBES SHALL BE CONTINUOUS.
3. SAMPLE TUBING SHALL BE PROTECTED FROM PUNCTURE AND/OR KINKS USING 1/2" DIAMETER OR LARGER ELECTRICAL CONDUIT OR SCHEDULE 40 PVC OR ABS PIPING. THE USE OF GLUES, PRIMERS, OR SOLVENT WELDS IS PROHIBITED.
4. AT THE GROUND LEVEL, AN ACCESS POINT SHALL BE INSTALLED.

C. RISER MONITORING INFRASTRUCTURE

1. EACH RISER SHALL HAVE A SHUT-OFF VALVE INSTALLED.
2. SAMPLE PORTS SHALL BE INSTALLED ON EACH RISER IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:
   - SAMPLE PORTS ON RISERS SHALL BE AT LEAST 8 PIPE DIAMETERS FROM THE NEAREST CHANGE IN THE DIRECTION OF THE CONVEYANCE PIPING.
   - ALL SAMPLE PORTS SHALL BE VALVED.
   - SAMPLE PORTS AND SHUT-OFF VALVES SHALL BE ACCESSIBLE FOR FUTURE INSPECTIONS AND SAMPLING, BUT ACCESS CONTROLLED VIA INSTALLATION OF LOCKING DOORS OR INSTALLATION IN AREAS THAT ARE NOT GENERALLY ACCESSIBLE SUCH AS THE ROOF.

E. INDOOR AND AMBIENT MONITORING INFRASTRUCTURE

1. INDOOR AMBIENT AIR METERS ARE TO BE TO BE INSTALLED AFTER PAINTING WITHIN INSTALLATION AREA IS COMPLETED.
2. INSTALLATION OF AIR METERS WITHIN THE BUILDING ENVELOPE SHALL MEET THE FOLLOWING REQUIREMENTS:
   - NO LESS THAN 7-FT ABOVE SURROUNDING GRADE AND NO MORE THAN 10-FT ABOVE SURROUNDING GRADE.
   - NO LESS THAN 10-FT FROM AN AIR SUPPLY REGISTER OR AIR LOUVERS.
   - LATERAL AIR MOVEMENT WITHIN 10-FT OF THE METER SHALL BE UNOBSTRUCTED FOR A 180 DEGREE ARC.
   - THE AIR METER SHALL BE ACCESSIBLE FOR FUTURE MAINTENANCE AND INSPECTION.

VII. HAZARD COMMUNICATION

A. BUILDING NOTIFICATIONS

1. NOTICES SHALL BE POSTED AT EACH OF THE FOLLOWING LOCATIONS:
   - FOR EACH ELECTRICAL, TELECOMMUNICATIONS, FIRE RISER, OR OTHER UTILITY ROOM ON THE GROUND FLOOR: EITHER STAMPED INTO EXPOSED CONCRETE OR POSTED ON A WALL.
   - AT THE MAIN ENTRANCE TO THE BUILDING POSTED ON A WALL.
2. NOTICES STAMPED INTO CONCRETE SHALL MEET THE FOLLOWING SPECIFICATIONS:
   - LETTERS SHALL BE A MINIMUM HEIGHT OF 1/2 IN AND IMPRINTED A MINIMUM DEPTH OF 1/4-IN.
   - NOTICES SHALL BE STAMPED WITHIN THE THRESHOLD OF THE POINT OF ENTRY.
   - NOTICE SHALL BE UNOBSTRUCTED, VISIBLE, AND LEGIBLE FROM A DISTANCE OF 10-FT.
3. NOTICES POSTED ON A WALL SHALL MEET THE FOLLOWING SPECIFICATIONS:
   - ALL LETTERS SHALL BE A MINIMUM HEIGHT OF 1/2-IN.
   - ALL LETTERS SHALL BE INDELIBLE OR STAMPED/ETCHED INTO THE SURFACE OF THE NOTICE TO A MINIMUM DEPTH OF 1/8-IN.
   - ALL SIGNS SHALL BE CONSTRUCTED OF ALUMINUM, BRASS, STEEL, FIBERGLASS REINFORCED COMPOSITE, POLYPROPYLENE, OR SIMILAR VIMMEC ENGINEER APPROVED MATERIAL. LAMINATED PAPER IS NOT A SUITABLE MATERIAL FOR BUILDING NOTICE.

B. RISER/ AIR INTAKE LABELS

1. ABOVE GROUND CONVEYANCE PIPING FOR RISERS AND AIR INTAKES SHALL BE LABELED AT THE FOLLOWING INTERVALS:
   - EVERY 5-FT ALONG THE CONVEYANCE PIPING.
   - MINIMUM 1 LABEL PER FLOOR.
   - MINIMUM 1 LABEL PER CHANGE IN DIRECTION.
2. A LABEL SHALL BE PLACED AT EACH RISER AND SAMPLE ACCESS POINT ON THE INSIDE OF THE ACCESS DOOR.
3. RISER/ AIR INTAKE LABELS SHALL MEET THE FOLLOWING SPECIFICATIONS:
   - PLASTIC WITH INDELIBLE LETTERS AND ADHESIVE BACKING
   - LETTERS SHALL BE A MINIMUM HEIGHT OF 1/4-IN.
4. LABELS SHALL CONSIST OF ONE OF THE FOLLOWING:
   - BLACK LETTERS ON A WHITE BACKGROUND.
   - WHITE LETTERS ON A RED BACKGROUND.
   - BLACK LETTERS ON A YELLOW BACKGROUND.

C. MATERIALS

1. MATERIALS USED IN CONSTRUCTION OF THESE PLANS SHALL BE NEW AND DELIVERED TO THE SITE OR TO A STAGING AREA WITHIN 6-MONTHS OF INSTALLATION. THE USE OF EXCESS MATERIALS FROM OTHER JOB SITES IS PROHIBITED.
2. MATERIALS USED IN THE CONSTRUCTION OF THESE PLANS SHALL CONFORM TO THE SPECIFICATIONS PROVIDED AS SHOWN ON DETAIL W (DRAWING VM5.0). ALTERNATE MATERIALS MAY BE ACCEPTABLE, BUT MUST BE SUBMITTED TO THE VIMMEC ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.

VIII. "AS-BUILT" DOCUMENTATION

A. THE INSPECTION OF ALL VAPOR CONTROL MEASURES CONSTRUCTED PER THESE SPECIFICATIONS SHALL BE PERFORMED BY A CALIFORNIA LICENSED PROFESSIONAL ENGINEER OR HIS OR HER DESIGNEE. "AS-BUILT" CERTIFICATION OF INSTALLATION OF THE VAPOR CONTROL MEASURES SHOWN IN THESE PLANS SHALL BE PROVIDED TO THE ENGINEER AT THE COMPLETION OF CONSTRUCTION.

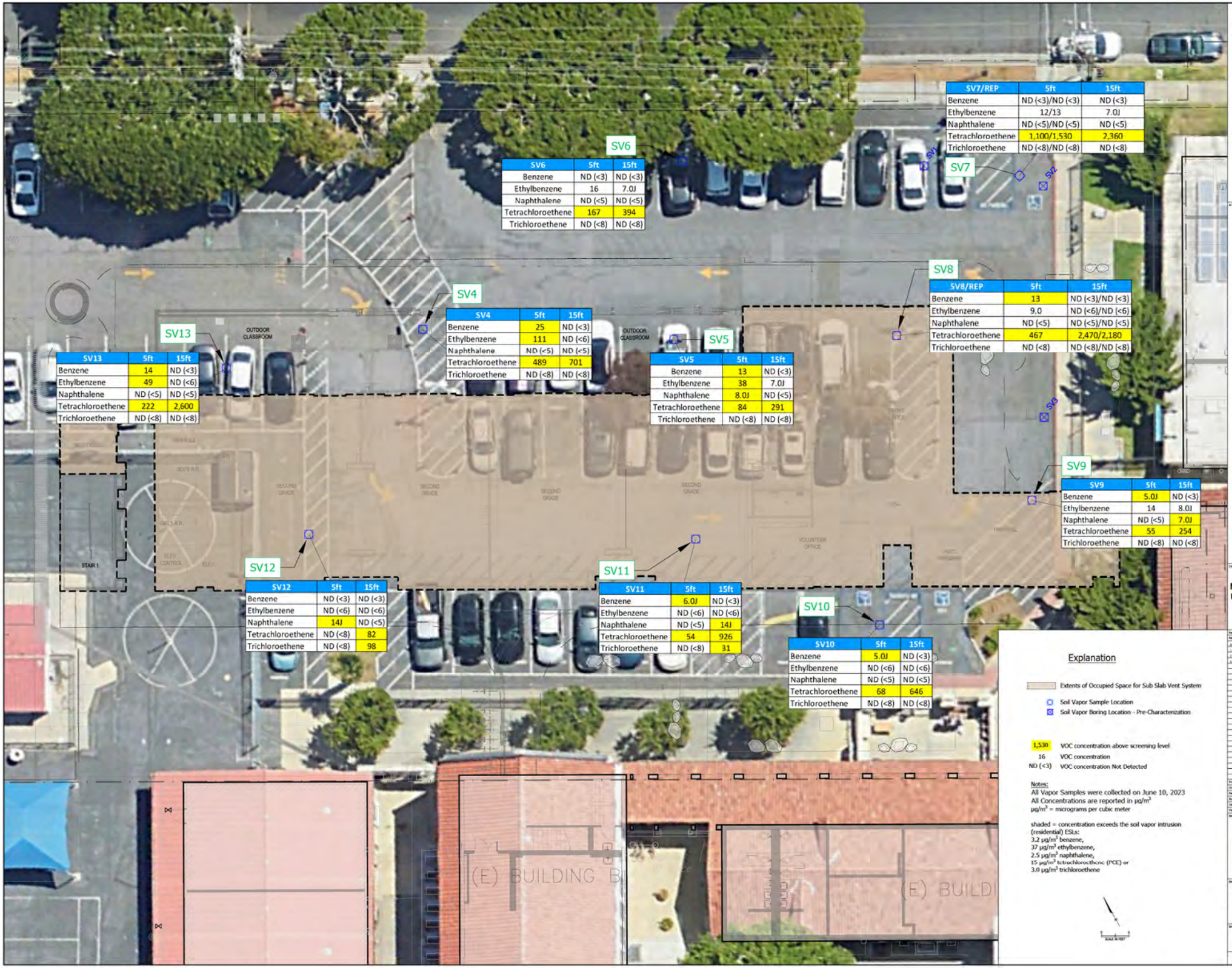
B. ADDENDA TO THE "AS-BUILT" DOCUMENTATION SHALL BE PREPARED, AS NECESSARY, TO DOCUMENT FUTURE REPAIRS NECESSITATED BY TENANT IMPROVEMENTS THAT PENETRATE THE SLAB.

MCKINLEY ELEMENTARY SCHOOL
NEW CLASSROOM BUILDING
2401 SANTA MONICA BOULEVARD
SANTA MONICA, CALIFORNIA 90404

Santa Monica-Malibu Unified School District

GENERAL NOTES AND SPECIFICATIONS

VM1.1



SV6	5ft	15ft
Benzene	ND (<3)	ND (<3)
Ethylbenzene	16	7.0J
Naphthalene	ND (<5)	ND (<5)
Tetrachloroethene	167	394
Trichloroethene	ND (<8)	ND (<8)

SV7/REP	5ft	15ft
Benzene	ND (<3)/ND (<3)	ND (<3)
Ethylbenzene	12/13	7.0J
Naphthalene	ND (<5)/ND (<5)	ND (<5)
Tetrachloroethene	1,100/1,530	2,360
Trichloroethene	ND (<8)/ND (<8)	ND (<8)

SV8/REP	5ft	15ft
Benzene	13	ND (<3)/ND (<3)
Ethylbenzene	9.0	ND (<6)/ND (<6)
Naphthalene	ND (<5)	ND (<5)/ND (<5)
Tetrachloroethene	467	2,470/2,180
Trichloroethene	ND (<8)	ND (<8)/ND (<8)

SV4	5ft	15ft
Benzene	25	ND (<3)
Ethylbenzene	111	ND (<6)
Naphthalene	ND (<5)	ND (<5)
Tetrachloroethene	489	701
Trichloroethene	ND (<8)	ND (<8)

SV5	5ft	15ft
Benzene	13	ND (<3)
Ethylbenzene	38	7.0J
Naphthalene	8.0J	ND (<5)
Tetrachloroethene	84	291
Trichloroethene	ND (<8)	ND (<8)

SV13	5ft	15ft
Benzene	14	ND (<3)
Ethylbenzene	49	ND (<6)
Naphthalene	ND (<5)	ND (<5)
Tetrachloroethene	222	2,600
Trichloroethene	ND (<8)	ND (<8)

SV9	5ft	15ft
Benzene	5.0J	ND (<3)
Ethylbenzene	14	8.0J
Naphthalene	ND (<5)	7.0J
Tetrachloroethene	55	254
Trichloroethene	ND (<8)	ND (<8)

SV12	5ft	15ft
Benzene	ND (<3)	ND (<3)
Ethylbenzene	ND (<6)	ND (<6)
Naphthalene	14J	ND (<5)
Tetrachloroethene	ND (<8)	82
Trichloroethene	ND (<8)	98

SV11	5ft	15ft
Benzene	6.0J	ND (<3)
Ethylbenzene	ND (<6)	ND (<6)
Naphthalene	ND (<5)	14J
Tetrachloroethene	54	926
Trichloroethene	ND (<8)	31

SV10	5ft	15ft
Benzene	5.0J	ND (<3)
Ethylbenzene	ND (<6)	ND (<6)
Naphthalene	ND (<5)	ND (<5)
Tetrachloroethene	68	646
Trichloroethene	ND (<8)	ND (<8)

Explanation

Extents of Occupied Space for Sub Slab Vent System

Soil Vapor Sample Location

Soil Vapor Boring Location - Pre-Characterization

1,530 VOC concentration above screening level

16 VOC concentration

ND (<3) VOC concentration Not Detected

Notes:

All Vapor Samples were collected on June 10, 2023

All Concentrations are reported in $\mu g/m^3$

$\mu g/m^3$ = micrograms per cubic meter

shaded = concentration exceeds the soil vapor intrusion (residential) ESLs:

3.2 $\mu g/m^3$ benzene,

37 $\mu g/m^3$ ethylbenzene,

2.5 $\mu g/m^3$ naphthalene,

15 $\mu g/m^3$ tetrachloroethene (PCE) or

3.0 $\mu g/m^3$ trichloroethene

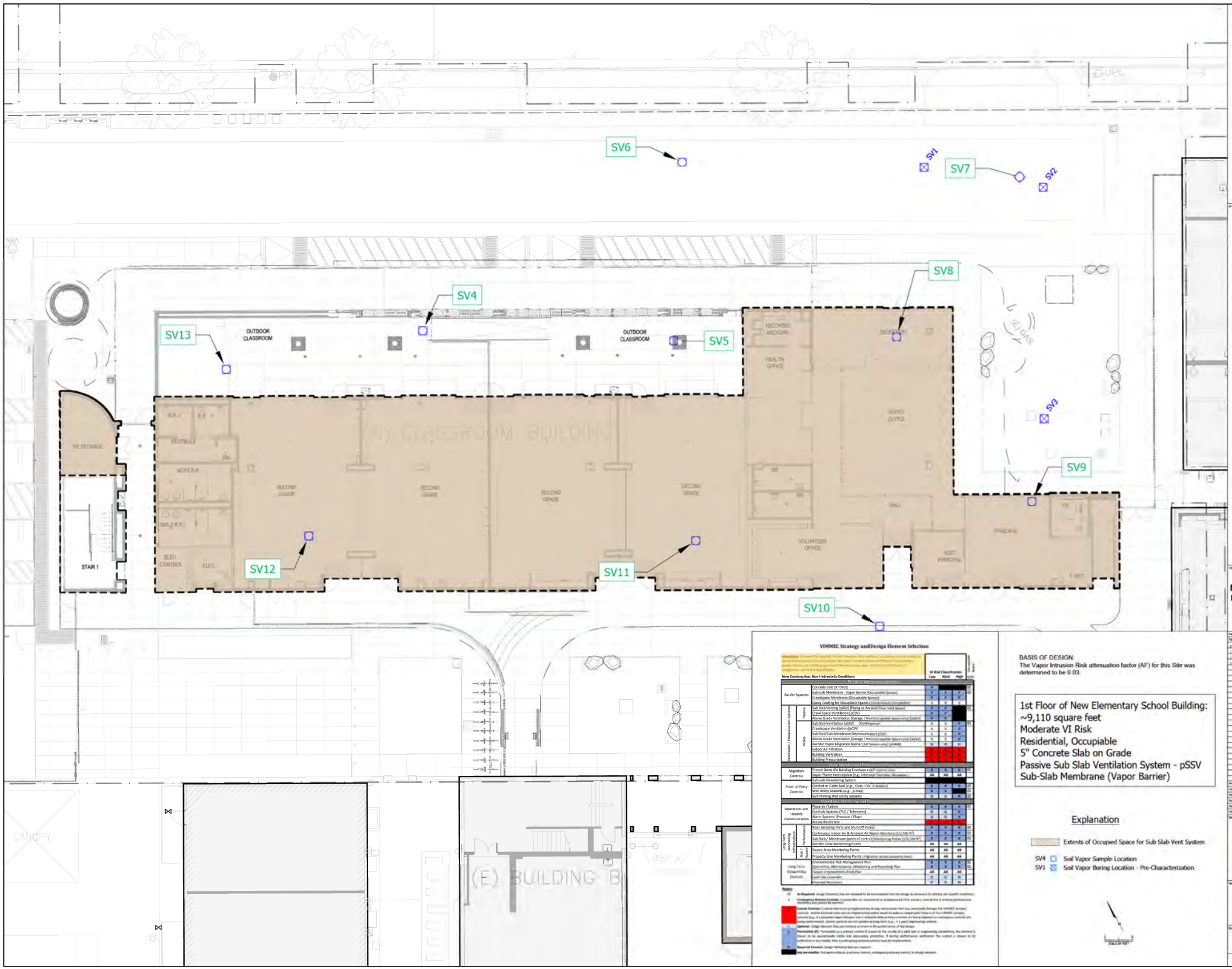
NIV5

MCKINLEY ELEMENTARY SCHOOL
NEW CLASSROOM BUILDING
2401 SANTA MONICA BOULEVARD
SANTA MONICA, CALIFORNIA 90404

Santa Monica-Malibu Unified School District

VOC CONCENTRATIONS IN SOIL VAPOR

VM2.0



NV5

MCKINLEY ELEMENTARY SCHOOL
NEW CLASSROOM BUILDING
2401 SANTA MONICA BOULEVARD
SANTA MONICA, CALIFORNIA 90404

Santa Monica-Malibu Unified School District

No.	Description	Date
1	INITIAL ORDERS	8/18/2020
2	90% ZONING	10/9/2020
3	ALBERT TO CITY	10/28/2020
4	PRELIMINARY TO CITY FOR REVIEW	12/18/2020

Project No.	SMMUD-23-117730
Drawn By:	T. ATKINSON
Reviewed By:	T. ATKINSON
Scale:	AS NOTED
Date:	9/10/2020
Filename:	MCK_VIMC_MORCHAN

BASIS OF DESIGN DETAILS

VM2.1

VIMEMEC Strategy andDesign Element Selection

New Construction, Non Hydrostatic Conditions			VI Risk Classification Low	Mod	High	Occupied Space
VI Mitigation Strategy						
Barrier Systems		Concrete Slab (5" thick)	N			
		Sub-slab Membrane - Vapor Barrier (Occupiable Spaces)	P	P	N	N
		Crawlspace Membrane (Occupiable Spaces)	P	P	P	
		Epoxy Coating for Occupiable Spaces (Convenient Longevity)	C	C	C	
Ventilation / Pressurization Systems	Passive	Sub-Slab Venting (pSSV) (Piping or Ambient Flow Vent Space)	P	P	N	N
		Crawl Space Ventilation (pCSV)	P	P		
		Above Grade Ventilation (Garage / Non-Occupiable Space vents) (pAGV)	P	P		
	Active	Sub-Slab Ventilation (aSSV) (Contingency)	C	C	N	N
		Crawlspace Ventilation (aCSV)	C	C	P	
		Sub-Slab/Sub-Membrane Depressurization (SSD)	C	C	N	
		Above Grade Ventilation (Garage / Non-Occupiable Space vents) (aAGV)	C	C	P	
		Aerobic Vapor Migration Barrier (aerobic vapor only) (aBARR)	N	N	N	
		Indoor Air Filtration				
		Building Ventilation				
		Building Pressurization				
VI Mitigation Control Elements						
Migration Controls		French Drains (At Building Envelope and Property Line)	N	N	N	N
		Vapor Plume Interception (e.g., Interceptor Trenches, Bioswales)	AR	AR	AR	
		Sub-slab Dewatering System				
Point of Entry Controls		Conduit or Cable Seal (e.g., Class I Div. II Sealant)	N	N	N	N
		Wet Utility Sealants (e.g., p-trap)	N	N		N
		Self-Priming Wet Utility Sealants	O	O	N	N
VI Control Monitoring and Closure						
Operations and Hazards Communication		Placards / Labels	N	N	N	N
		Controls Systems (PLC / Telemetry)	O	O		
		Alarm Systems (Pressure / Flow)	O	O	N	
		Access Restriction				
Long Term Monitoring Strategies	Performance	Riser Sampling Ports and Shut-Off Valves	N	N	N	N
		Continuous Indoor Air & Ambient Air Basin Monitors (O/S/SSD W/)	N	N	N	N
		Sub-Slab / Membrane (point of control) Monitoring Points (O/S/SSD W/)	N	N	N	N
		Aerobic Zone Monitoring Points	AR	AR	AR	
	Risk / Hazard	Source Area Monitoring Points	AR	AR	AR	
		Property Line Monitoring Points (migration across property lines)	AR	AR	AR	
Long Term Stewardship Controls		Environmental Risk Management Plan: Operations, Maintenance, Monitoring and Reporting Plan	N	N	N	N
		Tenant Improvement Work Plan	AR	AR	AR	
		Land Use Covenant	O	O	O	
		Enhanced Residents	O	O	O	

Notes

All — **As Required:** (Design Element) that are required to be incorporated into the design as necessary to address site specific conditions.

O — **Contingency Primary Controls:** Contingency Risk are assumed to be implemented if the primary controls fail to achieve performance objectives and consult Re resumes.

Human Exposure: Conditions that must be implemented during construction that may potentially damage the VIMMEC primary controls. Human Controls must also be implemented while work is ongoing. Impacts of the VIMMEC primary controls (e.g., if a possible major intrusion risk is realized) while primary controls are being repaired or contingency controls are being implemented, interim controls are not suitable as long-term (e.g., > 1 year) engineering controls.

Optional: Design Element that can enhance or improve the performance of the design.

Permissible (P): Permissible as a primary control if, based on the results of a pilot test or engineering calculations, the element is found to be operationally viable and adequately protective. If during performance verification the control is shown to be ineffective or non-viable, then a contingency primary control must be implemented.

Required Element: Design element that are required.

Not permissible: Not permissible as a primary control, contingency primary control, or design element.

BASIS OF DESIGN:
The Vapor Intrusion Risk attenuation factor (AF) for this Site was determined to be 0.03.

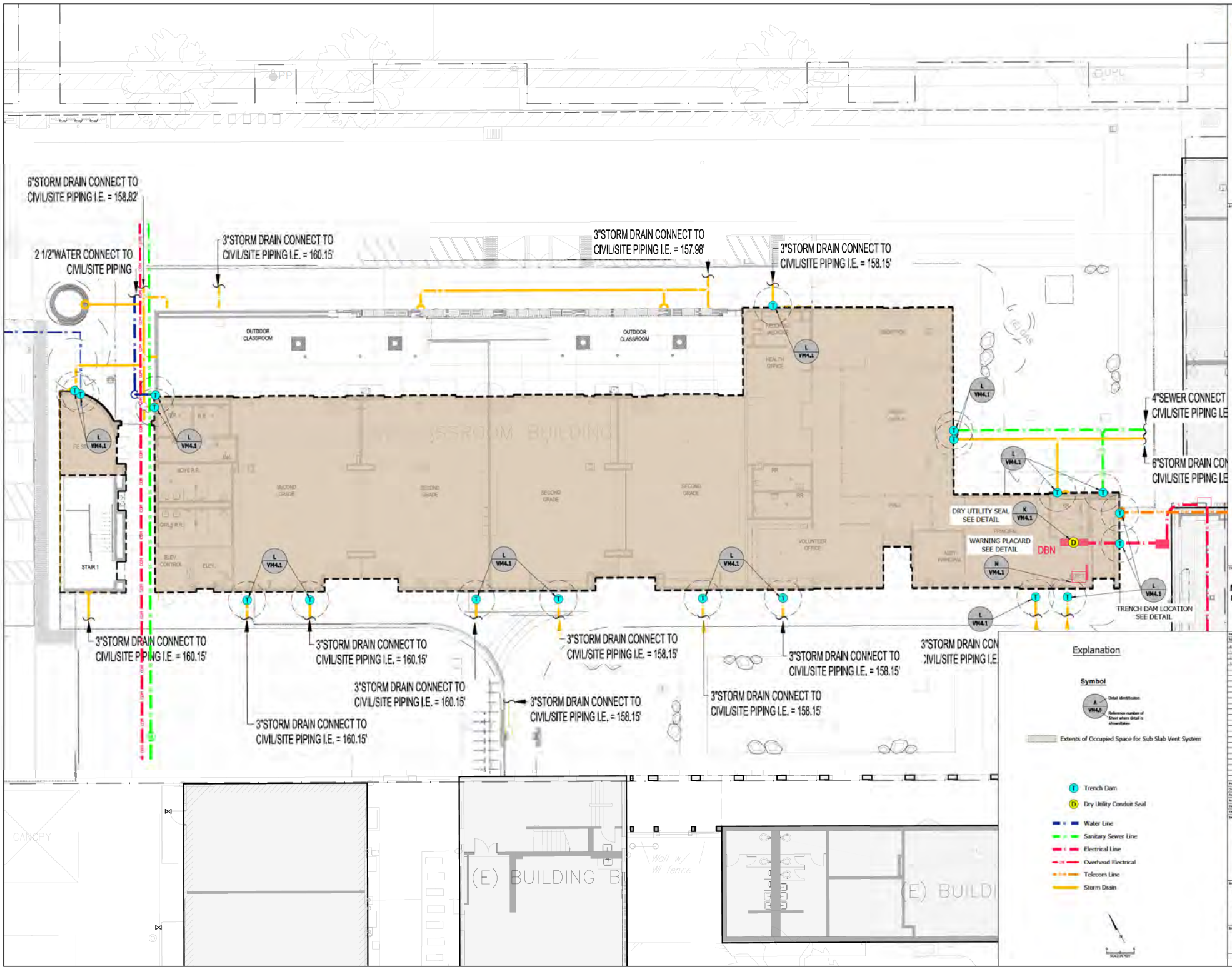
1st Floor of New Elementary School Building:
~9,110 square feet
Moderate VI Risk
Residential, Occupiable
5" Concrete Slab on Grade
Passive Sub Slab Ventilation System - pSSV
Sub-Slab Membrane (Vapor Barrier)

Explanation

Extents of Occupied Space for Sub Slab Vent System

SV4 Soil Vapor Sample Location

SV1 Soil Vapor Boring Location - Pre-Characterization



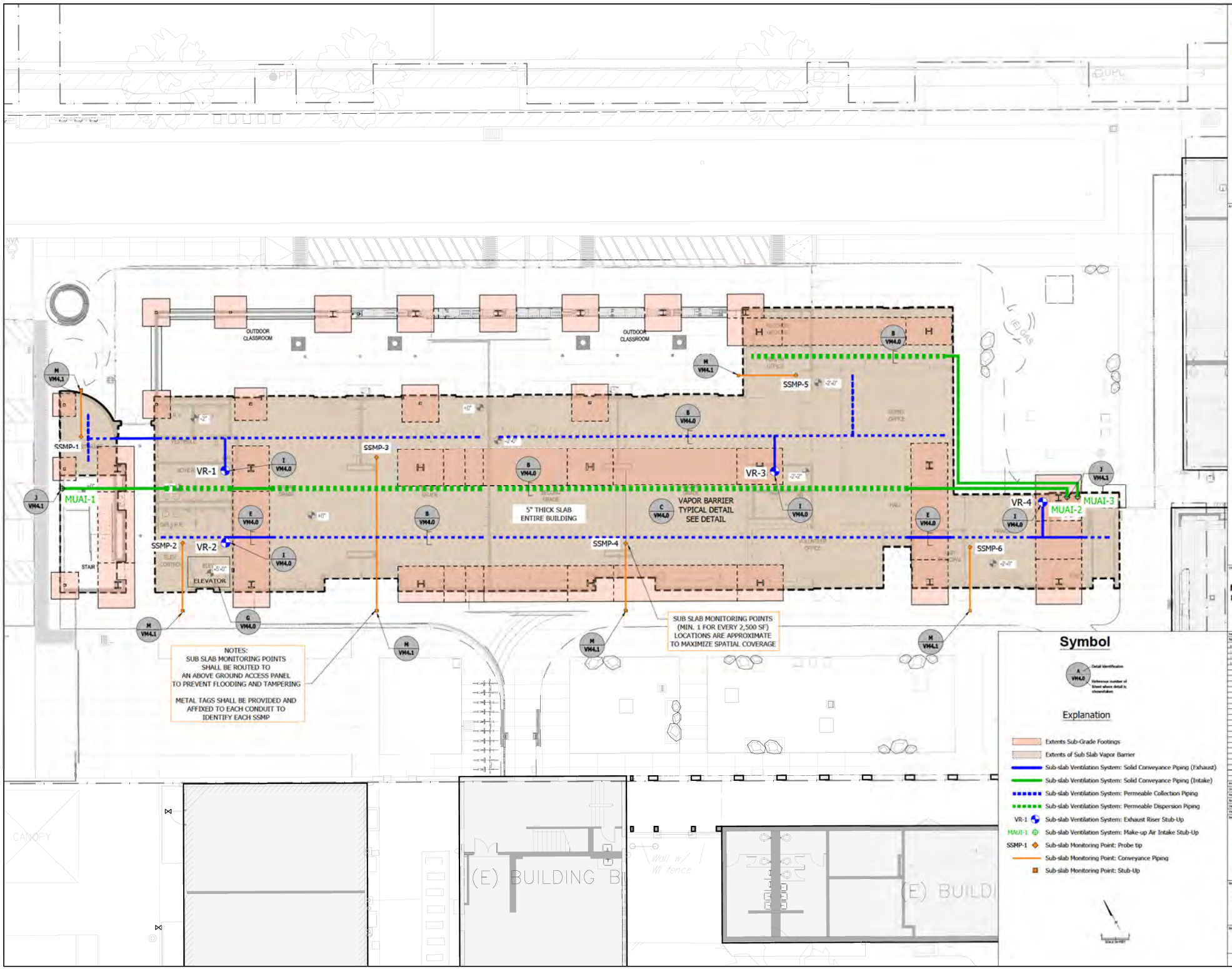
NV5

MCKINLEY ELEMENTARY SCHOOL
NEW CLASSROOM BUILDING
2401 SANTA MONICA BOULEVARD
SANTA MONICA, CALIFORNIA 90404

Santa Monica-Malibu Unified School District

SITE PLAN & PREFERENTIAL PATHWAY CONTROLS

VM3.0



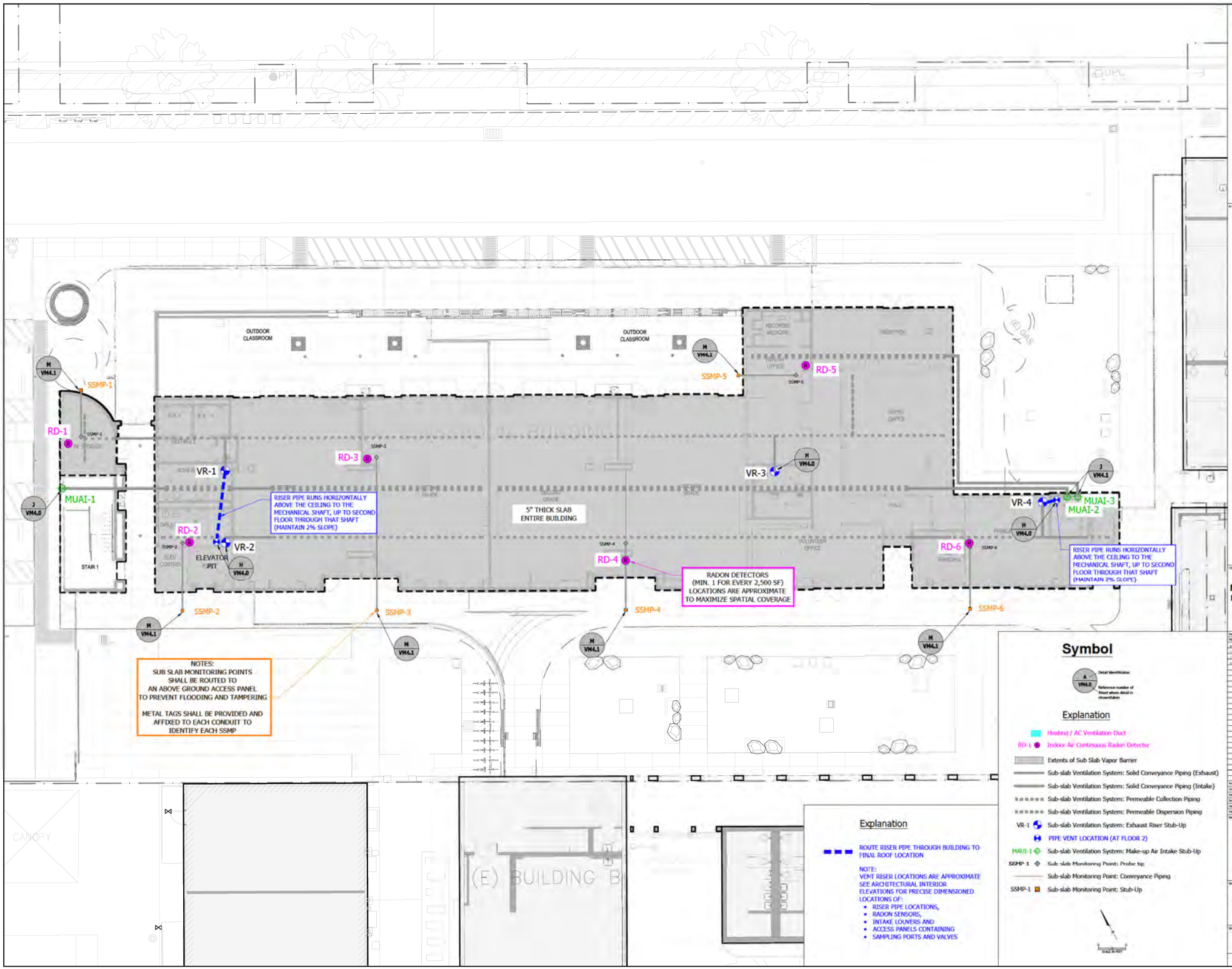
NV5

MCKINLEY ELEMENTARY SCHOOL
NEW CLASSROOM BUILDING
2401 SANTA MONICA BOULEVARD
SANTA MONICA, CALIFORNIA 90404

Santa Monica-Malibu Unified School District

VIMMEC LAYOUT (SUBGRADE)

VM3.1



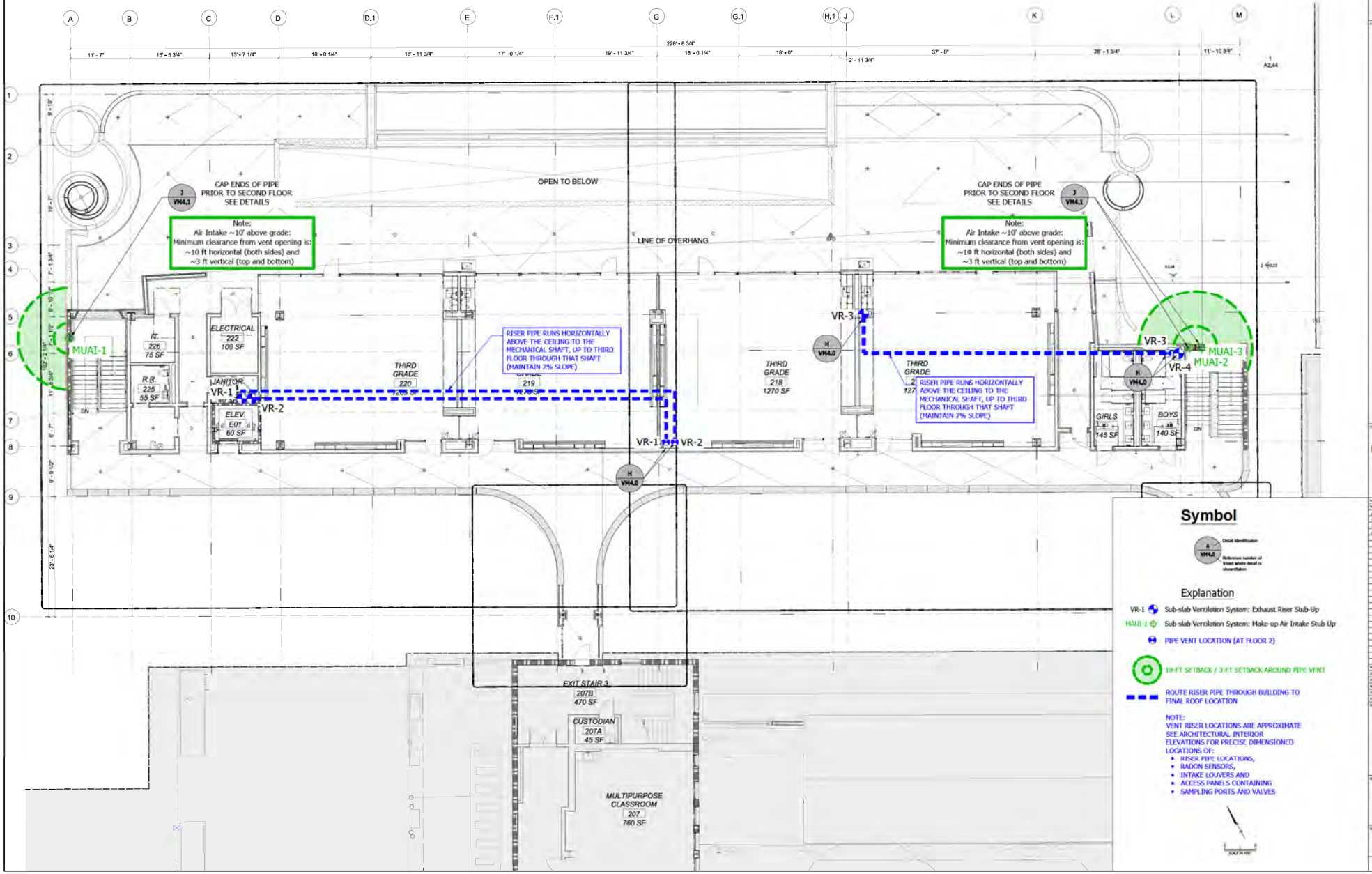
NV5

MCKINLEY ELEMENTARY SCHOOL
NEW CLASSROOM BUILDING
2401 SANTA MONICA BOULEVARD
SANTA MONICA, CALIFORNIA 90404

Santa Monica-Malibu Unified School District

VIMMEC LAYOUT (1ST FLOOR)

VM3.2



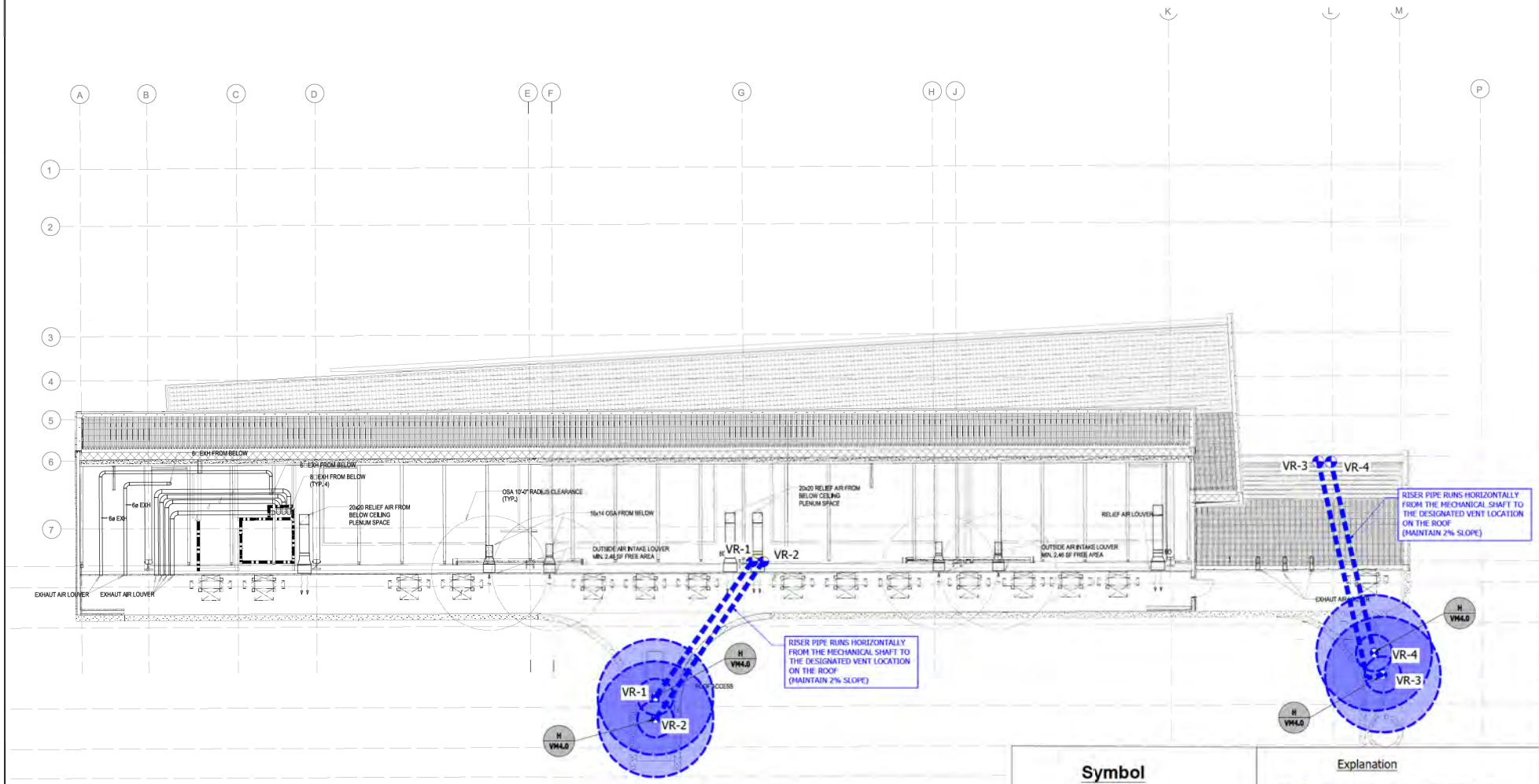
NV5

MCKINLEY ELEMENTARY SCHOOL
NEW CLASSROOM BUILDING
2401 SANTA MONICA BOULEVARD
SANTA MONICA, CALIFORNIA 90404

Santa Monica-Malibu Unified School District

VIMMEC LAYOUT (2ND FLOOR)

VM3.3



Symbol

A VM4.0 — Detail Identification / Reference number of Sheet where detail is shown/taken

Explanation

ROUTE RISER PIPE THROUGH BUILDING TO FINAL ROOF LOCATION

NOTE:
VENT RISER LOCATIONS ARE APPROXIMATE SEE ARCHITECTURAL INTERIOR ELEVATIONS FOR PRECISE DIMENSIONED LOCATIONS OF:

- RISER PIPE LOCATIONS,
- RADON SENSORS,
- INTAKE LOUVERS AND
- ACCESS PANELS CONTAINING
- SAMPLING PORTS AND VALVES

Explanation

VR-1 Sub-slab Ventilation System: Exhaust Riser Stub-Up

Pipe Vent Location (AT FLOOR 3/LOWER ROOF)

10-FT Setback / 3-FT Setback around Pipe Vent

NOTE:
VERIFY 10-FT MIN. SETBACK FROM ANY WINDOWS, DOORS, ROOF HATCH, OPENING, OR AIR INTAKE INTO THE BUILDING. ALSO VERIFY 10-FT MIN. SETBACK FROM PROPERTY LINE & 3-FT MIN SETBACK FROM PARAPET WALLS.

CONTRACTOR SHALL ALSO PROVIDE 10-FT VERTICAL SETBACK FROM TOP OF RISER TO OPENINGS/AIR INTAKES IN CASE HORIZONTAL SETBACKS ARE NOT MET

CONTRACTOR SHALL PROVIDE SUFFICIENT SETBACK FROM ROOFTOP EQUIPMENT TO:
1) FACILITATE CONSTRUCTION AND MAINTENANCE OF THE EQUIPMENT,
2) PROVIDE UNOBSTRUCTED AIR FLOW FROM THE RISERS

SCALE IN FEET

NV5

A Project for:

MCKINLEY ELEMENTARY SCHOOL
NEW CLASSROOM BUILDING
2401 SANTA MONICA BOULEVARD
SANTA MONICA, CALIFORNIA 90404

Owner:

Santa Monica-Malibu Unified School District

No.	Description	Date
2	DSA1 - PERMIT	8/18/2023
1	90% DSA1	[illegible]
0	SUBMIT TO DSA1	[illegible]
0	PRELIMINARY TO DSA1 SCHOOL	[illegible]

Project No.	SMMUSD-23-117100
Drawn By	T. ATKINSON
Reviewed By	T. ATKINSON
Scale	AS NOTED
Date	9/15/2023
Filename	MCK_VRR_MCMCOM

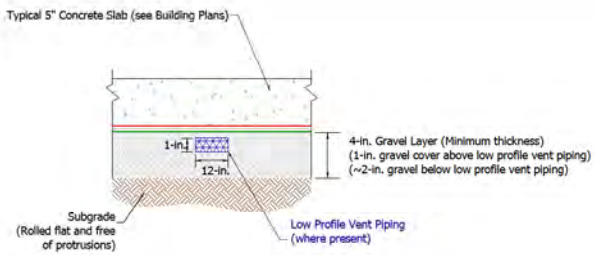
Seal:

Sheet Title:

VIMMEC LAYOUT (ROOF)

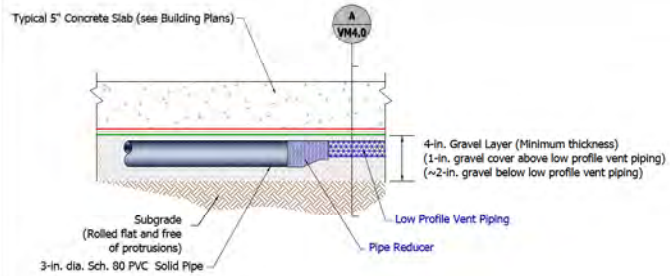
Sheet #:

VM3.4



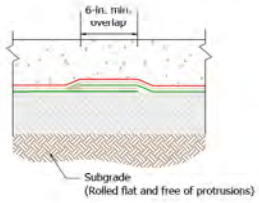
A VM4.0 **Typical Subslab Low Profile Vent Piping**

(Not to Scale)



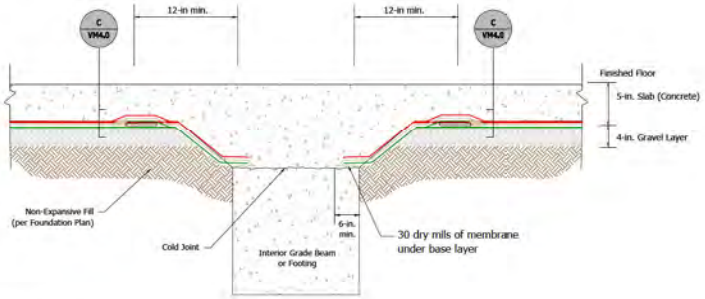
B VM4.0 **Typical Subslab Solid Vent Piping Transition**

(Not to Scale)



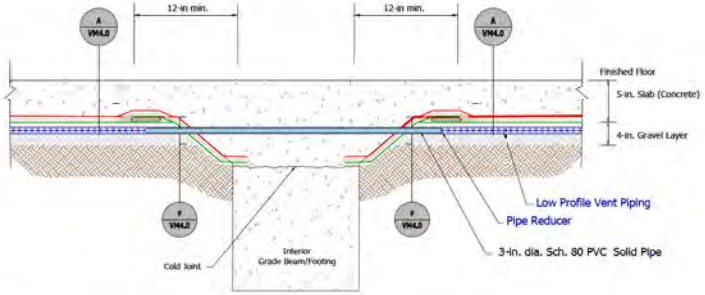
C VM4.0 **Typical Membrane Lap Joint**

(Not to Scale)



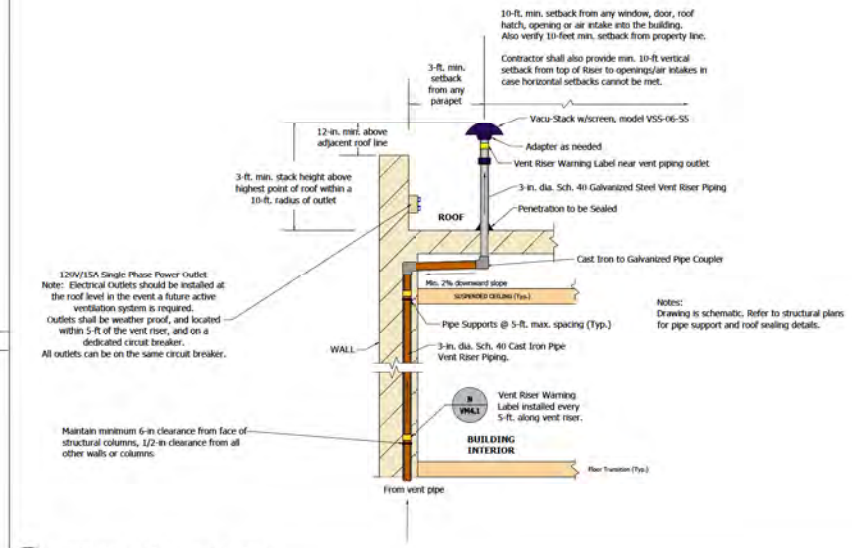
D VM4.0 **Interior Footing/Grade Beam (Typical)**

(Not to Scale)



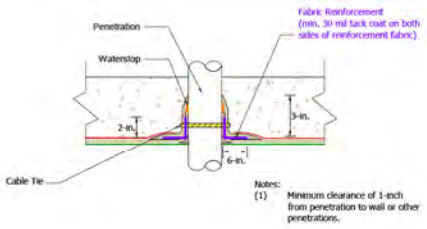
E VM4.0 **Vent Pipe Footing/Grade Beam Penetration**

(Not to Scale)



H VM4.0 **Vent Riser to Roof (Building Interior)**

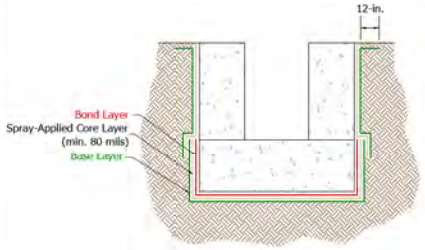
(Not to Scale)



Notes:
(1) Minimum clearance of 1-inch from penetration to wall or other penetrations.

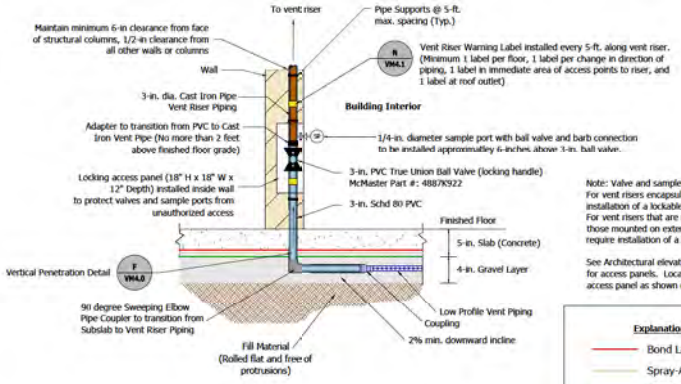
F VM4.0 **Vertical Penetration Detail**

(Not to Scale)



G VM4.0 **Typical Elevator Pit**

(Not to Scale)



Note: Valve and sample ports must be access controlled.
For vent risers encapsulated in a walls this may require installation of a lockable access panel.
For vent risers that are not otherwise encapsulated, such as those mounted on exterior walls or support columns, this may require installation of a lockable cage or locks on valves

See Architectural elevations for precise dimensioned locations for access panels. Locate valves and sample ports within access panel as shown on architectural plans

Explanation

- Bond Layer
- Spray-Applied Core Layer
- Base Layer
- Low Profile Vent Piping = Vapor-Vent
- Gravel Layer = 4-inch thick, 3/4-inch gravel

I VM4.0 **Vent Pipe to Vent Riser Transition (Building Interior)**

(Not to Scale)

NV5

MCKINLEY ELEMENTARY SCHOOL
NEW CLASSROOM BUILDING
2401 SANTA MONICA BOULEVARD
SANTA MONICA, CALIFORNIA 90404

Owner:
Santa Monica-Malibu Unified School District

No.	Description	Date
1	INITIAL ISSUANCE	8/18/2023
2	90% DRAFT	[illegible]
3	ADDED TO DWG	[illegible]
4	REDUCED TO 3-PIPE SUPPLY @ [illegible]	[illegible]

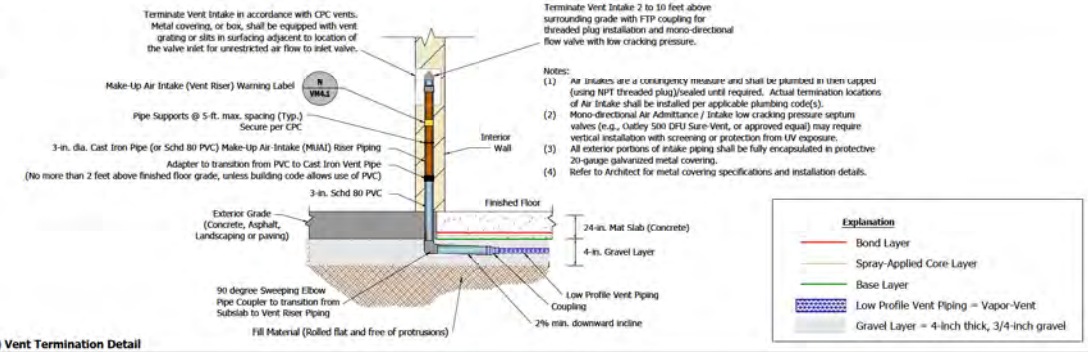
Project No.	SMMUSD-23-117139
Drawn By	T. ATKINSON
Reviewed By	T. ATKINSON
Scale	AS NOTED
Date	9/15/2023
Filename	MCK_VRR_WORKING

Seal

Sheet Title
VIMMEC SYSTEM CONSTRUCTION DETAILS (1)

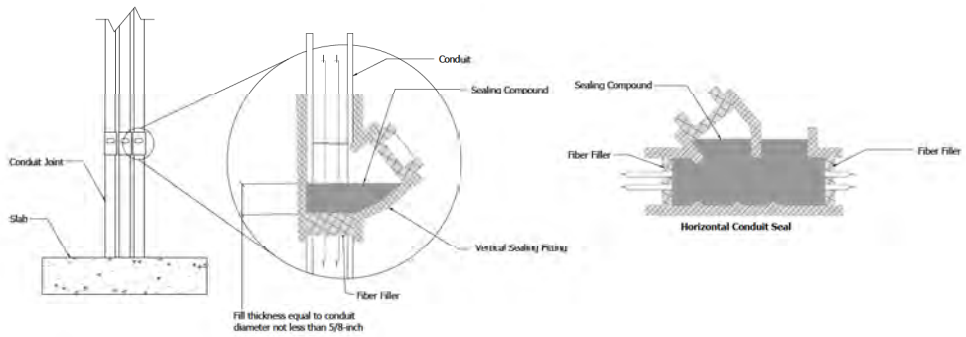
Sheet #:
VM4.0

General Note:
See Architectural Elevations for precise dimensioned location of vent louvers.
Install air intake riser pipe to coordinate with louver location



Notes:
(1) Air intakes are a contingency measure and shall be plumbed in then capped (using NPT threaded plug)/sealed until required. Actual termination locations of Air Intake shall be installed per applicable plumbing code(s).
(2) Mono-directional Air Admittance / Intake low cracking pressure septum valves (e.g., Oatley 500 OFU Sure-Vent, or approved equal) may require vertical installation with screening or protection from UV exposure.
(3) All exterior portions of intake piping shall be fully encapsulated in protective 20-gauge galvanized metal covering.
(4) Refer to Architect for metal covering specifications and installation details.

J VM4.1 Make-Up Air Intake (MUAI) Vent Termination Detail
(Not to Scale)



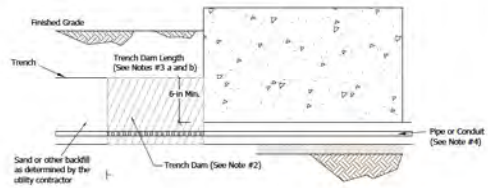
Vertical Conduit Seal

Notes:
(1) Sealing compound to be closed-cell expandable polyurethane foam (EPF) sealant. Open-cell foam sealants are not acceptable.
(2) The closed-cell EPF seals shall have a length at least 6 times the inside diameter of the conduit.
(3) Conduit seals to be installed at first above grade joint and within 18 inches of the point of entry.

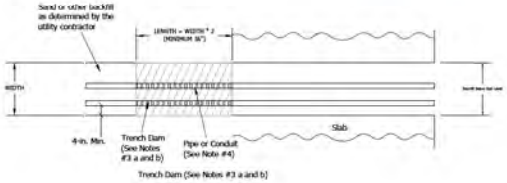
K VM4.1 Typical Conduit Seal
(Not to Scale)

Notes: Trench Dams
1. All Trench Dams shall be installed in trenches containing piping and conduit that connects directly from the utility lines in the street.
2. The length of a Trench Dam shall be twice the width (minimum length 36 inches).
3. Trench Dams shall be constructed of one of the following:
   a. Bentonite Cement Slurry (3 feet long): A mixture of 4% Type II Cement and 2% Powdered Bentonite.
   b. Concrete mixes other than Bentonite Cement Slurry may be used provided conduit or piping is wrapped with High Density PVC Foam Tape, Closed Cells, Adhesive Backed, 1/4-in. thick by 1/2-in. wide shall be applied to clear surface with ends butted together at most visible locations in Trench Dam.
4. Piping and conduit shall be protected from corrosion and structural settlement as follows:
   a. Tape shall be applied on conduit and piping encased in cement slurry or concrete.
   b. Tape shall be PS-37-90, Black Plastic PVC or PE Pressure-Sensitive Corrosion Preventive Tape.

Section:

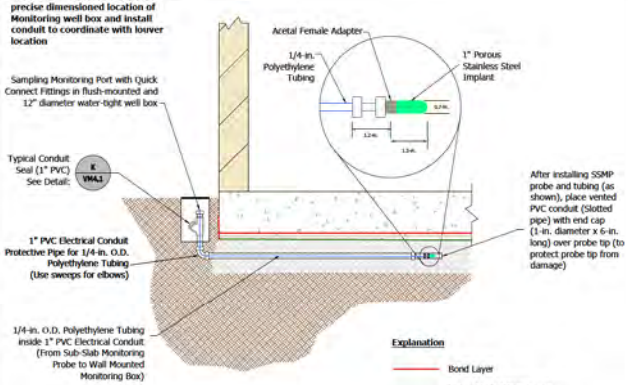


Plan View:



L VM4.1 Typical Trench Dam at Building Perimeter
(Not to Scale)

General Note:
See Architectural Elevations for precise dimensioned location of Monitoring well box and install conduit to coordinate with louver location



M VM4.1 Typical Subslab Sampling Probe
(Not to Scale)

General Note:
See Architectural Elevations for precise dimensioned location of Signage

CAUTION
CONTAINS POTENTIALLY HAZARDOUS VAPORS
SUBSLAB VENT PIPE
IMMEDIATELY NOTIFY BUILDING OWNER IF DAMAGED

4.5-in. x 4-in. wide

All labels with adhesive backing

Large letters: 1/2-in. (min.) height

Small letters: 1/4-in. (min.) height

Red letter on white or yellow background

3 min. required per vent riser

These labels are to be placed near each vent piping inlet and outlet and every 5-ft. (min.) along the vent riser piping

N VM4.1 Vent Riser Warning Label
(Not to Scale)

General Note:
See Architectural Elevations for precise dimensioned location of Signage

WARNING
THIS BUILDING IS PROTECTED WITH A SUBSLAB VAPOR CONTROLS. ANY PROPOSED PENETRATION OR ALTERATION OF FLOOR SLAB REQUIRES NOTIFICATION OF THE BUILDING OFFICIAL AND INSPECTION BY A QUALIFIED ENGINEER

At least 2 Warning Placards shall be permanently fixed to the slab or wall in all electrical and utility rooms. This placard can be permanently stamped or etched in the surface of the concrete slab at the time it is poured or a plate with this notification can be affixed to the slab or room wall after construction.

All letters 1/2-in. min. in height

P VM4.1 Warning Placard
(Not to Scale)

NV5

MCKINLEY ELEMENTARY SCHOOL
NEW CLASSROOM BUILDING
2401 SANTA MONICA BOULEVARD
SANTA MONICA, CALIFORNIA 90404

Owner:
Santa Monica-Malibu Unified School District

No.	Description	Date
1	DSA1 - Digital	8/18/2020
2	DSA1 Check	10/09/2020
3	SUBMIT TO DSA	10/30/2020
4	PROGRAMME TO STILL WORK - 10 WORKS	

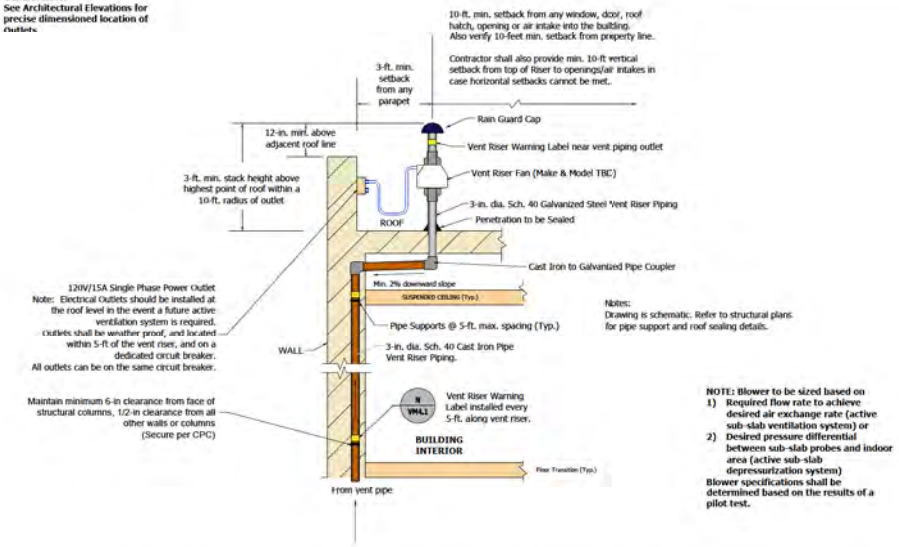
Project No.	SMMUSD-23-117150
Drawn By	T. ATKINSON
Reviewed By	T. ATKINSON
Scale	AS NOTED
Date	9/10/2020
Filename	MCK_VRR_MORCON

Seal

Sheet Title:
VIMMEC SYSTEM CONSTRUCTION DETAILS (2)

Sheet #:
VM4.1

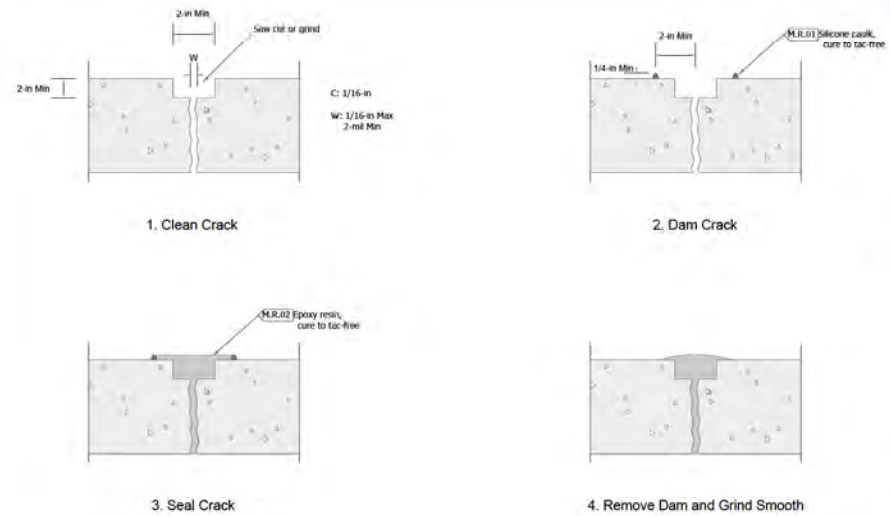
General Note:
See Architectural Elevations for precise dimensioned location of outlets



Notes:
Drawing is schematic. Refer to structural plans for pipe support and roof sealing details.

NOTE: Blower to be sized based on
1) Required flow rate to achieve desired air exchange rate (active sub-slab ventilation system) or
2) Desired pressure differential between sub-slab probes and indoor area (active sub-slab depressurization system)
Blower specifications shall be determined based on the results of a pilot test.

Q VM4.2 Contingency Alternative: Conversion to Active Ventilation / Depressurization System Riser to Roof (Building Interior)
(Not to Scale)

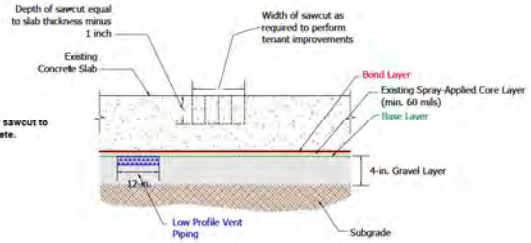


R VM4.2 Contingency: Repair Sequence for Cracks in Concrete (Smaller than 1/16-in wide)
(Not to Scale)

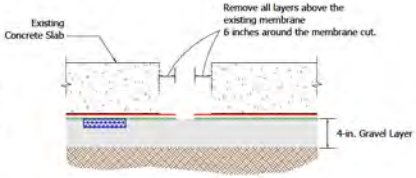
Notes on Repair

1. Steps 1 and 2 to be performed by others prior to vapor barrier installer arrival.
2. It is the General Contractor's responsibility to observe and supervise preparations for repair, and to ensure sufficient vapor barrier flaps remain around entire perimeter of sawcut area. If not, the vapor barrier installer may require additional shallow sawcutting and removal of concrete from the permeter, in order to expose sufficient vapor barrier flaps for adherence of the patch.
3. All due care must be used to ensure hand-chipping of concrete from perimeter of sawcut does not penetrate or damage in-place liner.
4. Step 3 to be performed by vapor barrier installer.
5. Pouring and finishing of concrete patch to be performed by others.

Step 1 - Perform a shallow sawcut to facilitate removal of concrete.

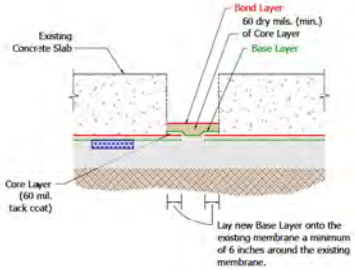


Step 2 - Gently break out concrete along edges of sawcut. Cut vapor barrier in center of sawcut area and pull back to expose gravel layer or subgrade. Remove all layers above the existing vapor barrier membrane, 6 inches around the membrane cut. Check gravel layer for presence of vent piping. Leave vent piping in place if present. Perform subgrade work.

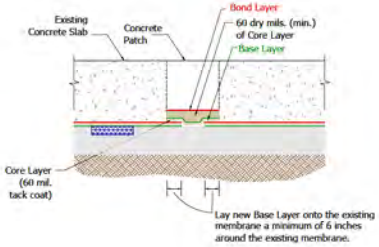


Step 3 - Contract original approved vapor barrier installer to repair vapor barrier. Repair to include:

1. **Restoration of gravel layer.**
2. **Clean the exposed membrane area with water and a soft brush.**
3. **Wipe the exposed membrane with a mild non-chlorinated solvent and allow the solvent to evaporate completely before proceeding to the next step.**
4. **Apply a thin (60-mil) tack coat to the exposed membrane and allow to tack.**
5. **Lay new base layer onto the existing membrane referenced above a minimum 6 inches around the existing membrane cut.**
6. **Patch over base layer with vapor barrier membrane to the specified thickness and extending a minimum 6 inches onto the existing membrane.**
7. **After membrane has cured and been checked for proper thickness and flaws, install protection layer pursuant to manufacturer's instructions.**



Step 4 - Backfill sawcut area with concrete and finish to match existing concrete.



T VM4.2 Contingency: Procedures for Vapor Barrier Penetrations and Repairs
(Not to Scale)

NV5

MCKINLEY ELEMENTARY SCHOOL
NEW CLASSROOM BUILDING
2401 SANTA MONICA BOULEVARD
SANTA MONICA, CALIFORNIA 90404

Owner:
Santa Monica-Malibu Unified School District

No.	Description	Date
4	INITIAL SUBMIT	8/18/2023
3	90% DRAFT	10/13/2023
2	SUBMIT TO DTSC	10/27/2023
1	PRELIMINARY TO DTSC FOR REV	9/15/2023

Project No. SMMUSD-23-117170
Drawn By: T. ATKINSON
Reviewed By: T. ATKINSON
Scale: AS NOTED
Date: 9/15/2023
Filename: MCK_VMM_WORKING

Sheet Title:
VIMMEC SYSTEM CONTINGENCY MEASURES

Sheet #:
VM4.2

PASSIVE SUB-SLAB VENTING SYSTEM PART REQUIREMENTS (SHALL BE PROVIDED BY DESIGNATED SUPPLIER)

Number	Description	Quantity	Units	Supplier	Model Number	Vender	Specifications
1	Gravel (cubic yards)	120	CY	CONTRACTOR	N/A	TBD	See Specifications Table for 3/4" Gravel (Section II.B.1)
2	Low Profile Collection Piping	660	LF	CONTRACTOR	Vapor Vent	EPRO	EPRO Vapor Vent Low Profile Vent Collection Piping (1" x 12")
3	Transition Coupling (3-inch)	14	Each	CONTRACTOR	TBD	EPRO	Low Profile Vent Collection Piping Transition Couplings (to 3-inch PVC)
4	3" Schd 80 PVC	300	LF	CONTRACTOR	TBD	Harrington	3-inch Schedule 80 PVC
5	3" Schd 40 PVC	0	LF	CONTRACTOR	TBD	Harrington	3-inch Schedule 40 PVC
6	3" Schd 40 Cast Iron Pipe (CIP)	700	LF	CONTRACTOR	TBD	TBD	3-inch Schedule 40 Cast Iron Pipe
7	3" Schd 40 Galvanized Pipe	60	LF	CONTRACTOR	TBD	TBD	3-inch Schedule 40 Galvanized Pipe
8	4" Vent Stack (Vacustack)	4	Each	CONTRACTOR	VSS-06-S5	Vacu-Stack	Vacustack with Screen (4-inch)
9	Mono-Directional Air Valve	3	Each	CONTRACTOR	500 DFU	Oatley	Mono-directional Air Admittance / Intake low cracking pressure septum valves
10	3-inch True Union Ball Valve	4	Each	CONTRACTOR	4887K922	McMaster Carr	3-in. PVC True Union Ball Valve (locking handle)
11	3" Sweeping 90 Schd 80 PVC	14	Each	CONTRACTOR	51415K47	Harrington	3" Sweeping 90 Schd 40 PVC
12	3" Sweeping 90 Schd 40 CIP	28	Each	CONTRACTOR	51415K37	Harrington	3" Sweeping 90 Schd 40 CIP
13	Field Point ID Labels	7	Each	CONTRACTOR	N/A	TBD	Aluminum Labels to Stamp Field Point IDs (Ball Valves, Riser tag names)
14	1/4" Sample Ports (locking)	7	Each	CONTRACTOR	4629K41	McMaster Carr	Brass On/Off Valve with Lockable Lever Handle, 1/4 NPT Female x 1/4 NPT Male

LONG-TERM MONITORING INFRASTRUCTURE PART REQUIREMENTS (SHALL BE PROVIDED BY DESIGNATED SUPPLIER)

Number	Description	Quantity	Units	Supplier	Model Number	Vender	Specifications
15	Sample Tubing	150	LF	CONTRACTOR	TPH250	ESP Supply	1/4" OD High Density Polyethylene Tubing
16	1" PVC Electrical Conduit	150	LF	CONTRACTOR	TBD	Harrington	1-inch PVC Electrical Conduit
17	Probe Tipe Protection Screen	6	Each	CONTRACTOR	WE-100S-PW	ESP Supply	1" X 8" PVC Pressure Washer Tank Filter Screen, .020, Sch40
18	1" Sweeping 90 Elecrtical Conduit	12	Each	CONTRACTOR	TBD	Harrington	1-inch PVC Electrical Conduit Sweeping 90
19	Sample Probe Tips	6	Each	CONTRACTOR	SVPT92-SF14	ESP Supply	1" Porous Stanless Steel Implant (Sample Probe tip)
20	Field Point ID Labels	6	Each	CONTRACTOR	N/A	TBD	Aluminum Labels to Stamp Field Point IDs (SSMP tag names)
21	Utility Monitoring Well Box 12" x 12"	6	Each	CONTRACTOR	N/A	TBD	12" Diamter Monitoring well vault (aluminum)
22	1" Elec. Conduit EYS Fittings	6	Each	CONTRACTOR	N/A	TBD	1" Elec. Conduit EYS Fittings
23	Radon Detector	6	Each	CONTRACTOR	View Plus	Air Things	Air Things View Plus Radon Detector and WIFI enabled monitor

W VM5.0 VIMMEC PART REQUIREMENTS LIST

NV5

MCKINLEY ELEMENTARY SCHOOL
NEW CLASSROOM BUILDING
2401 SANTA MONICA BOULEVARD
SANTA MONICA, CALIFORNIA 90404

Client:
Santa Monica-Malibu Unified School District

No.	Description	Date
2	[illegible]	[illegible]
1	[illegible]	[illegible]
1	[illegible]	[illegible]
1	[illegible]	[illegible]

Project No. SMMUSD-23-117700
Drawn By T. ATKINSON
Reviewed By T. ATKINSON
Scale AS NOTED
Date 9/15/2023
Filename HCS_CORE_MONCINI

Sheet Title:
VIMMEC PART REQUIREMENTS LIST

Sheet #:
VM5.0

APPENDIX B

VIMMEC System Miscellaneous Design Details & Cut-Sheets

GEO-SEAL 100
SUBMITTAL PACKET

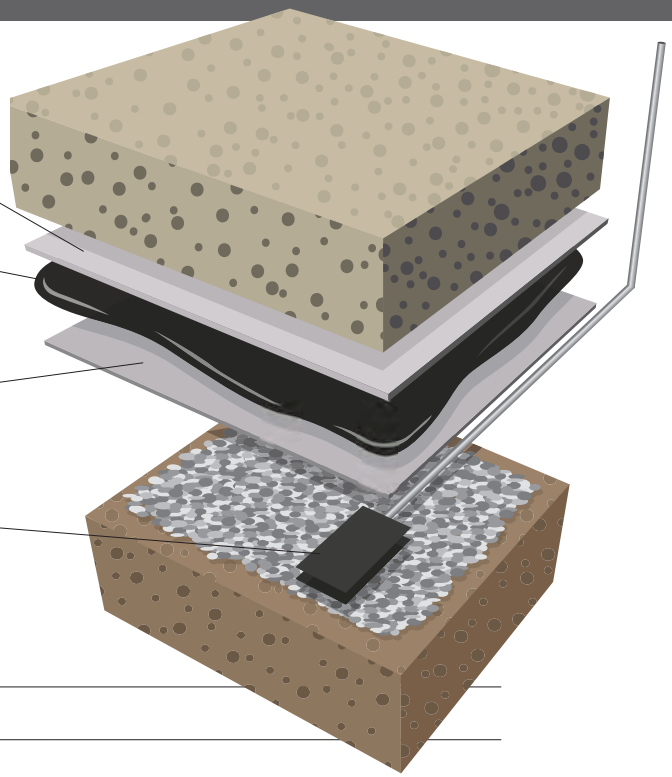
Geo-Seal® 100

Geo-Seal BOND
(HDPE/Geotextile)

Geo-Seal CORE
(spray applied polymer modified asphaltic membrane)

Geo-Seal BASE
(Geotextile/HDPE)

Vapor-Vent System



System: Geo-Seal 100 Vapor Intrusion Barrier (Patent Protected - US 7,985,460)			
Application: Underslab Contaminant Vapor Barrier		System Thickness: 96 mils	
	1st Layer	2nd Layer	3rd Layer
Product Name	Geo-Seal BASE 18 mil	Geo-Seal CORE 60 mil	Geo-Seal BOND 18 mil

DESCRIPTION

Geo-Seal® 100 is the industry-leading sub-slab vapor intrusion barrier for eliminating vapor intrusion for any environmentally-impaired site. With more than 50 million square feet installed, the patented Geo-Seal® 100 system has more than 20 years of demonstrated success.

Installed between the foundation slab of the building and permeable subgrade, Geo-Seal 100 eliminates vapor intrusion pathways and stops contaminant vapors from permeating through the slab and into a building.

Designed to be thick and robust, Geo-Seal 100 can withstand the rigors of modern-day construction by providing high tensile, puncture resistance and robust seals around penetrations and terminations.

Thoroughly tested and proven highly effective against VOC vapor, such as chlorinated solvents and petroleum hydrocarbons, as well as methane gas, Geo-Seal 100 earns full approval with federal and state regulatory agencies. Geo-Seal 100 provides peace of mind knowing that a healthy indoor air environment will keep occupants safe while also significantly reducing remediation costs and speeding site construction.

BENEFITS

- **Durable:** Three layers of complementary contaminant vapor barrier materials create a thick and redundant composite system superior to single sheet barrier systems.
- **Proven:** Industry standard and proven technology, with 20 year installation history and over 50 million square feet installed.
- **Chemically Resistant:** Constructed with multiple highly chemical resistant HDPE sheets and polymer-modified asphaltic membrane.
- **Seamless:** Spray-applied monolithic layer ensures complete sealing of building foundation without mechanical fastening.
- **Bonded:** Mechanically adheres directly to the foundation slab.
- **Single-Source Warranty:** EPRO can be a single point of contact to address building vapor intrusion and waterproofing needs.

LIMITATIONS

- Do not apply below 20°F or to damp, frozen or contaminated surfaces.
- Contact EPRO for waterproofing system recommendations.

SPECIFICATIONS, DRAWINGS, AND TECHNICAL ASSISTANCE

The most current specifications and drawings can be found on www.eproinc.com. For project specific details contact EPRO directly, or your local EPRO representative.

Site conditions, performance goals, and budget determine which system is most appropriate for a given project. For more information regarding product performance, testing, plan review, or general technical assistance, please contact EPRO.

WARRANTY

EPRO provides a wide range of warranty options for Geo-Seal systems. For a project to be eligible for any warranty option beyond a 1-year material warranty, a Geo-Seal Authorized Applicator must be used and the project must be registered and approved by EPRO prior to the commencement of any product application.

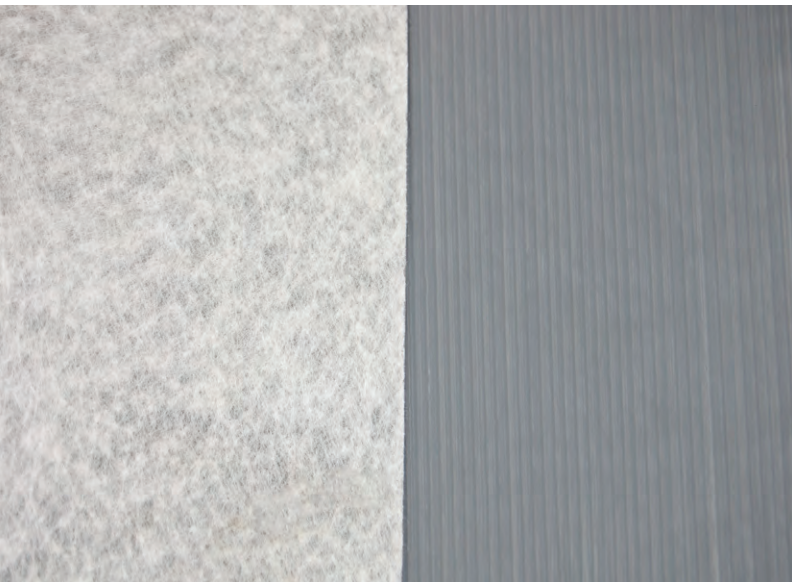
Warranty options available for this system include:

- Material warranty
- Labor and Material Warranty
- Longer warranty periods are available. Contact EPRO for more information.

Physical Property	Test Method	Value
Tensile Strength	ASTM D 412	662 psi
Elongation	ASTM D 412	45%
Adhesion to Concrete	ASTM D 903	8 lbf/in
Puncture Resistance	ASTM D 4833	139 lbs
Hydrostatic Head Resistance	ASTM D 5385	100 psi (231 ft)
Water Vapor Transmission	ASTM E 96	.033 perms
Soil Burial	ASTM D 4068	Passed
Heat Aging	ASTM D 4068	Passed
Environmental Stress Cracking	ASTM D 1693	Passed
Oil Resistance	ASTM D 543 & D 412	Passed
Methane Transmission	ASTM D 1434	Passed
TCE Diffusion Rate		7.1×10^{-19} m^2/sec
Benzene Diffusion Rate		7.1×10^{-19} m^2/sec

Geo-Seal® Vapor Intrusion Barrier

Geo-Seal® BASE



Product Description

Basic Use: Geo-Seal BASE is designed to be a sturdy and versatile base course for Geo-Seal vapor intrusion barrier system. Geo-Seal BASE blends the durability of a geotextile fabric with the chemical resistant benefits of a high density polyethylene (HDPE) sheet into one geocomposite membrane. When combined with Geo-Seal CORE and Geo-Seal BOND, the redundant Geo-Seal system prevents harmful vapors from permeating the slab, protecting the health and well-being of building occupants.

Composition: Geo-Seal BASE is a base course comprised of an HDPE film and non-woven polypropylene geotextile fabric. The film is cross laminated to create ridges that enhance the bond between the Geo-Seal BASE and Geo-Seal CORE.

Benefits

- Leverages the strengths of two materials to maximize performance
- Geotextile enhances thermal stability and puncture strength
- Ideal weight and rigidity for horizontal applications
- Provides methane gas and chemical vapor protection

Limitations

- Excessive moisture needs to be removed prior to Geo-Seal CORE application

Technical Data

Properties: See physical properties table

Coverages: One roll covers 1800 square feet, not including overlaps or waste

Specification Writer: Contact EPRO before writing specifications on this product. Additional test information available upon request.

Installation

Preparation: Please refer to manufacturer's specifications for substrate requirements. Rolls should be inspected for cosmetic damage prior to application.

Application: Please refer to manufacturer's specifications. Overlap the seams of Geo-Seal BASE six inches with a 30 mil application of Geo-Seal CORE in the seam overlap.

Availability and Packaging

Contact EPRO sales representative for local distributors or authorized applicators (www.eproinc.com).

Roll Size: 12' x 150' unfolded rolls, 108 lbs.

Warranty

Limited Warranty: EPRO Services, Inc. believes to the best of its knowledge that performance tables are accurate and reliable. EPRO warrants this product to be free from defects. EPRO makes no other warranties with respect to this product, express or implied, including without limitation the implied warranties of MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE. EPRO's liability shall be limited in all events to supplying sufficient product to retreat the specific areas to which defective product has been applied. EPRO shall have no other liability, including liability for incidental or resultant damages, whether due to breach of warranty or negligence. This warranty may not be modified or extended by representatives of EPRO or its distributors.

Equipment

Seaming: AD-55 Sprayer, available through EPRO for application of Geo-Seal CORE into seam overlaps

Smoke Testing: EPRO Smoke Test Machine for underslab applications

Technical Services and Information

Complete technical services and information are available by contacting EPRO at 800.882.1896 or www.eproinc.com.

Geo-Seal® Vapor Intrusion Barrier

Geo-Seal® BASE

Typical Physical Properties

Physical Property	Test Method	Results
Film Thickness		5 mil
Composite Thickness		18 mil
Water Vapor Permeability	ASTM E96	0.214
Adhesion to Concrete	ASTM D1970	9.2 lbs/inch^2
Dart Impact	ASTM D1790	>1070 gms, method A
		594 gms, method B
Puncture Properties Tear	ASTM B2582 MD	11,290 gms
	ASTM B2582 TD	13,150 gms

Geo-Seal
Vapor Intrusion Barrier

Geo-Seal® CORE

Product Description

Basic Use: Geo-Seal CORE is a polymer modified asphalt (PMA) applied to nominal dry thicknesses depending on the configuration of the Geo-Seal system vapor intrusion barrier system. Spray applied to form a seamless barrier, Geo-Seal CORE is an integral component to all Geo-Seal systems due to its ability to bond to and seam high density polyethylene (HDPE), polyolefin sheets. Geo-Seal CORE is applied with a proprietary self-contained sprayer designed to produce a high build, monolithic, and rapidly curing membrane.

Composition: Geo-Seal CORE is a non-hazardous, low-viscosity, water-based, anionic asphalt emulsion modified with a blend of synthetic polymerized rubbers and proprietary additives. Geo-Seal CORE is highly stable during transit and proper storage, but becomes highly reactive during the spray application to form a rapidly cured membrane with exceptional bonding, elongation, and hydrophobic characteristics.

Benefits

- Provides a layer of seamless protection and redundancy in all Geo-Seal system assemblies
- Hydrophobic and resistant to methane gas
- Non-toxic, non-hazardous, non-flammable, and VOC free
- Forms a tenacious bond to HDPE sheets
- Application to damp substrates is acceptable
- Can be applied in below freezing temperatures with proper equipment

Limitations

- Surfaces shall be free of dirt and debris
- Material should be stored above 40°F and not allowed to freeze
- Not a traffic bearing surface, additional protection required
- Must not be applied to ponded water
- Direct foot traffic should be limited when ambient air temperatures are greater than 100°F

Technical Data

Shelf life: 6 months. The ability to apply the product beyond its estimated shelf life is dependent on storage conditions and homogeneity of the product. Storing material in an enclosed temperature controlled environment that maintains a minimum ambient temperature of 65° Fahrenheit will likely extend the shelf life beyond 6 months.

Properties: See physical properties table

Specification Writer: Contact EPRO before writing specifications on this product. Geo-Seal system assemblies should be reviewed in order to meet project specific site conditions.

Additional test information available upon request.

Installation

EPRO Authorized Applicators must be approved in writing by EPRO prior to receiving a contract in order to qualify for a warranty for this product and system assembly.

Surface Preparation: All surfaces shall be prepared in accordance to manufacturer's specifications. Surfaces shall be uniform, free of loose materials, and surface contaminants. Contaminant and loose debris shall be removed prior to application by suitable methods.

Application: Please refer to manufacturer's specifications. Geo-Seal CORE shall be spray applied to the specified nominal mil thickness. When properly applied, Geo-Seal CORE will set up immediately on the surface and promptly start the curing process. Light foot traffic is acceptable, but must be limited to the authorized Geo-Seal applicator. The initial cure is complete when Geo-Seal CORE is no longer ejecting moisture, 12 to 48 hours depending on ambient air conditions.

Availability and Packaging

Contact EPRO sales representative for local distributors or authorized applicators (www.eproinc.com).

Geo-Seal CORE is available in the following packaging options:

55 gallon drum
275 gallon tote
330 gallon tote

Geo-Seal® Vapor Intrusion Barrier

Geo-Seal® CORE

Warranty

Limited Warranty: EPRO Services, Inc. believes to the best of its knowledge that performance tables are accurate and reliable. EPRO warrants this product to be free from defects. EPRO makes no other warranties with respect to this product, express or implied, including without limitation the implied warranties of MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE. EPRO's liability shall be limited in all events to supplying sufficient product to retreat the specific areas to which defective product has been applied. EPRO shall have no other liability, including liability for incidental or resultant damages, whether due to breach of warranty or negligence. This warranty may not be modified or extended by representatives of EPRO or its distributors.

Equipment

Spray System: AD-55 Sprayer is available through EPRO. To discuss alternative spray machine options, please contact EPRO directly.

Smoke Testing: EPRO Smoke Test Machine for underslab applications

Technical Services and Information

Complete technical services and information are available by contacting EPRO at 800.882.1896 or www.eproinc.com.

Typical Physical Properties

Physical Property	Test Method	Results
Tensile Strength - Core only	ASTM 412	32 psi
Tensile Strength - Geo-Seal System	ASTM 412	662 psi
Elongation	ASTM 412	4140%
Resistance to Decay	ASTM E 154 Section 13	4% Perm Loss
Accelerated Aging	ASTM G 23	No Effect
Moisture Vapor Transmission	ASTM E 96	.026 g/ft^2/hr
Hydrostatic Water Pressure	ASTM D 751	26 psi
Perm rating	ASTM E 96 (US Perms)	0.21
Methane transmission rate	ASTM D 1434	Passed
Adhesion to Concrete & Masonry	ASTM C 836 & ASTM C 704	11 lbf./inch
Hardness	ASTM C 836	80
Crack Bridging	ASTM C 836	No Cracking
Heat Aging	ASTM D 4068	Passed
Environmental Stress Cracking	ASTM D 1693	Passed
Oil Resistance	ASTM D543	Passed
Soil Burial	ASTM D 4068	Passed
Low Temp. Flexibility	ASTM C 836-00	No Cracking at –20°C

Resistance to Acids

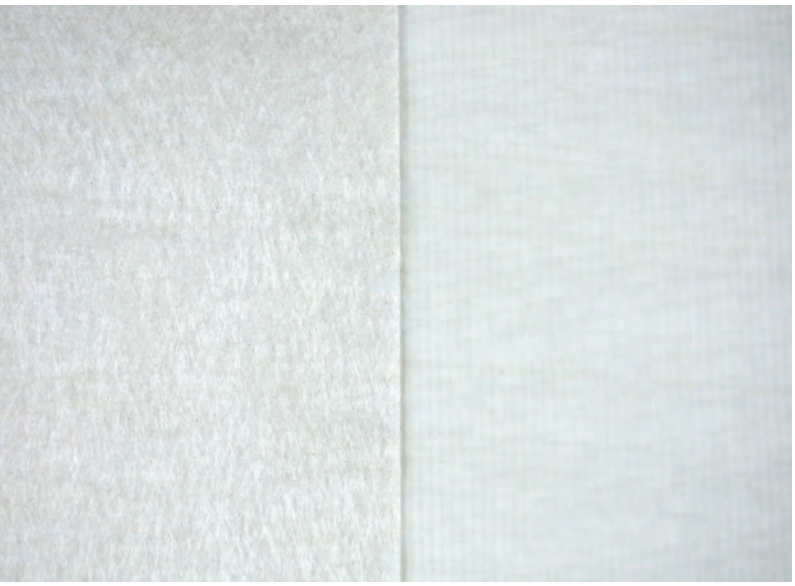
Acetic	30%
Sulfuric and Hydrochloric	13%

Temperature Effect

Stable	248°F
Flexible	13°F

Geo-Seal® Vapor Intrusion Barrier

Geo-Seal® BOND



Product Description

Basic Use: Geo-Seal BOND has been specifically designed to be high performance protection course for application over Geo-Seal CORE in Geo-Seal system assemblies. In addition to the advantages found by combining a high density polyethylene film (HDPE) and geotextile, Geo-Seal BOND mechanically bonds that is the system to the concrete slab.

Composition: Geo-Seal BOND is an extremely durable, high strength protection course made from the lamination of HDPE film and nonwoven polypropylene geotextile fabric.

Benefits

- Forms a mechanical bond directly to concrete
- Leverages the strengths of two materials to maximize performance and puncture resistance
- Minimal seams with 12′ x 150′ rolls
- Provides a contrasting protection course that increases ability to identify post installation damage

Limitations

- Bonding to underlying Geo-Seal CORE layer might take longer in colder temperatures

Technical Data

Properties: See physical properties table

Coverages: One roll covers 1800 square feet, not including overlaps or waste

Specification Writer: Contact EPRO before writing specifications on this product. Test information available upon request.

Installation

Preparation: Please refer to manufacturer's specifications for substrate requirements. Rolls should be inspected for damage prior to application. Geo-Seal BOND may be applied over a nominally cured Geo-Seal CORE membrane.

Application: Should be applied in accordance with specific application guide specifications. Whenever possible, Geo-Seal BOND should be applied perpendicular to the underlying base course. Overlap all seams a minimum of 6″ with seam overlap detail per project specification.

Availability and Packaging

Contact a local EPRO installer or authorized applicator (www.eproinc.com).

Roll Size: 12′ x 150′ unfolded rolls, 108 lbs.

Warranty

Limited Warranty: EPRO Services, Inc. believes to the best of its knowledge that performance tables are accurate and reliable. EPRO warrants this product to be free from defects. EPRO makes no other warranties with respect to this product, express or implied, including without limitation the implied warranties of MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE. EPRO's liability shall be limited in all events to supplying sufficient product to repair the specific areas to which defective product has been applied. EPRO shall have no other liability, including liability for incidental or resultant damages, whether due to breach of warranty or negligence. This warranty may not be modified or extended by representatives of EPRO or its distributors.

Equipment

Seaming: AD-55 Sprayer, available through EPRO for application of Geo-Seal CORE in seam overlaps, or by hand using Geo-Seal CORE Detail.

Technical Services and Information

Complete technical services and information are available by contacting EPRO at 800.882.1896 or www.eproinc.com.

Geo-Seal® Vapor Intrusion Barrier

Geo-Seal® BOND

Typical Physical Properties

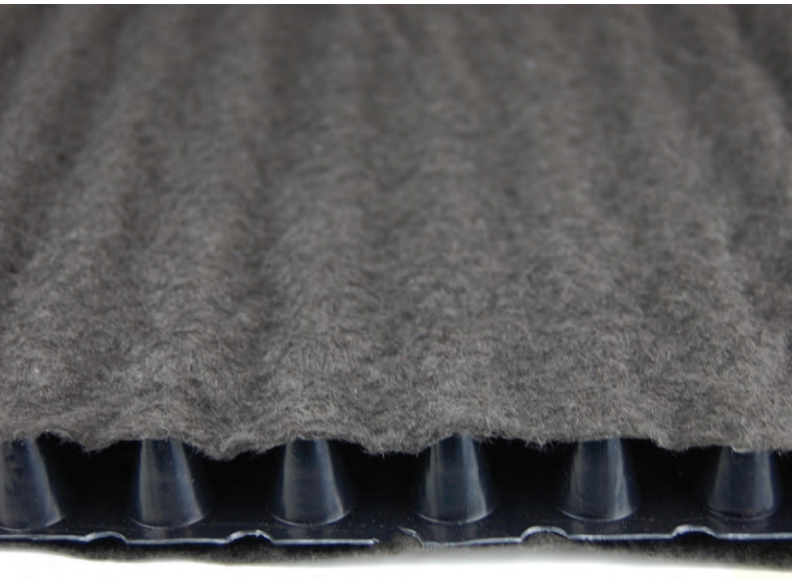
Physical Property	Test Method	Value
Film Material		HDPE
Film Color		White
Fabric Material		Non-woven Polypropylene
Fabric Color		White
Film Thickness		5 Mil
Composite Thickness		18 Mil
Tensile @ ULT	ASTM D 882	TD 32.0 lbs/in
		MD 37.3 lbs/in
Elongation @ ULT	ASTM D 882	TD 65.3%
		MD 51.0%
Dart Impact	ASTM D 1709	Method A >1070 grams
		Method B 894 grams
Modulus	ASTM D 882	TD 270.6 lbs/in
		MD 295.5 lbs/in
Elmendorf Tear	ASTM D 1922	TD 5,140 grams
		MD 5,260 grams
Puncture-Prop Tear	ASTM D 2582	TD 13,250 grams Sled: 1-lb
		MD 11,290 grams Sled: 1-lb
Beach Puncture Tear	ASTM D 751	TD 165 in-lbs
		MD 160 in-lbs
Water Permeance	ASTM E 96	0.11 perms (US)

Dimensions: 12’ x 150’
Weight: 108 pounds

Geo-Seal® Vapor Intrusion Barrier

Vapor-Vent

Vapor-Vent™ Vapor Collection System



Product Description

Basic Use: Vapor-Vent vapor collection system is a composite low profile pressure relief and collection system designed to mitigate the build up of methane gas and contaminated vapor under an overlying structure. Vapor-Vent is most commonly designed to operate passively, but may also be designed as an active system when conditions require.

Composition: Vapor-Vent features a lightweight, three-dimensional, highly flexible polypropylene core and a non-woven geotextile filter fabric. The filter fabric is bonded to the polypropylene core to prevent fine substrates, such as sand, from clogging the vent pipe.

Benefits

- Cost effective alternative to traditional trenched PVC or ADS pipe systems
- Placed directly below the barrier system to drastically reduce vapor accumulation under the structure
- Can operate as a passive system with the ablity to activate in the future

Limitations

- Not effective when constantly submerged
- Should be placed within permeable substrates

Technical Data

Properties: See physical properties table
Coverages: One roll covers 165 lineal feet. Radius of influence is 25', maximum spacing between Vapor-Vent runs is 50'. Vent riser locations should be identified by an environmental engineer prior to installation.

Specification Writer: Contact EPRO before writing specifications on this product. Geo-Seal system assemblies should be reviewed in order to meet project specific site conditions.

Installation

Preparation: Please refer to manufacturer's specifications for substrate requirements. Rolls should be inspected for cosmetic damage prior to application. Substrate must be compacted and inspected prior to installation, to make certain it is in accordance with manufacturer's requirements.

Application: Please refer to manufacturer's specifications. Installation of Vapor-Vent shall occur after the preparation of substrate and prior to the placement of the barrier system. Vapor-Vent end outs shall be used in transition to vertical vent risers as required.

Availability and Packaging

Contact EPRO sales representative for local distributors or authorized applicators (www.eproinc.com).

Roll: 165' x 12" x 1", 65 lbs.

Warranty

Limited Warranty: EPRO Services, Inc. believes to the best of its knowledge that performance tables are accurate and reliable. EPRO warrants this product to be free from defects. EPRO makes no other warranties with respect to this product, express or implied, including without limitation the implied warranties of MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE. EPRO's liability shall be limited in all events to supplying sufficient product to retreat the specific areas to which defective product has been applied. EPRO shall have no other liability, including liability for incidental or resultant damages, whether due to breach of warranty or negligence. This warranty may not be modified or extended by representatives of EPRO or its distributors.

Equipment

No special equipment is required.

Technical Services and Information

Complete technical services and information are available by contacting EPRO at 800.882.1896 or www.eproinc.com.

Geo-Seal® Vapor Intrusion Barrier

Vapor-Vent

Typical Physical Properties

Physical Property	Test Method	Vapor-Vent Poly	Value
Material		Polystyrene	HDPE
Comprehensive Strength	ASTM D 1621	9,000 lbs/ft^2	11,400 lbs/ft^2
In-plane flow (Hydraulic gradient-0.1)	ASTM D 4716	30 gpm/ft of width	30 gpm/ft of width
Chemical Resistance		N/A	Excellent
FABRIC PROPERTIES			
Grab Tensile Strength	ASTM D 4632	100 lbs	110 lbs
Puncture Strength	ASTM D 4833	65 lbs	30 lbs
Mullen Burst Strength	ASTM D 3786	N/A	90 PSI
AOS	ASTM D 4751	70 U.S. Sieve	50 U.S. Sieve
Flow Rate	ASTM D 4491	140 gpm/ft^2	95 gpm/ft^2
UV Stability (500 hours)	ASTM D 4355	N/A	70% Retained
DIMENSIONAL DATA			
Thickness		1 inch	1 inch
Standard Widths		12 inches	12 inches
Roll Length		165 ft	165 ft
Roll Weight		65 lbs	68 lbs

e.roll

Product Description

Basic Use: e.roll is a key component to EPRO's redundant field installed composite design concept and is a roller applied version of e.spray. It is designed to be used for system detailing, repairs, and in areas where the required clearance for e.spray cannot be achieved. e.roll is most commonly used in conjunction with e.poly to reinforce system penetrations, terminations, seams, cracks, and membrane transitions. e.roll is used on decks, over-excavated walls, blindside vertical walls, and underslab E.Series assemblies. e.roll can be applied to a wide range of materials/substrates, high density polyethylene (HDPE), polyolefin sheets, geotextile fabric, wood, metal, foam insulation, and concrete based surfaces (green concrete, shotcrete and concrete masonry units (CMU)).

Composition: e-roll is a medium viscosity water-based, polymer-modified anionic asphalt emulsion, which exhibits exceptional bonding, elongation and waterproofing characteristics.

Benefits

- e.roll is a single component material, no additional blending is required
- Provides the ability to easily detail and repair assemblies without the use of a spray pump
- Non-toxic, non-hazardous, non-flammable, and VOC free
- Forms both a mechanical and ionic bond directly to concrete
- Application to damp substrates is acceptable

Limitations

- Surfaces shall be free of dirt and debris
- Material should be stored above 40°F and not allowed to freeze
- Not a traffic bearing surface, additional protection required
- Must not be applied to ponded water
- Cold temperatures will prolong cure time

Technical Data

Shelf life: 1 year. The ability to apply the product beyond its estimated shelf life is dependent on storage conditions and homogeneity of the product. Storing material in an enclosed temperature controlled environment that maintains a minimum ambient temperature of 65° Fahrenheit will likely extend the shelf life beyond 1 year.

Properties: See physical properties table

Specification Writer: Contact EPRO before writing specifications on this product. E.Series system assemblies should be reviewed in order to meet project specific site conditions.

Installation

Surface Preparation: All surfaces shall be prepared in accordance to manufacturer's specifications. In general, this means all surfaces shall be uniform, free of loose materials, and surface contaminants. Contaminant and loose debris shall be removed prior to application by suitable methods. A test should always be done prior to application using the same cleaning preparation and application procedures to be used on the project.

Application: Please refer to manufacturer's specifications. e.roll shall be spray applied to the specified nominal mil thickness. e.roll may be applied by roller or brush.

Cleaning: Clean all tools, hoses, spray guns, and tips with kerosene and/or equivalent.

Availability and Packaging

Contact EPRO sales representative for local distributors or authorized applicators (www.eproinc.com).

e.roll is available in 5 gallon or 1 gallon containers.

Warranty

Limited Warranty: EPRO Services, Inc. believes to the best of its knowledge that performance tables are accurate and reliable. EPRO warrants this product to be free from defects. EPRO makes no other warranties with respect to this product, express or implied, including without limitation the implied warranties of MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE. EPRO's liability shall be limited in all events to supplying sufficient product to retreat the specific areas to which defective product has been applied. EPRO shall have no other liability, including liability for incidental or resultant damages, whether due to breach of warranty or negligence. This warranty may not be modified or extended by representatives of EPRO or its distributors.

e.roll

Equipment

No special equipment is necessary.

Technical Services and Information

Complete technical services and information are available by contacting EPRO at 800.882.1896 or www.eproinc.com.

This product was formally known as Ecoline-R.

Typical Physical Properties

Physical Property	Test Method	Value
Color		Brown to Black
Solvent Content		No Solvents
Shelf Life		6 months
Tensile Strength	ASTM D412	32 psi
Elongation	ASTM D412	3860%
Resistance to Decay	ASTM E154 SECTION 13	9% Perm Loss
Accelerated Aging	ASTM G23	No Effect
Moisture Vapor Transmission	ASTM E96	0.071 g/ft²/hr
Hydrostatic Water Pressure	ASTM D751	28 psi
Perm Rating	ASTM E96	0.17 perms
Methane Transmission Rate	ASTM D14334	0
Adhesion to Concrete & Masonry	ASTM C836	1 lbf/inch
Hardness	ASTM C836	85
Crack Bridging	ASTM C836	No Cracking
Low Temp. Flexibility	ASTM C836-00	No Cracking at -20°C

Packaging: 5 gallon bucket

e.poly

Product Description

Basic Use: e.poly is a polyester fabric that is designed to reinforce membrane terminations, transitions, penetrations, seams, and general repair areas. Used in every E.Series assembly, e.poly is installed between two layers of e.roll or e.spray.

Composition: e.poly is a 100% polyester textile material composed of staple fibers hydraulically entangled.

Benefits

- Excellent conformability and elongation
- Exceptional tear resistance and high tensile strength
- Open weave allows complete saturation and integration

Limitations

- Not suitable for expansion joints or areas where movement is desired

Technical Data

Properties: See physical properties table

Coverages: 6", 12" and 40" rolls cover 150, 300, and 1,080 square feet, respectively

Specification Writer: Contact EPRO before writing specifications on this product. E.Series system assemblies should be reviewed in order to meet project specific site conditions.

Installation

Preparation: Please refer to manufacturer's specifications for substrate requirements. Application of e.poly should be done when weather conditions meet the requirement of e.roll or e.spray.

Installation: Please refer to manufacturer's specifications. Install specified thickness of e.roll or e.spray and immediately embed e.poly into the initial layer of e.roll or e.spray. Once firmly pressed into the uncured membrane, fully saturate with additional layer of e.roll or e.spray to the specified thickness.

Availability and Packaging

Contact EPRO sales representative for local distributors or authorized applicators (www.eproinc.com).

Roll: 6" x 300', 12" x 300', and 40" x 324' rolls are available

Warranty

Limited Warranty: EPRO Services, Inc. believes to the best of its knowledge that performance tables are accurate and reliable. EPRO warrants this product to be free from defects. EPRO makes no other warranties with respect to this product, express or implied, including without limitation the implied warranties of MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE. EPRO's liability shall be limited in all events to supplying sufficient product to retreat the specific areas to which defective product has been applied. EPRO shall have no other liability, including liability for incidental or resultant damages, whether due to breach of warranty or negligence. This warranty may not be modified or extended by representatives of EPRO or its distributors.

Equipment

No special equipment is needed.

Technical Services and Information

Complete technical services and information are available by contacting EPRO at 800.882.1896 or www.eproinc.com.

This product was formally known as Polyester.

e.poly

Typical Physical Properties

Physical Property	Test Method	Value
Weight		3 oz.
Bursting Strength	ASTM D3786	177 lbs.
Tensile Strength	ASTM D1682	57.1 psi
Tear Strength	ASTM D1117	16.1 lbs
Elongation	ASTM D1682	62.0%
Conformability		Excellent
Ease of saturation		Excellent

Dimensions: 6" x 300', 12" x 300', and 40" x 324' rolls are available

Applications:	**Slab On Grade Gas Containment Composite Vapor Intrusion Barrier**
Spec Version:	**EproGS100.VB.v1.5.08.20gs**
Date issued:	**September 22, 2020**
Note:	**This specification may be superseded at any time. Check eproinc.com for the most up to date version of this specification.**

SECTION 02 56 16
GAS CONTAINMENT
SECTION 02 56 19.13
FLUID APPLIED GAS BARRIER

Geo-Seal 100
Composite Vapor Intrusion Barrier
Guide Specification

Slab On Grade

Tested and proven highly effective against VOC vapor, such as chlorinated solvents and petroleum hydrocarbons, as well as methane gas, Geo-Seal 100 earns full approval with numerous federal and state regulatory agencies. Nearly 100 mils thick, Geo-Seal 100 can withstand the rigors of modern-day construction, while also providing some of the lowest VOC diffusion rates in the industry. This guide specification has been prepared according to the principles established in the Manual of Practice published by the Construction Specification Institute.

Note: If areas will be subjected to water and/or hydrostatic conditions, contact EPRO for appropriate system recommendations.

For additional questions, your local EPRO technical representative can be contacted through: EPRO Services, Inc., Wichita KS; 1.800.882.1896; www.eproinc.com.

GEO-SEAL 100 SLAB ON GRADE COMPOSITE VAPOR INTRUSION BARRIER SPECIFICATION
VERSION 1.5

SECTION 02 56 16 – GAS CONTAINMENT
SECTION 02 56 19.13 – FLUID-APPLIED GAS BARRIER

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the contract, including general and supplementary conditions, and Division 1 specification section, apply to this section.

1.2 SECTION INCLUDES

A. The installation of materials designed to provide vapor intrusion protection when installed per project specification, this section covers the methane mitigation and vapor intrusion membrane, along with the following:

1. Surface preparation and substrate treatment
2. Auxiliary materials
3. Prefabricated drainage mat (if applicable)
4. Foundation drain (if applicable)

1.3 RELATED SECTIONS

A. Section 02 24 00: Environmental Assessment

B. Section 02 32 00: Geotechnical Investigation

C. Section 03 15 00: Concrete Accessories

D. Section 03 30 00: Cast-in-Place Concrete

E. Section 03 40 00: Precast Concrete

F. Section 07 90 00: Joint Protection

G. Section 31 30 00: Earthwork Methods

H. Section 33 41 00: Subdrainage

1.4 PERFORMANCE REQUIREMENTS

A. General: Provide a vapor mitigation system that prevents the passage of methane gas, contaminant vapors including chlorinated solvents and petroleum hydrocarbons, and complies with the physical requirements as demonstrated by testing performed by an independent testing agency.

1.5 SUBMITTALS

A. Product Data: Submit manufacturer's printed technical data, tested physical and performance properties, instructions for evaluating, preparing, and treating substrates, and installation instructions.

B. Shop Drawings: Project specific drawings showing locations and extent of vapor intrusion barrier system, details for overlaps, penetrations, transitions, and termination conditions.

C. Samples: Submit two standard size samples of the each of the following:

1. Individual components of the specified composite vapor intrusion barrier system.

D. Applicator Certification: Submit written confirmation at the time of bid that applicator is currently approved by the membrane manufacturer.

1.6 QUALITY ASSURANCE

A. Applicator Qualifications: System applicator shall be an EPRO Authorized Applicator who is trained to perform work that in accordance with EPRO standards and policies.

B. Manufacturer Qualification: Obtain vapor intrusion barrier materials and system components from a single manufacturer source, EPRO. Manufacturer must have 20 years of experience in the manufacture of vapor intrusion barrier systems.

C. Third Party Inspection: Independent inspection of the composite system installation may be required based on project conditions and desired warranty coverage, or as required based on local building code/government agency jurisdiction. Inspection reports shall be submitted directly to the composite membrane manufacturer and made available to other parties per the owner’s direction.

D. Pre-Construction Meeting: A meeting shall be held prior to application of the barrier system to assure proper substrate preparation, confirm installation conditions, and any additional project specific requirements. Attendees of the meeting shall include, but are not limited to the following:

1. EPRO authorized applicator
2. Third party inspector
3. General contractor
4. Owner’s representative
5. Architect and Engineer
6. Concrete/Shotcrete contractor
7. Rebar contractor
8. All appropriate related trades

E. Field Sample: Apply vapor intrusion barrier system field sample to 100 ft^2 (9.3 m^2) of each assembly to demonstrate proper application techniques and standard of workmanship.

1. Notify composite membrane system manufacturer representative, architect, certified inspector, and other appropriate parties one week in advance of the dates and times when field sample will be prepared.

2. If architect and certified inspector determines that field sample does not meet requirements; reapply composite membrane system until field sample is approved.

3. Retain and maintain approved field sample during construction in an undisturbed condition as a standard for judging the completed composite membrane system. An undamaged field sample may become part of the completed work.

1.7 DELIVERY, STORAGE AND HANDLING

A. Delivery: Deliver materials to site labeled with manufacturer's name, product brand name, material type, and date of manufacture. Upon the arrival of materials to the jobsite, inspect materials to confirm material has not been damaged during transit.

B. Storage: Proper storage of onsite materials is the responsibility of the certified applicator. Consult product data sheets to confirm storage requirements. Storage area shall be clean, dry, and protected from the elements. If ambient air temperatures are expected to fall below 40°F, precautions will need to be taken to protect any emulsion product from near freezing temperatures. Protect stored materials from direct sunlight.

C. Disposal: Remove and replace any material that cannot be properly applied in accordance with local regulations and specification section 01 74 19.

1.8 PROJECT CONDITIONS

A. Substrate Review: Substrates shall be reviewed and accepted by the certified applicator and independent inspector prior to application.

B. Penetrations: **All plumbing, electrical, mechanical, and structural items to be passing through the composite membrane system shall be properly spaced, positively secured in their proper positions, and appropriately protected prior to system application and throughout the construction phase.** Braided grounding rods are not allowed to pass through the vapor intrusion barrier.

C. Reinforcement Steel and Concrete Forms: Vapor intrusion barrier shall be installed before placement of reinforcing steel. When penetrations post system installation occurs, it is the responsibility of the general contractor to notify the vapor intrusion barrier applicator to immediately make repairs prior to the placement of overburden, this includes the use of solid plastic “VaporStakes” used to secure concrete forms.

D. Clearance: Minimum clearance of 24 inches is required for application of spray applied polymer modified asphalt, ***Geo-Seal CORE***. For areas with less than 24-inch clearance, the product may be applied by hand using ***Geo-Seal CORE Detail***.

E. Overspray: Protect all adjacent areas not receiving the barrier application. Masking is necessary to prevent unwanted overspray from adhering to, or staining, areas not receiving the membrane. Once ***Geo-Seal CORE*** adheres to a surface it is extremely difficult to remove.

F. Weather Limitations: Perform work only when existing and forecast weather conditions are within manufacturer's recommendations.

1. Spray Applied Polymer Modified Asphalt Membrane: Minimum ambient temperature should be 40°F (7°C) and rising. For applications temperatures below 38°F, but greater than +19ºF/-7ºC, special equipment and material handling is required. Substrate shall be clean and free from standing moisture.

2. EPRO applicators reserve the right not to install product when application conditions might be within manufactures acceptance, but ambient conditions may limit a successful application.

1.9 WARRANTY

A. Special Warranty: Submit a written warranty signed by vapor intrusion barrier manufacturer agreeing to replace system materials that do not conform to manufacturer's published specifications or are deemed to be defective. Warranty does not include failure of vapor intrusion barrier due to failure of soil substrate prepared and treated according to requirements or formation of new joints and cracks in the concrete that exceed 1/8 inch (3.175 mm) in width.

1. Warranty Period: 1 years after date of substantial completion. Longer warranty periods are available upon request.

2. Coverage: Manufacturer will guarantee that the material provided is free of defects for the warranty period.

B. Additional Warranty Options: Upgraded warranties are available by contacting the manufacturer. These warranties may have additional requirements and approval must be granted in accordance to the manufacturer's warranty requirements. Additional warranty options include:

1. Standard Labor and Material (Geo-Seal L&M): Manufacturer will provide non-prorated coverage for the warranty term, agreeing to repair or replace material that does not meet requirements or remain vapor tight.

2. Waterproofing Warranties: For below grade projects that require vapor intrusion barriers and below grade waterproofing for foundation walls, single source warranties are available from EPRO.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: EPRO Services, Inc. (EPRO), P.O. Box 347; Derby, KS 67037; Tel: (800) 882-1896; www.eproinc.com

B. Basis of Design: Geo-Seal 100 (96 mils) – ***Geo-Seal BASE***, ***Geo-Seal CORE*** (60 mils), ***Geo-Seal BOND***

C. Approved Alternate: E.Proformance (96 mils) – ***e.base 205***, ***e.spray*** (60 mils), ***e.shield 205***

D. City of Los Angeles Methane Approval: RR#25478, County of Los Angeles Approved

2.2 VAPOR INTRUSION BARRIER SYSTEM PHYSICAL PROPERTIES

A. The physical properties listed in this section reflect testing on the entire composite system. Physical properties of the individual system composite can be found in Specification Section 2.3.

1. **Geo-Seal 100 Vapor Intrusion Barrier** consists of a 60 mil layer of ***Geo-Seal CORE*** (polymer modified asphaltic membrane) sandwiched between two HDPE geocomposite membranes ***Geo-Seal BASE*** layer and ***Geo-Seal BOND*** protection sheet. ***Geo-Seal*** is ideal for moisture protection on sites that may also contain methane gas, contaminated soil, or contaminated groundwater.

PROPERTIES	TEST METHOD	VALUE
Tensile Strength	ASTM D412	662 psi
Elongation	ASTM D412	45%
Adhesion to Concrete	ASTM D903	8 lbf/in
Puncture Resistance	ASTM D4833	139 lbs
Hydrostatic Head Resistance	ASTM D5385	100 psi (231 ft)
Water Vapor Transmission	ASTM E96	.033 perms
Soil Burial	ASTM D4068	Passed
Heat Aging	ASTM D4068	Passed
Environmental Stress Cracking	ASTM D1693	Passed
Oil Resistance	ASTM D543 & D412	Passed
Methane Transmission	ASTM D1434	Passed
TCE Diffusion Rate	Geokinetics	7.1×10^{-19} m^2/sec
Benzene Diffusion Rate	Geokinetics	7.1×10^{-19} m^2/sec

2.3 VAPOR INTRUSION BARRIER MATERIALS

A. Polymer Modified Asphalt

1. ***Geo-Seal CORE***: ***Geo-Seal CORE*** is a non-hazardous, low-viscosity, water-based, anionic asphalt emulsion modified with a blend of synthetic polymerized rubbers and proprietary additives. ***Geo-Seal CORE*** is highly stable during transit and when properly stored but becomes highly reactive during the spray application to form a rapidly cured membrane with exceptional bonding, elongation, and hydrophobic characteristics.

PROPERTIES	TEST METHOD	VALUE
Color		Brown to Black
Solvent Content		No Solvents
Shelf Life		6 months
Tensile Strength	ASTM 412	32 psi
Elongation	ASTM 412	4140%
Resistance to Decay	ASTM E 154 Section 13	4% Perm Los
Accelerated Aging	ASTM G 23	No Effect
Moisture Vapor Transmission	ASTM E 96	0.026 g./sq. ft./hr.
Hydrostatic Water Pressure	ASTM D 751	26 psi
Perm Rating	ASTM E 96 (US Perms)	0.21
Methane Transmission Rate	ASTM D 1434	0
Adhesion to Concrete & Masonry	ASTM C 836 & C 704	20 lbf./inch
Adhesion to HDPE	ASTM C 836	28.363 lbf./inch
Adhesion to Polypropylene Fabric	ASTM C 836	31.19 lbf./inch
Hardness	ASTM C 836	80

Crack Bridging	ASTM C 836-00	No Cracking
Low Temp. Flexibility		No Cracking at -20° C
Packaging: 55 gallon drum, 275 gallon tote, 330 gallon tote		

2. ***Geo-Seal CORE Detail***: ***Geo-Seal CORE Detail*** is single component, medium viscosity, water-based, polymer-modified anionic asphalt emulsion, which exhibits exceptional bonding, elongation and hydrophobic characteristics.

PROPERTIES	TEST METHOD	VALUE
Color		Brown to Black
Solvent Content		No Solvents
Shelf Life		6 months
Tensile Strength	ASTM 412	32 psi
Elongation	ASTM 412	3860%
Resistance to Decay	ASTM E 154 SECTION 13	9% Perm Loss
Accelerated Aging	ASTM G 23	No Effect
Moisture Vapor Transmission	ASTM E 96	0.071 g/sq. ft./hr.
Hydrostatic Water Pressure	ASTM D 751	28 psi
Perm Rating	ASTM E 96 (US Perms)	0.17
Methane Transmission Rate	ASTM D 14334	0
Adhesion to Concrete & Masonry	ASTM C 836	1 lbf/inch
Hardness	ASTM C 836	85
Crack Bridging	ASTM C 836	No Cracking
Low Temp. Flexibility	ASTM C 836-00	No Cracking at -20° C
Packaging: 5 gallon bucket		

B. Geocomposite Base Sheet

1. **Geo-Seal BASE**: **Geo-Seal BASE** is a base course comprised of an HDPE film and non-woven polypropylene geotextile fabric. The film is cross laminated to a create ridges that enhance the bond between the **Geo-Seal BASE** and **Geo-Seal CORE**.

PROPERTIES	TEST METHOD	VALUE
Film Material		HDPE
Film Color		Gray
Fabric Material		Non-woven Polypropylene
Fabric Color		White
Film Thickness		5 Mil
Composite Thickness		18 Mil
Tensile @ ULT	ASTM D 882	TD 32.0 lbs/in
		MD 37.3 lbs/in
Elongation @ ULT	ASTM D 882	TD 65.3%
		MD 51.0%
Dart Impact	ASTM D 1709	Method A >1070 grams
		Method B 894 grams
Modulus	ASTM D 882	TD 270.6 lbs/in
		MD 295.5 lbs/in
Elmendorf Tear	ASTM D 1922	TD 5,140 grams
		MD 5,260 grams
Puncture-Prop Tear	ASTM D 2582	TD 13,250 grams Sled: 1-lb
		MD 11,290 grams Sled: 1-lb
Beach Puncture Tear	ASTM D 751	TD 165 in-lbs
		MD 160 in-lbs

Water Permeance	ASTM E 96	0.11 perms (US)
Dimensions: 12' x 150'		
Weight: 108 pounds		

C. Geocomposite Protection Course

1. **Geo-Seal BOND: Geo-Seal BOND** is an extremely durable, high strength protection course made from the lamination of HDPE film and nonwoven polypropylene geotextile fabric.

PROPERTIES	TEST METHOD	VALUE
Film Material		HDPE
Film Color		White
Fabric Material		Non-woven Polypropylene
Fabric Color		White
Film Thickness		5 Mil
Composite Thickness		18 Mil
Tensile @ ULT	ASTM D 882	TD 32.0 lbs/in
		MD 37.3 lbs/in
Elongation @ ULT	ASTM D 882	TD 65.3%
		MD 51.0%
Dart Impact	ASTM D 1709	Method A >1070 grams
		Method B 894 grams
Modulus	ASTM D 882	TD 270.6 lbs/in
		MD 295.5 lbs/in
Elmendorf Tear	ASTM D 1922	TD 5,140 grams
		MD 5,260 grams
Puncture-Prop Tear	ASTM D 2582	TD 13,250 grams Sled: 1-lb
		MD 11,290 grams Sled: 1-lb
Beach Puncture Tear	ASTM D 751	TD 165 in-lbs
		MD 160 in-lbs
Water Permeance	ASTM E 96	0.11 perms (US)
Dimensions: 12' x 150'		
Weight: 108 pounds		

2.4 AUXILIARY MATERIALS

A. General: All accessory products shall be provided by the specified vapor intrusion barrier manufacturer. Auxiliary products used in lieu of, or in addition to, the manufactures products must be approved in writing by EPRO prior to installation.

B. Reinforcement Fabric: Manufacturer's polyester fabric, ***Geo-Seal Reinforcement Fabric*** is available in 6 inch, 12 inch, and 40 inch widths.

C. Detailing Material: ***Geo-Seal CORE Detail***, a roller applied, water based, high viscosity, polymer modified asphaltic material.

D. Backer Rod: Closed cell polyethylene foam

E. Termination Bar: ***e.term hd***, or approved alternate

PART 3 - EXECUTION

3.1 EXAMINATION

A. Comply with project documents, manufacturer's product information, including product application and installation guidelines, pre-job punch list, as well as, manufacturer's shipping and storage recommendations.

3.1.2 SURFACE PREPARATION

A. The general contractor shall engage the certified vapor intrusion barrier contractor and certified inspector to ensure surfaces are prepared in accordance with manufacturer's instructions. Unless, explicitly stated in the contract documents, the vapor intrusion barrier contractor is not responsible for surface preparation.

B. Examine all substrates, areas, and conditions under which the composite membrane system will be installed, applicator and inspector must be present. Do not proceed with installation until unsatisfactory conditions have been corrected and surface preparation requirements have been met. If conditions exist that are not addressed in this section, notify inspector and contact EPRO for additional clarification.

C. Soil and Sand Substrates: Native soil and sand substrates shall be uniformly compacted to meet structural and building code requirements. All surfaces shall be free from protrusions and debris that may compromise the membrane system. Free standing water must be removed prior to application.

D. Aggregate Substrates: Aggregate substrates shall be compacted to meet structural and building code requirements and then rolled flat to provide a uniform substrate. ¾ inch minus aggregate with no more than one fractured face is recommended, but other aggregates substrates may be approved by the manufacturer provided they do not create sharp angular protrusions that may compromise the vapor intrusion system.

E. Working Slab: Mud slab, rat slab, or other concrete working slab shall have a uniform plane with a light broom or light trowel finish.

F. Concrete Surfaces: Clean and prepare concrete surface to manufacturer's recommendations. In general, only apply the Geo-Seal CORE material to dry, clean and uniform concrete substrates with a light trowel, light broom, or equivalent finish.

G. Cast-in-Place or Shotcrete Walls: Application to green concrete is acceptable provided the substrate is prepared in accordance with manufacturer's specifications and published instructions.

1. Provide clean, dust-free, and dry substrate for vapor intrusion barrier application.

2. Surfaces shall be power washed to remove grease, oil, form release agents, or any other penetrating contaminants from the concrete.

3. Remove all fins, ridges, and other protrusions.

4. Fill honeycomb, aggregate pockets, tie holes, and other voids with hydraulic cement, or rapid-set grout.

3.2 VAPOR INTRUSION BARRIER INSTALLATION

A. General: The underslab vapor intrusion system shall be installed under strict accordance with the manufacturer's guidelines and project specifications.

3.2.2 GEOCOMPOSITE BASE COURSE – GEO-SEAL BASE

A. Whenever possible roll out ***Geo-Seal BASE***, geotextile side facing down, in the same direction over the substrate. When multiple pours will occur, extend the ***Geo-Seal BASE*** a minimum of 2 feet past the pour joint.

B. Overlap ***Geo-Seal BASE*** a minimum of 6 inches.

C. At the seam overlap, peel back the top layer of ***Geo-Seal BASE*** and apply 30 mils into the overlapping seam, making certain to apply ***Geo-Seal CORE*** to both the top of the bottom sheet and the bottom of the top sheet. Embed the top sheet into the bottom sheet.

D. Visually verify there are no gaps/fish-mouths in seams.

3.2.3 TERMINATION SEQUENCE

A. System Termination: The termination process is appropriate for terminating the membrane onto exterior footings, pile caps, interior footings, and grade beams. When terminating the membrane to stem walls or vertical surfaces the same process should be used.

1. Concrete surfaces that are not a light trowel, light broom or equivalent finish, will need to be repaired.

2. Terminations on horizontal and vertical surfaces should extend 6" onto the termination surface. Job specific conditions may prevent a 6" termination. In these conditions exist, contact manufacturer for recommendations.

3. Apply 60 mils of ***Geo-Seal CORE*** to the terminating surface and then embed the ***Geo-Seal BASE*** layer by pressing it firmly into the ***Geo-Seal CORE*** layer.

4. Apply 60 mils of ***Geo-Seal CORE*** to the ***Geo-Seal BASE*** layer.

5. Apply the ***Geo-Seal BOND*** layer and apply a final 60 mil seal of the ***Geo-Seal CORE*** layer over the edge of the termination. For further clarification, refer to the termination detail provided by manufacturer.

3.2.4 SEALING OF PENETRATIONS

A. Sealing of Standard Pipe Penetrations: Prepare membrane penetrations so they are free of any material that will inhibit a direct bond to the penetration surface: foam, insulation, protective coatings, etc.

1. Trim ***Geo-Seal BASE*** to within 1/8 inch of the penetration.

2. Apply ***Geo-Seal CORE Detail*** 3 inches horizontally and 3 inches vertically around the base of the penetration.

3. Embed ***Geo-Seal Reinforcement Fabric*** reinforcement fabric 3 inches horizontally and 3 inches vertically around the base of the penetration.

4. Apply a second layer of ***Geo-Seal CORE Detail*** to reinforcement fabric until the reinforcement fabric is fully saturated. Secure ***Geo-Seal Reinforcement Fabric*** reinforcement fabric to penetration with a cable tie. For further clarification, refer to the termination detail provided by manufacturer.

3.2.5 POLYMER MODIFED ASPHALT MEMBRANE – GEO-SEAL CORE

A. Mask off adjoining surfaces where unwanted ***Geo-Seal CORE*** polymer modified asphalt membrane may be exposed on finished surfaces or impact other construction trades.

B. Commence application of ***Geo-Seal CORE*** polymer modified asphalt when ambient air temperatures are within manufacturer recommendations.

C. Surfaces that will receive the membrane must be clean and free from standing moisture.

D. Start installing ***Geo-Seal CORE*** in presence of approved 3rd party inspector or required city inspector.

E. Apply one application of ***Geo-Seal CORE*** membrane in accordance to manufacturer's instructions in order to obtain a seamless membrane with a minimum dry film thickness of 60 mils (1.5 mm).

F. Apply ***Geo-Seal CORE/Geo-Seal CORE Detail*** in and around penetrations and cavities to ensure the formation of monolithic seal around all penetrations.

G. Apply ***Geo-Seal CORE/Geo-Seal CORE Detail*** to prepared wall terminations and vertical surfaces to heights indicated according to manufacturer's recommendations and details. (if applicable)

H. Verify ***Geo-Seal CORE*** thickness of every 1000 ft^2 (93 m^2), or as required by specifying engineer.

3.2.6 GEOCOMPOSITE PROTECTION COURSE

A. Sweep off any water that has collected on the surface of the ***Geo-Seal CORE*** layer, prior to the placement of the ***Geo-Seal BOND*** layer. Install ***Geo-Seal BOND*** protection course perpendicular to the direction of the ***Geo-Seal BASE***.

B. Overlap ***Geo-Seal BOND*** seams a minimum of 6 inches.

C. Secure the seams of ***Geo-Seal BOND*** by applying 30 mils of ***Geo-Seal CORE*** in-between the seam overlap OR by applying a 30 mil layer of ***Geo-Seal CORE*** on top of the seam overlap, completely covering the seam overlap.

D. To expedite the construction process, the ***Geo-Seal BOND*** layer can be placed over the ***Geo-Seal CORE*** immediately after the spray application is complete, provided the ***Geo-Seal CORE*** mil thickness has been verified and smoke tested.

E. Do not penetrate the membrane system once it has been applied. If the vapor intrusion barrier is penetrated, immediately contact the applicator. Failure to bring the breach of the membrane to the applicators attention and not allowing adequate time to make the necessary repair will result in voidance of warranty.

3.3 FIELD QUALITY CONTROL

A. Smoke Test: Conduct smoke test on all underslab areas upon installation of the ***Geo-Seal BASE*** sheet, the sealing of all penetrations, and application of ***Geo-Seal CORE***. All deficient areas shall be noted, marked for repair, and repairs verified. Refer to manufacturer's smoke testing protocol for additional guidance.

1. For projects that will require a Labor and Material warranty, certified 3rd party inspector is required to inspect and verify the integrity of the membrane

B. Field Inspection: Contact EPRO for independent certification process.

C. Thickness Verification: Use a digital mil reading caliper to measure the thickness of coupon samples. To measure coupon samples correctly, the thickness of the systems ***Geo-Seal BASE*** layer must be measured in the field and taken into account when verifying coupon sample thicknesses. Mark coupon sample area for repair. Contact EPRO for coupon sampling protocol.

1. It should be noted that taking too many destructive samples can be detrimental to the membrane. Areas where coupon samples have been removed need to be marked for repair.

D. Take care to prevent contamination and damage during application stages and curing. Machinery, additional trades, or general construction shall NOT take place over the membrane until inspection is complete and concrete has been placed. The membrane shall always be properly protected when equipment is operated near the membrane.

E. Prevent damage during the placement of reinforcement steel and overburden.

F. Damage Observation: Prior to the placement of concrete a visual inspection to confirm no damage has occurred from construction traffic or during the placement of reinforcement steel is recommended.

3.4 REPAIRS

A. Underslab:

1. Inspect damaged area to determine which system components have been damaged.

2. If the ***Geo-Seal BASE*** sheet has not been compromised, patch only the areas that have been damaged by re-installing the damaged materials. The patch should extend 6 inches beyond the damaged area in all directions.

3. If the ***Geo-Seal BASE*** sheet has been breached but no additional system components have been installed, install a patch below and above the base sheet that extends 6 inches beyond the damaged area. Area shall be sealed using the specified method for sealing the base sheet.

4. If the damaged area has breached the base sheet and additional components have been installed over the ***Geo-Seal BASE*** sheet, the area will require removal of the overlying components to expose the ***Geo-Seal BASE*** sheet.

5. If the damage is less than 3 inches, the base sheet will need to be opened up to create a minimum 4-inch diameter circle to allow access

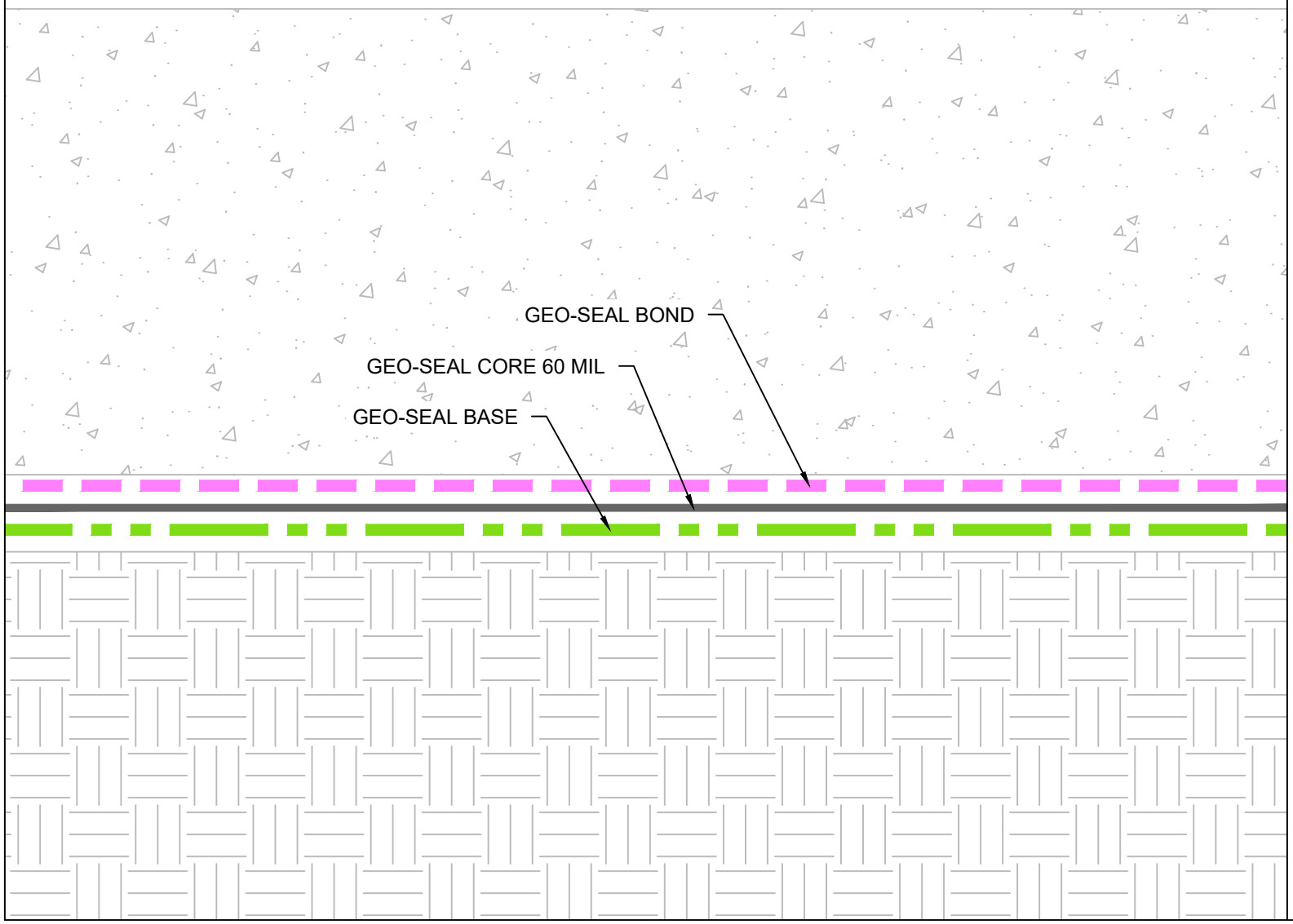
6. Place a minimum 8-inch diameter coupon under the base sheet and seal using the specified method for seaming the base sheet.

7. Apply a reinforcement detail of ***Geo-Seal CORE Detail*** and reinforcement fabric 6 inches beyond the edge of the repair area.

8. Apply the remaining layers as specified.

9. Refer to manufacturer's detail for further repair clarification.

End of Section



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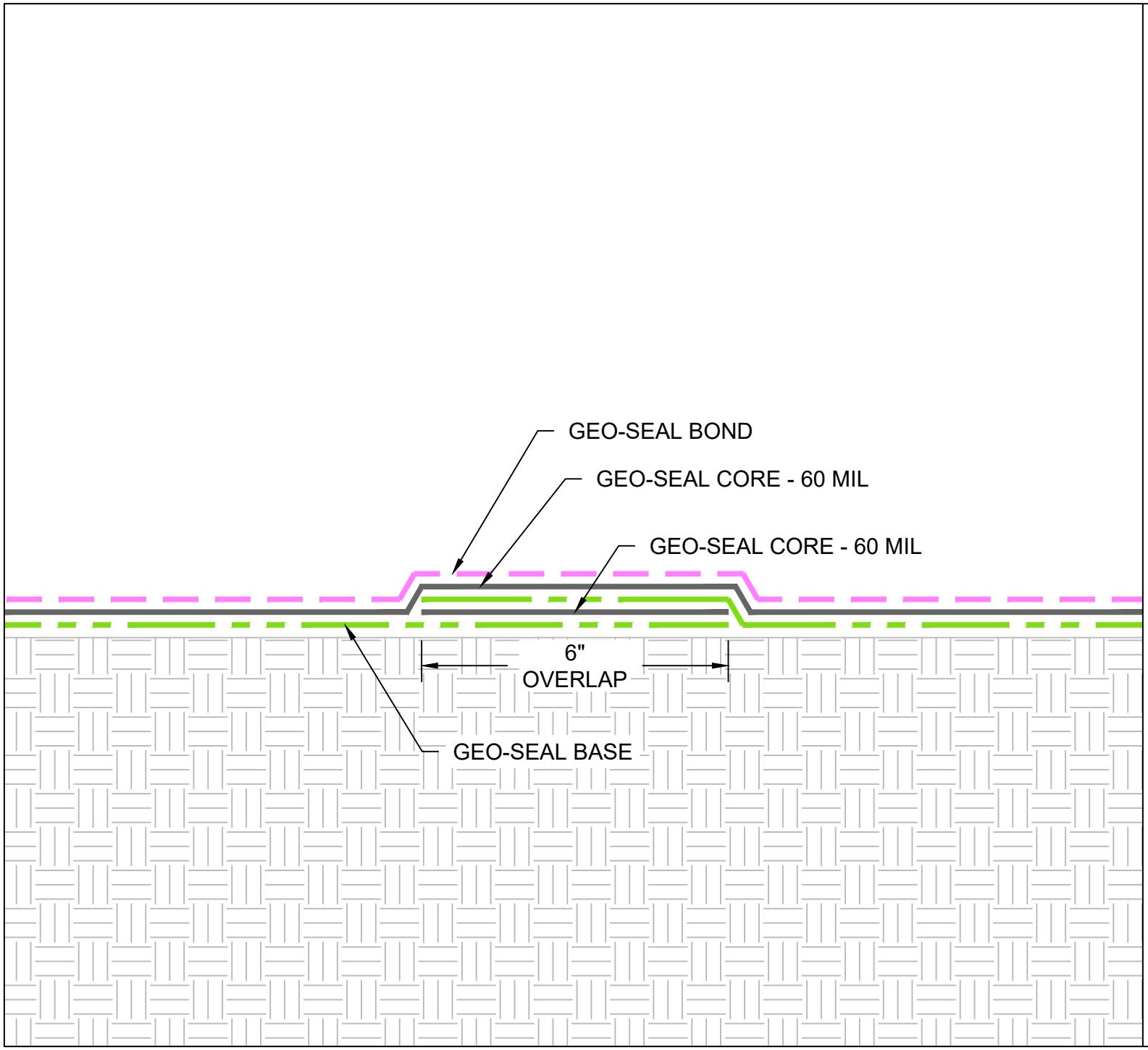
Geo-Seal® Vapor Intrusion Barrier

DRAWIMG NUMBER	40.100.1
SYSTEM NAME	GEO-SEAL 100
SYSTEM DESCRIPTION	STANDARD ASSEMBLY
DATE	08/31/2020
DRAWN BY	RJT
SCALE	NTS



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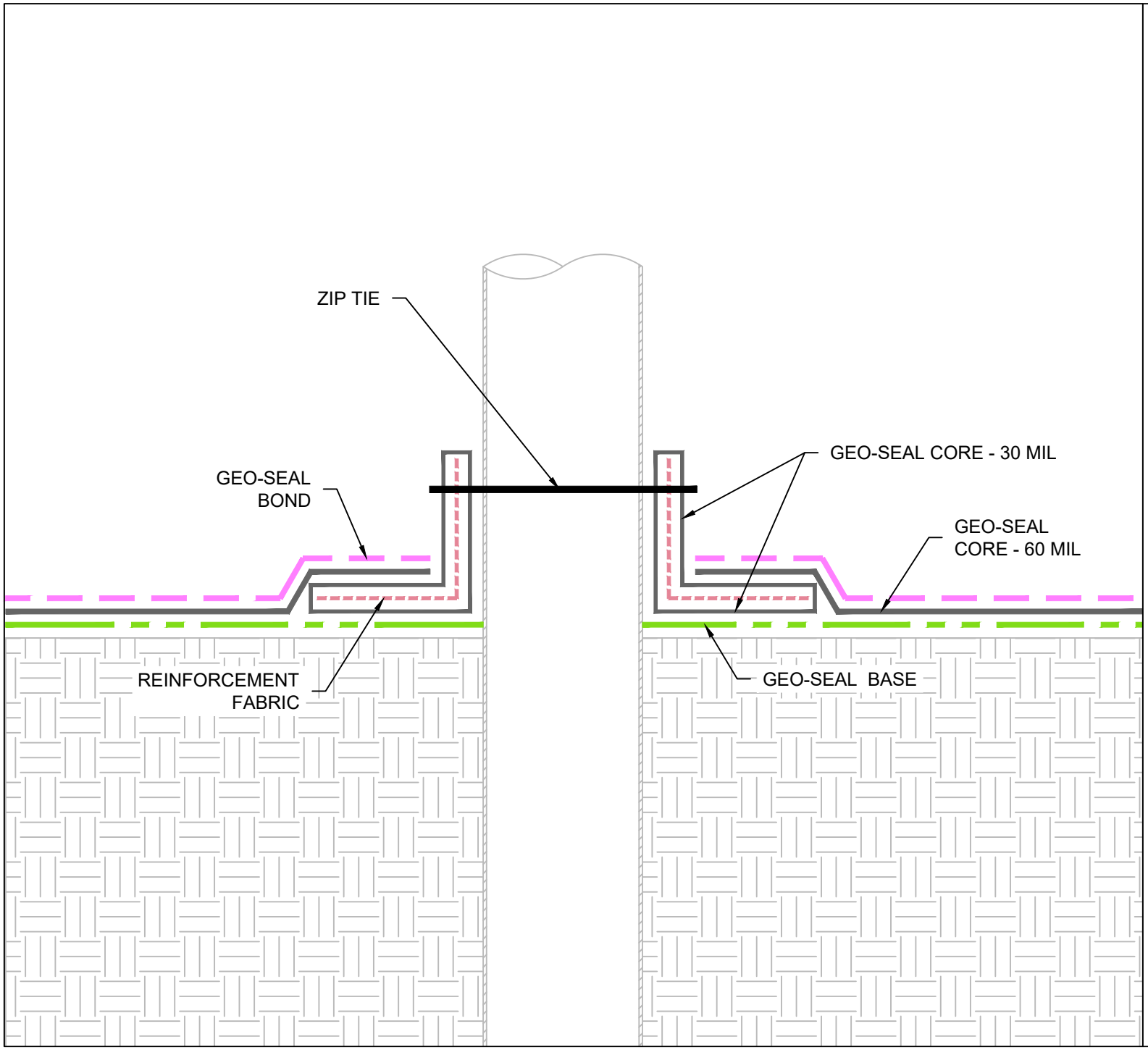
Geo-Seal® Vapor Intrusion Barrier

DRAWIMG NUMBER	40.110.4
SYSTEM NAME	GEO-SEAL 100
SYSTEM DESCRIPTION	BASE OVERLAP
DATE	08/31/2020
DRAWN BY	RJT
SCALE	NTS



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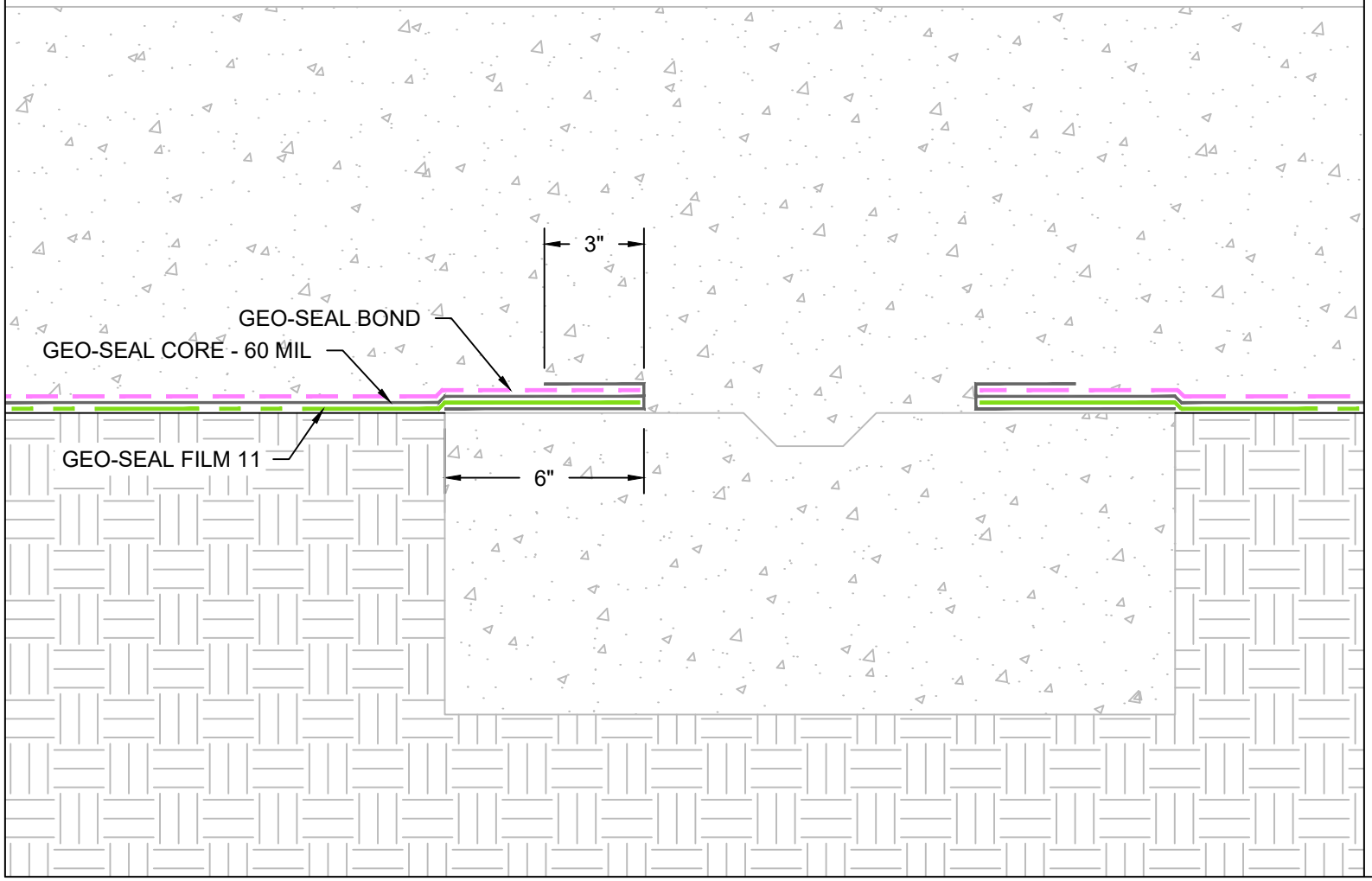
Geo-Seal® Vapor Intrusion Barrier

DRAWIMG NUMBER	40.120.1
SYSTEM NAME	GEO-SEAL 100
SYSTEM DESCRIPTION	UNDERSLAB PIPE PENETRATION
DATE	08/31/2020
DRAWN BY	RJT
SCALE	NTS



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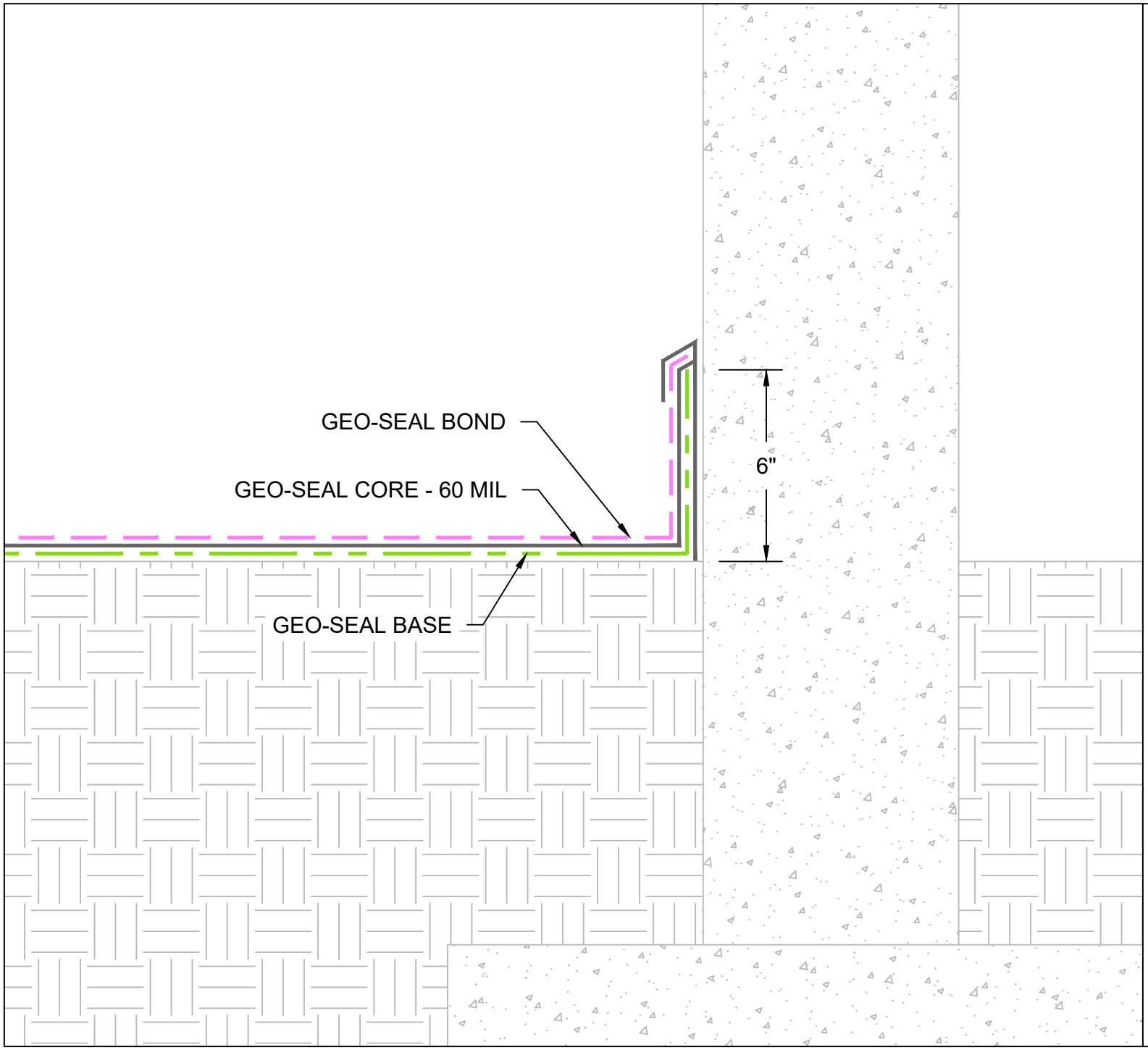
Geo-Seal® Vapor Intrusion Barrier

DRAWIMG NUMBER	
40.130.1	
SYSTEM NAME	
GEO-SEAL 100	
SYSTEM DESCRIPTION	
UNDERSLAB GRADE BEAM 6" TERMINATION	
DATE	
08/31/2020	
DRAWN BY	SCALE
RJT	NTS
PAGE 1 OF 1	



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Geo-Seal® Vapor Intrusion Barrier

DRAWIMG NUMBER	
40.131.1	
SYSTEM NAME	
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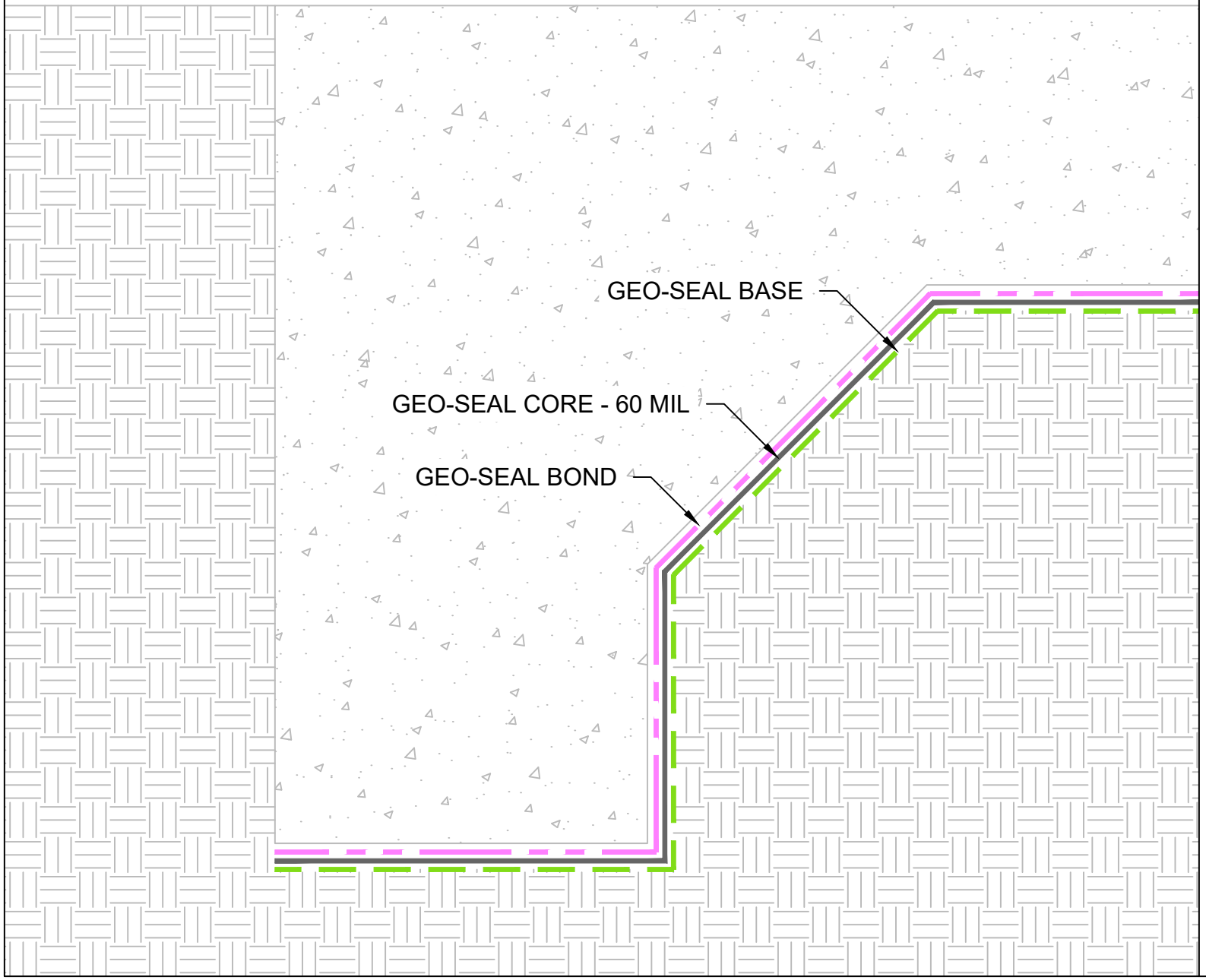

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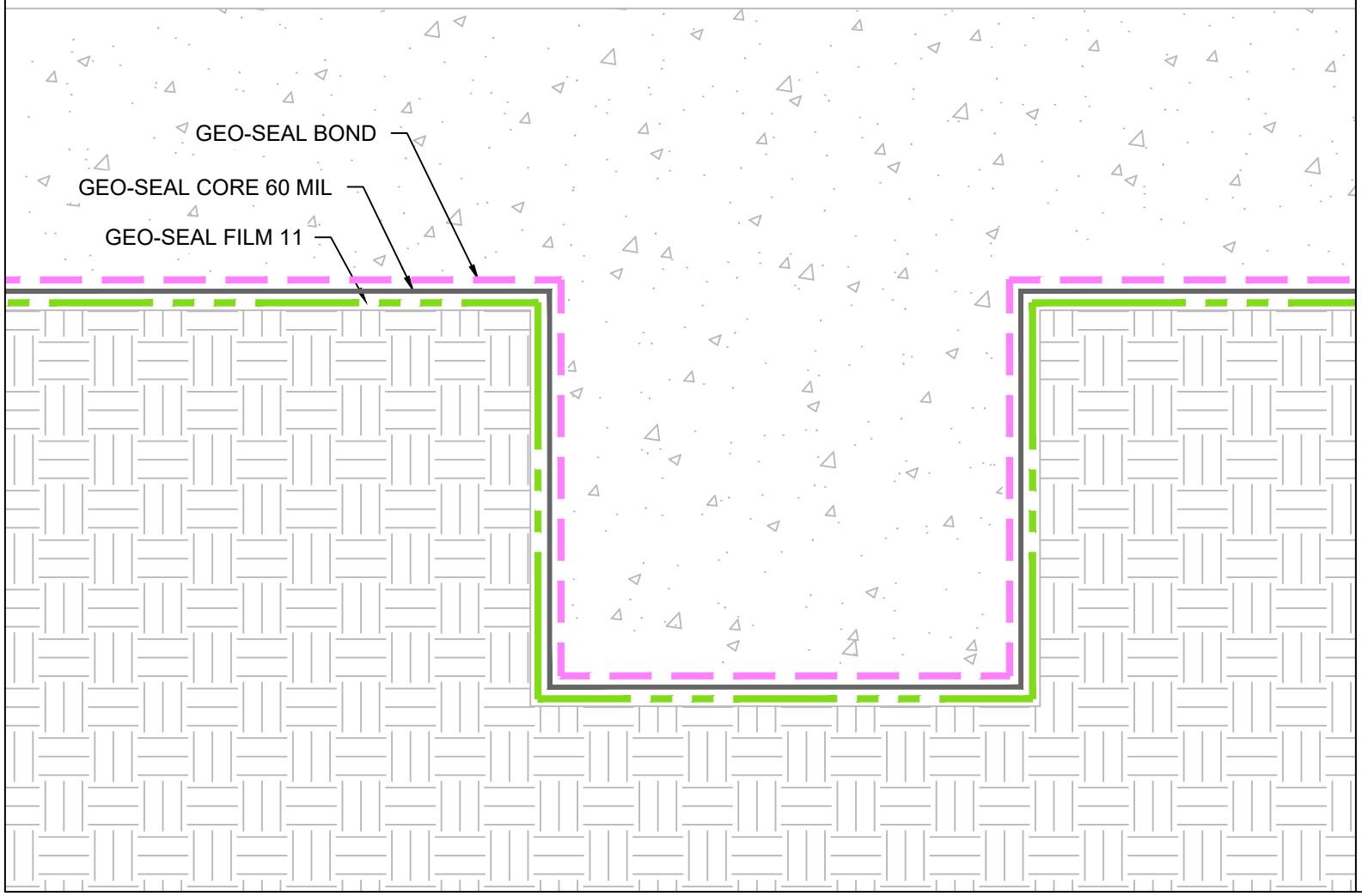
Geo-Seal® Vapor Intrusion Barrier

DRAWIMG NUMBER	40.132.1
SYSTEM NAME	GEO-SEAL 100
SYSTEM DESCRIPTION	UNDERSLAB PERIMETER FOOTING TERMINATION
DATE	08/31/2020
DRAWN BY	RJT
SCALE	NTS



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Geo-Seal® Vapor Intrusion Barrier

DRAWIMG NUMBER	
40.142.1	
SYSTEM NAME	
GEO-SEAL 100	
SYSTEM DESCRIPTION	
UNDER GRADE BEAM ASSEMBLY	
DATE	
08/31/2020	
DRAWN BY	SCALE
RJT	NTS
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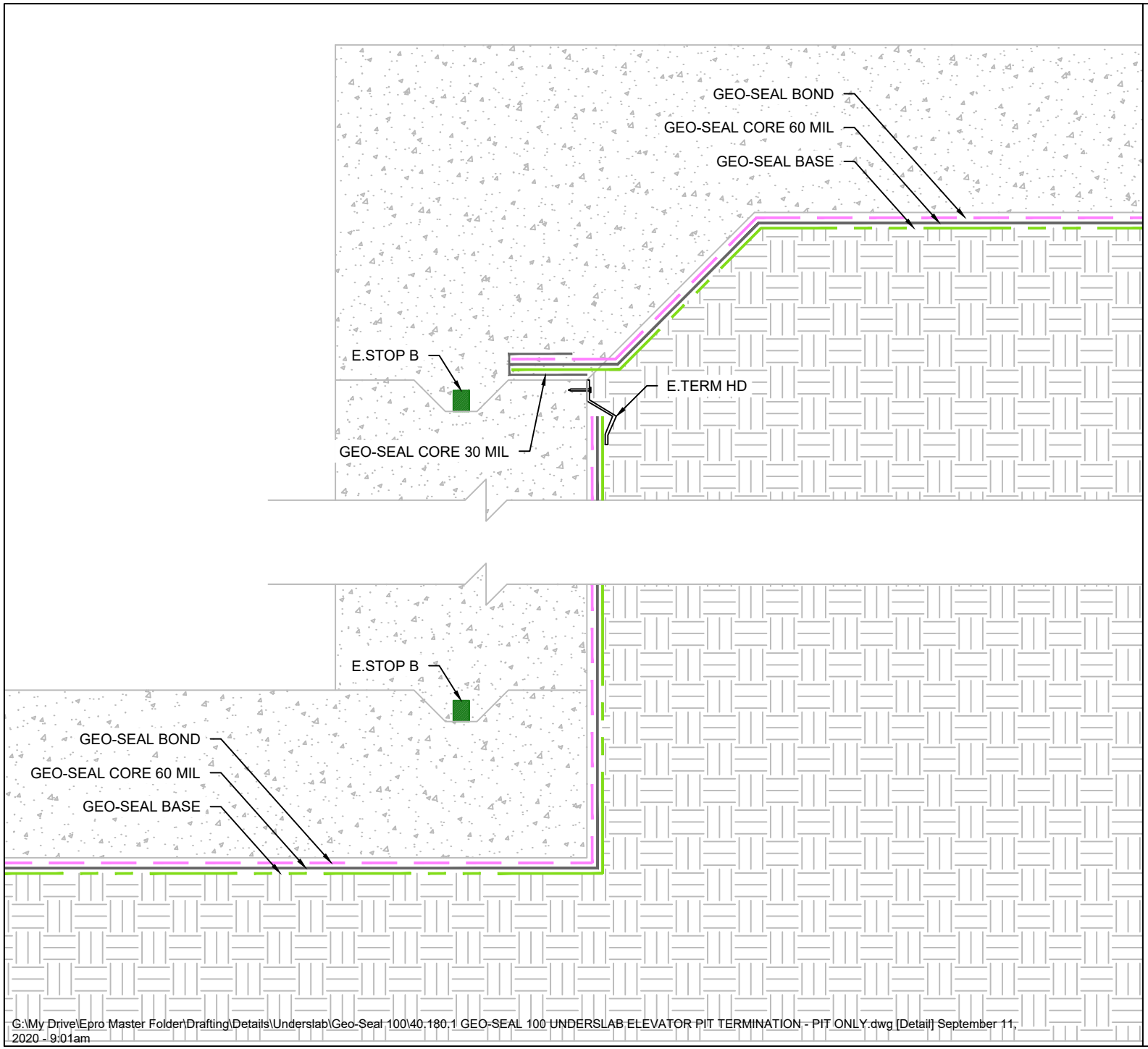

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Geo-Seal® Vapor Intrusion Barrier

DRAWIMG NUMBER	
40.180.1	
SYSTEM NAME	
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SYSTEM DESCRIPTION	
ELEVATOR PIT DETAIL	
DATE	
08/31/2020	
DRAWN BY	SCALE
RJT	NTS
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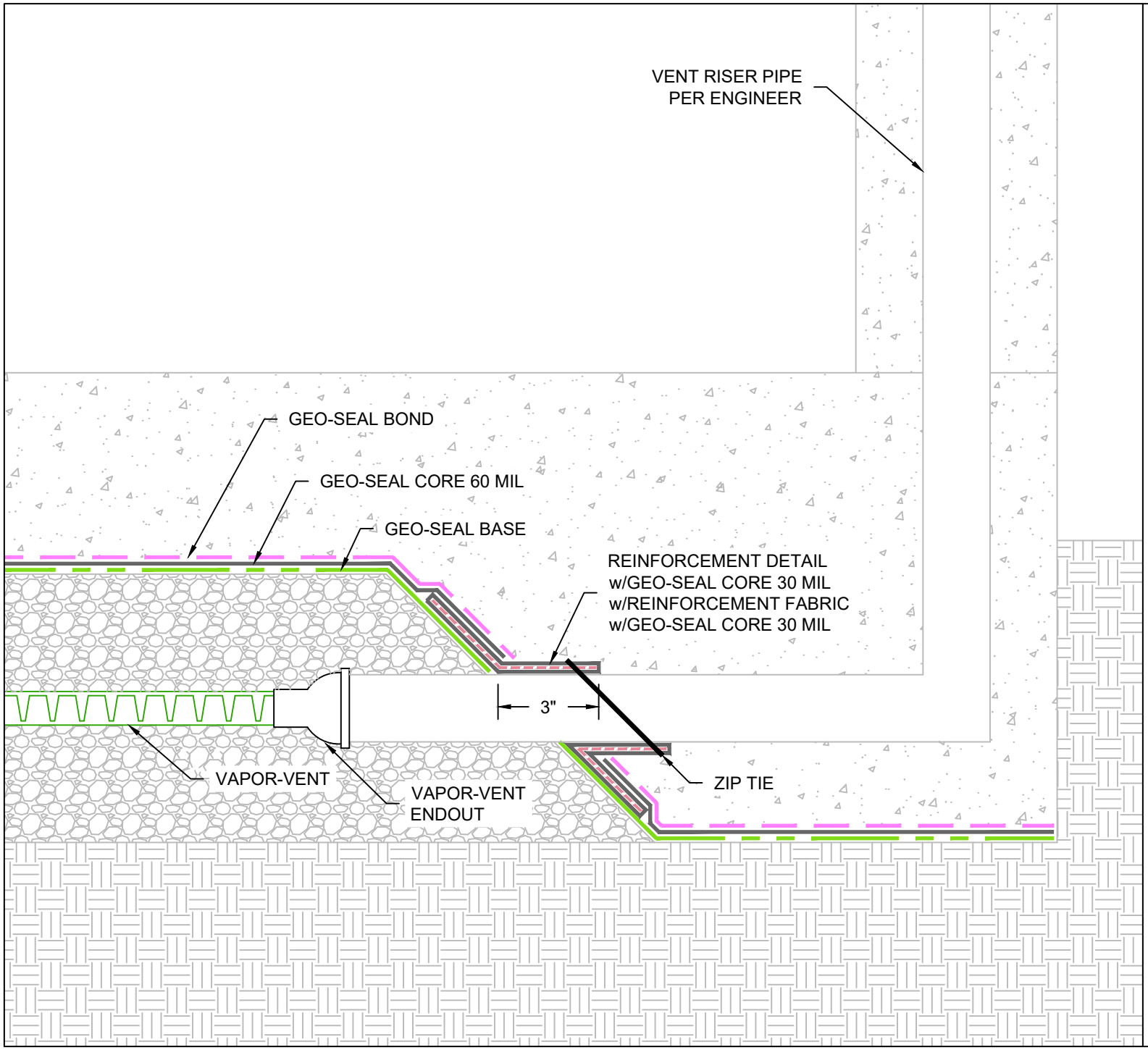

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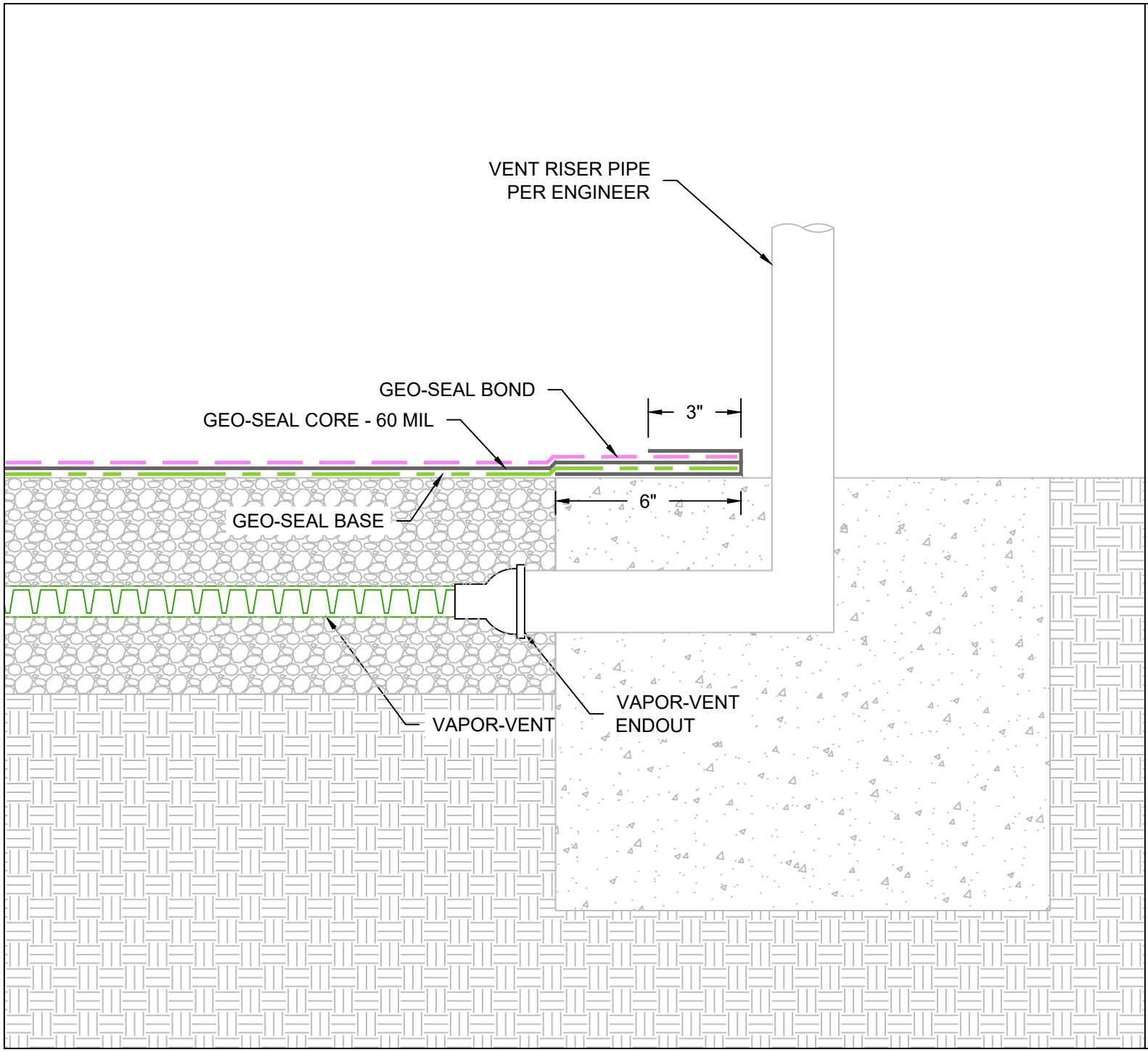
Geo-Seal® Vapor Intrusion Barrier

DRAWIMG NUMBER	40.190.1
SYSTEM NAME	GEO-SEAL 100
SYSTEM DESCRIPTION	UNDERSLAB @ PIPE PENETRATION
DATE	08/31/2020
DRAWN BY	RJT
SCALE	NTS



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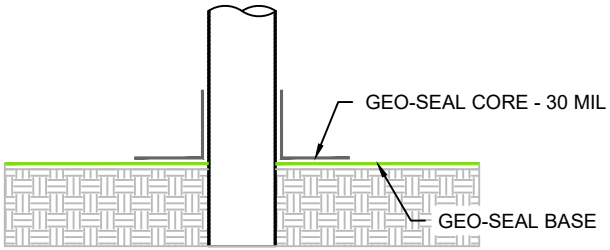
Geo-Seal® Vapor Intrusion Barrier

DRAWIMG NUMBER	40.190.3
SYSTEM NAME	GEO-SEAL 100
SYSTEM DESCRIPTION	UNDERSLAB AT VENT RISER
DATE	08/31/2020
DRAWN BY	RJT
SCALE	NTS



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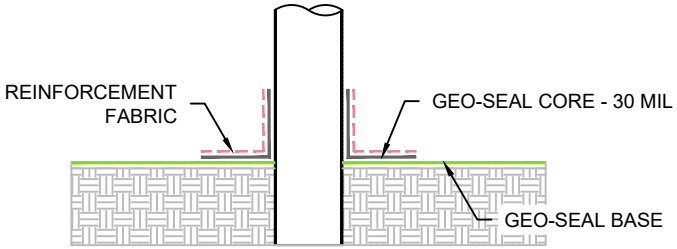

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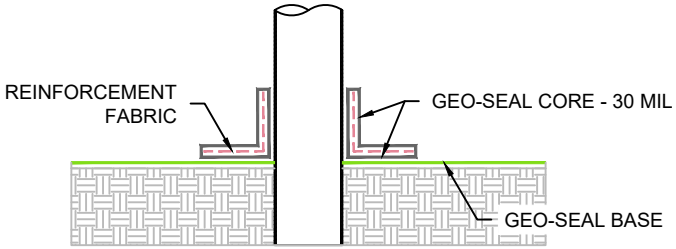

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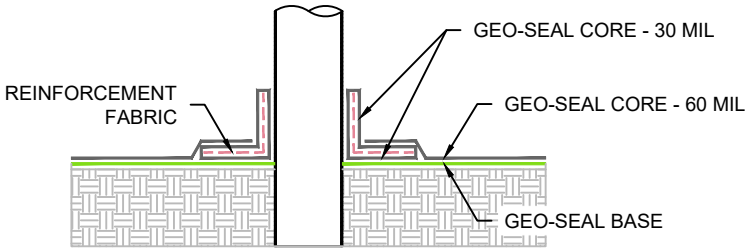

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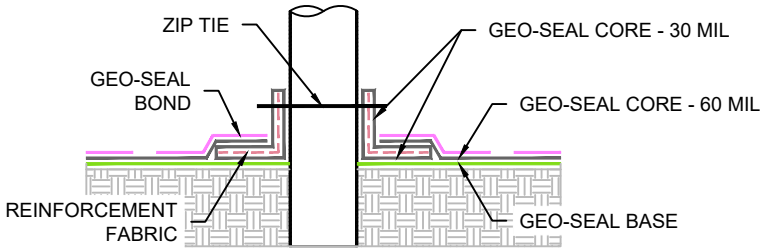

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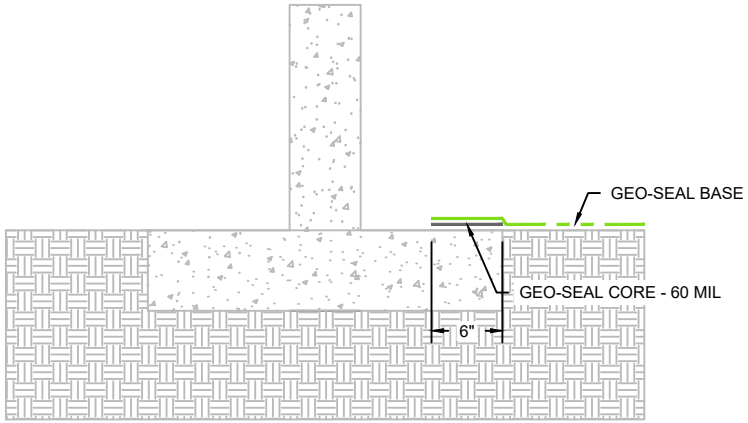
Geo-Seal® Vapor Intrusion Barrier

DRAWIMG NUMBER	
40.900.1	
SYSTEM NAME	
GEO-SEAL 100	
SYSTEM DESCRIPTION	
UNDERSLAB PIPE PENETRATION SEQUENCE	
DATE	
08/31/2020	
DRAWN BY	SCALE
RJT	NTS
PAGE 1 OF 1	



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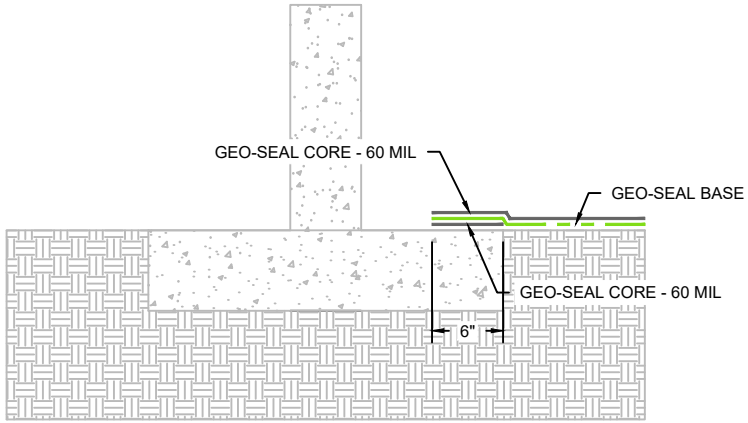

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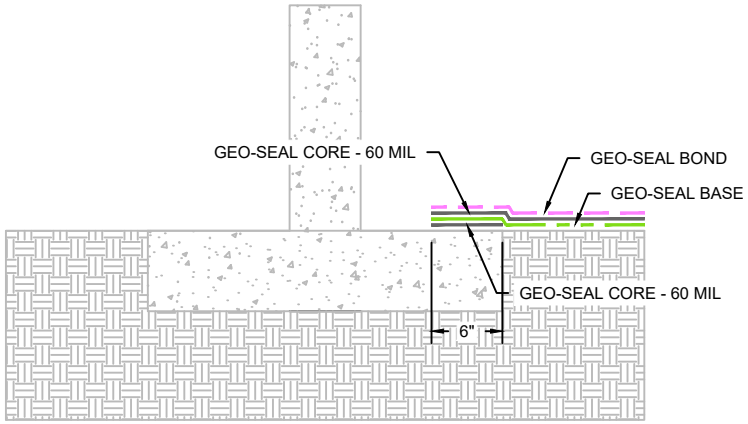

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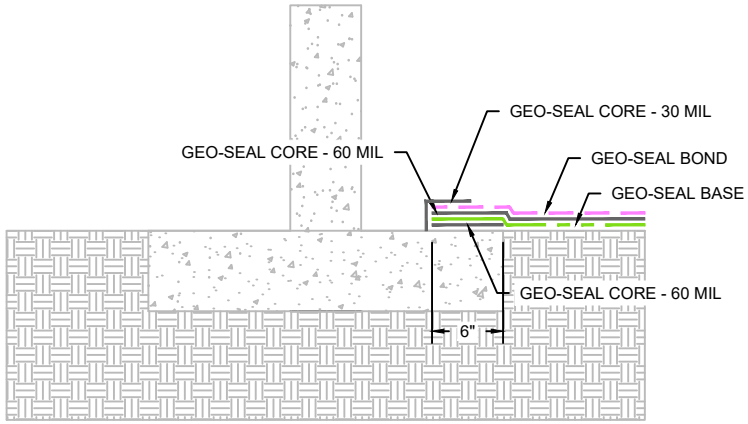

STEP 4

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DRAWIMG NUMBER	
40.901.1	
SYSTEM NAME	
GEO-SEAL 100	
SYSTEM DESCRIPTION	
UNDERSLAB TERMINATION @ PERIMETER FOOTING SEQUENCE	
DATE	
08/31/2020	
DRAWN BY	SCALE
RJT	NTS
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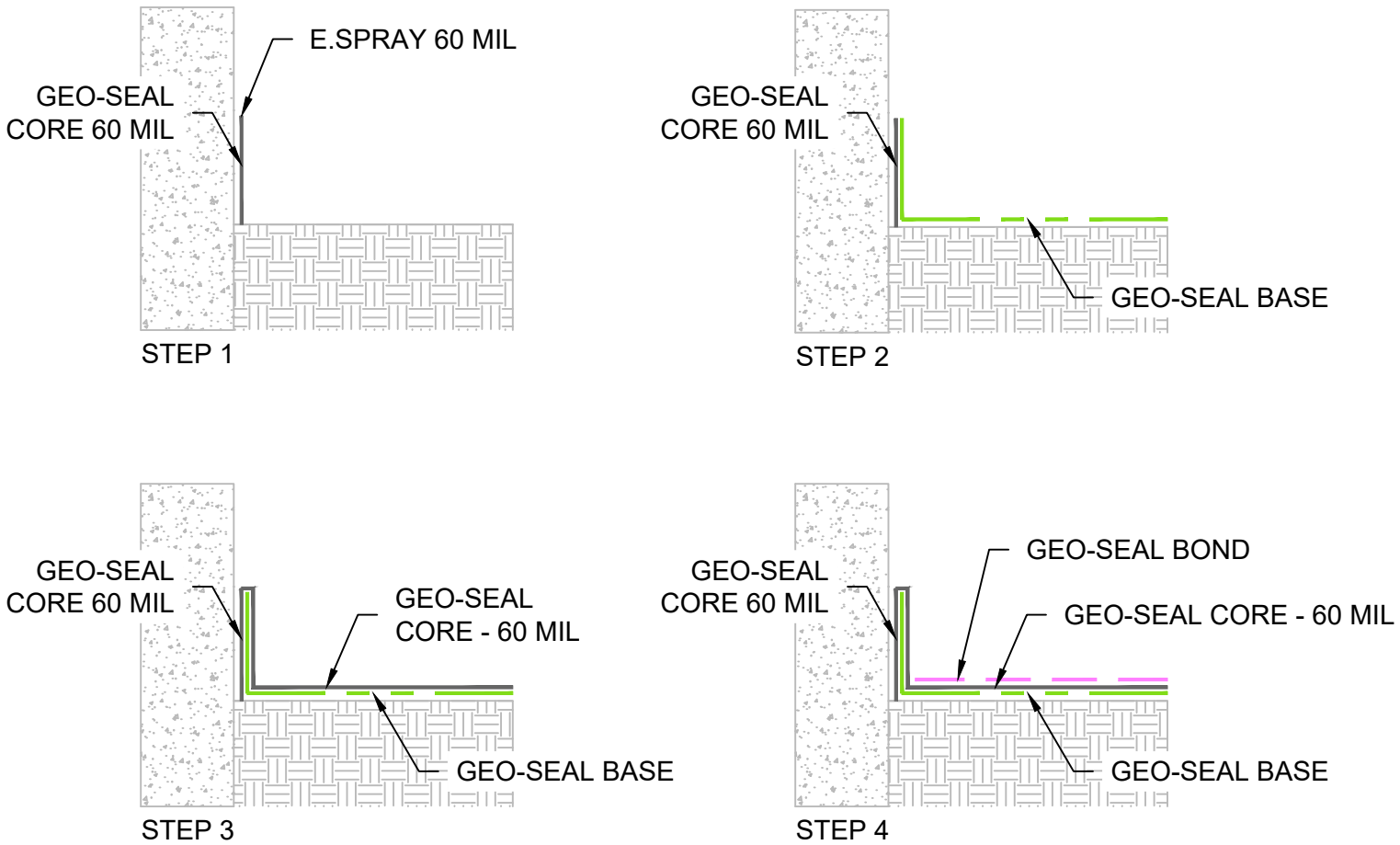

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Geo-Seal® Vapor Intrusion Barrier

DRAWIMG NUMBER	
40.902.1	
SYSTEM NAME	
GEO-SEAL 100	
SYSTEM DESCRIPTION	
UNDERSLAB TERMINATION @ WALL SEQUENCE	
DATE	
08/31/2020	
DRAWN BY	SCALE
RJT	NTS
PAGE 1 OF 1	

HOW VACU-STACK® WORKS

TECHNICAL DATA

Fundamental principles

Understanding Bernoulli's Principle is key to understanding why Vacu-Stack® chimney caps are so effective in reducing wind-related downdraft problems.

The Vacu-Stack® chimney cap's ability to prevent wind-induced downdraft -- and the resulting infiltration of smoke, odor, and flue gas into living spaces -- is based on Bernoulli's Principle:

- Total atmospheric pressure is constant at any one time and location and is the sum of its dynamic and static components.

- Static pressure is the driving force for air in motion. Static pressure differences between different locations are the forces that cause air to flow from high to low pressure regions, like the wind.

- Dynamic pressure is proportional to wind speed. In the absence of wind, dynamic pressure is zero. At the onset of wind, it becomes a component of the total atmospheric pressure.

When wind flows around a Vacu-Stack® **(See Figure 1)**, its velocity increases, increasing **(+)** the dynamic pressure in the area. Since the sum of the static and dynamic pressures must remain constant **(See Figure 2)**, there is an identical decrease **(-)** in the static pressure. The result is a partial vacuum in the vicinity of the Vacu-Stack® where flue gases at slightly higher pressure must flow to the lower pressure Vacu-Stack® region -- and up and out of the chimney without blowback.

HELPFUL DEFINITION:

Atmospheric pressure is the weight of the air on the earth. At sea level, atmospheric air pressure is 14.7 pounds per square inch or 2,117 pounds per square foot. A column of mercury one square foot by thirty inches (30") high also weighs 2,117 pounds and is used in barometers for expressing atmospheric pressure (just like in weather forecasts). Similarly, a square foot of water 408" high weighs 2,117 pounds and is used in instruments that quantify draft in heating appliances. Draft problems may occur with pressure variations as small as 0.05" water... about one part in 10,000. No wonder draft problems are elusive and difficult to solve.

Figure 1: Compressed streamlines showing increased air flow around a Vacu-Stack®

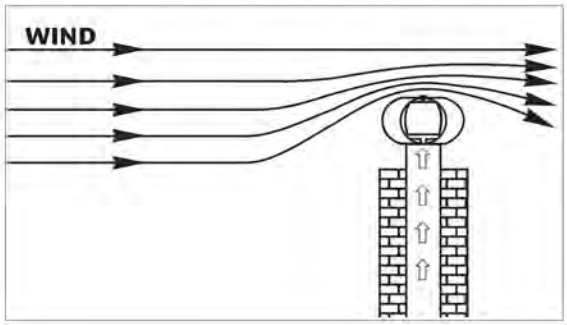
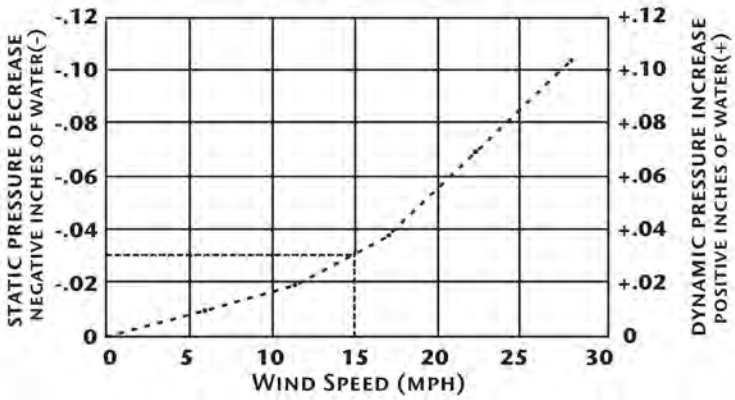


Figure 2: Pressure distribution for an 8" Vacu-Stack® installation



Example: A 15 mph wind reduces static pressure by .03" H2O, from 408" H2O to 407.97" H2O.

MADE IN THE USA

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APPENDIX D

Health and Safety Plan

HEALTH & SAFETY PLAN

McKinley Elementary School RAW Implementation
2401 Santa Monica Boulevard
Santa Monica, California 90405

Prepared for

Santa Monica-Malibu Unified School District
Facilities Improvements Projects
2828 4th Street
Santa Monica, California 90405

February 16, 2024

Eric Fraske
Project Manager
NV5

February 16, 2024

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CONTENTS

1	GENERAL INFORMATION	1
1.1	Administration Information	1
1.2	General Information	1
1.3	Scope and Applicability of the Health and Safety Plan	1
2	SITE DESCRIPTION	1
3	DESCRIPTION OF WORK	2
3.1	Perimeter Dust Monitoring	2
3.2	Meteorological Monitoring	2
3.3	SCAQMD Rule 403 & 1466	2
3.3.1	Dust Control and Monitoring	3
4	ASSESSMENT OF HAZARDS	3
4.1	Site Hazard Overview	3
5	CHEMICAL HAZARDS	4
5.1	Chemical Hazard Summary	4
5.2	Exposure Limits	5
5.3	Explosive Limits	6
6	LEVEL OF PERSONAL PROTECTION AND SAFE WORK PRACTICES	6
6.1	Protection Level	6
7	GENERAL HEALTH AND SAFETY REQUIREMENTS	7
7.1	Site Safety Meeting	7
7.2	The Site Health and Safety Officer (SSO)	7
7.3	Accident/Incident Reports	7

CONTENTS

8	HEALTH AND SAFETY TRAINING AND MEDICAL MONITORING	7
8.1	Safety Training	7
8.2	Medical Monitoring	8
8.3	Fit Testing and Respirator Training	9
8.4	Confined Space Entry Training	9
9	SITE CONTROL	9
9.1	Barricades and Worker Delineation	9
10	PHYSICAL HAZARDS	9
10.1	Heat Stress	9
10.2	Severe Weather	9
10.3	Heavy Equipment	10
10.4	Electrocution	11
10.5	Slippery Terrain, Slips, Trips and Falls	11
10.6	Noise	11
11	ILLUMINATION	11
12	EMERGENCY RESPONSE PLAN	11
12.1	Communication Procedures	11
12.2	Fire and Explosion Hazards	12
12.3	First Aid/CPR	12
12.4	Hospital	12
13	APPROVAL / DISTRIBUTION OF HEALTH AND SAFETY PLAN	14
14	SITE ENTRY CHECKLIST	15

CONTENTS

ATTACHMENTS

Attachment A **First Report of Injury**
Attachment B **Medical Monitoring Program**
Attachment C **Field SOPs for Use and Decontamination of PPE**
Attachment D **Heat Stress Procedures**
Attachment E **Site Safety Officer Responsibilities**

1 GENERAL INFORMATION

1.1 Administration Information

Site Name:	McKinley Elementary School
Site Location:	2401 Santa Monica Boulevard
Project Manager:	Eric Fraske
Site Health and Safety Officer:	TBD-NV5

1.2 General Information

This Site-specific Health and Safety Plan (HASP) was prepared in accordance with guidelines set forth per OSHA requirements (29 CFR 1910.120) and in Title 8 of the California Code of Regulations, Section 5192 (8 CCR 5192). In addition, this HASP also describes the health effects and standards for known contaminants and the procedures designed to account for the potential for exposure to unknown substances, and aid in worker safety.

1.3 Scope and Applicability of the Health and Safety Plan

This plan establishes requirements and provides guidelines for worker safety and hazard identification during the oversight activities associated with implementation of the Removal Action Workplan (RAW) at the McKinley Elementary School New Campus Building project located at 2401 Santa Monica Boulevard in Santa Monica, California (Figure 1).

The purpose of this HASP is to identify procedures for avoiding potential hazards from chemicals, equipment, or the environment, and for responding to serious injury or accident. The safety rules given in this plan cannot cover every eventuality. It is expected that all workers involved will exercise good judgment in safety matters, and each of the Santa Monica Malibu Unified School District (SMMUSD) contractors working on the Site will follow its own company health and safety plan. However, NV5 will inform the contractors as soon as possible about environmental conditions monitored by us when these conditions (such as elevated dust measurements) may require appropriate actions. Under no circumstances will NV5 direct the contractors' operation of equipment and adherence to their specific health and safety requirements. These directions must be given by the contractors, either independent of or dependent on information about environmental conditions provided by NV5.

2 SITE DESCRIPTION

McKinley Elementary School is an approximately 6.50-acre rectangular shaped campus located at 2401 Santa Monica Boulevard in the City of Santa Monica (Figure 1), serving approximately 450 students in grade levels from transitional kindergarten through fifth grade. The current campus is developed with four educational buildings and 11 portable buildings, as well as play yards and sports fields, staff and visitor parking, and programmed and unprogrammed open space. Vehicular access is from Chelsea Avenue, with student drop-off/pick-up occurring on-site. The school campus is bounded by Santa Monica Boulevard and commercial uses to the southeast, Arizona Avenue and multi-family residential uses to the northwest, and mixed multi-family and commercial uses to the northeast across Chelsea Avenue and to the southwest

across 23rd Court. A dry cleaner facility is located across Chelsea Avenue near the eastern corner of the campus.

The subject of RAW implementation is an approximately 0.99-acre area located along the northeastern portion of the McKinley Elementary School campus (Site). As part of a proposed campus upgrade, the first phase of work will include new building construction, renovation of existing buildings, and new on-campus parking and roadways. A new two-story classroom and administration building is proposed to be constructed within the area that currently serves as staff and visitor parking. In addition, proposed renovations of the existing main campus building will include new ground and second floor connections to the main building, new staff and visitor parking lots, and construction of a new on campus drop-off/pick-up lane adjacent to Chelsea Avenue. The limits of the proposed construction activities (Site) are shown in the attached Figure 2.

3 DESCRIPTION OF WORK

NV5 will conduct environmental oversight activities, at the Site including air and meteorological monitoring, during Site earthwork activities and installation of a vapor barrier system.

3.1 Perimeter Dust Monitoring

Dust monitoring will be conducted in accordance with applicable South Coast Air Quality Monitoring District (SCAQMD) rules during Site activities in which impacted, or potentially impacted materials are disturbed or handled. Based on known Site conditions, SCAQMD Rule 403 and Rule 1466 apply to this project. It should be noted that future changes to existing SCAQMD rules or the addition of new rules may dictate adjustments or modifications to the following monitoring procedures.

3.2 Meteorological Monitoring

On-site ambient weather conditions (wind speed and direction, and relative humidity) will be monitored by the following methods, as appropriate: an on-site meteorology station, real-time Internet weather locations, and the National Weather Service (if a local station can provide data relevant to the Site). If offsite meteorological stations cannot provide data relevant to the Site, an on-site meteorological station will be set up and monitored during excavation activities.

3.3 SCAQMD Rule 403 & 1466

SCAQMD Rule 403 applies to project activities which may generate fugitive dust and Rule 1466 applies to earth-moving activities with soil containing toxic air contaminants. Rule 403 requires that visible fugitive dust does not travel beyond the property boundary and that concentrations of particulate matter less than or equal to 10 microns (PM10) do not exceed 50 micrograms per cubic meter when measured, by simultaneous monitoring, as the difference between upwind and downwind concentrations. In addition, Rule 1466 requires that property boundary PM10 concentrations, averaged over two hours, do not exceed 25 micrograms per cubic meter when measured, by simultaneous monitoring, as the difference between upwind and downwind concentrations.

Should the action level be exceeded during applicable activities, work procedures will be evaluated for adjustments to engineering controls or modified work practices to control dust generation.

3.3.1 Dust Control and Monitoring

If required, the Contractor will implement appropriate procedures to control the generation of airborne dust by soil removal activities. Such procedures will include but will not be limited to the following:

- Generation of dust during the removal operations will be minimized as necessary with the use of water as a dust suppressant. The water will be available via service from the adjacent property, a water truck or a metered discharge from a fire hydrant located proximate to the Site.
- The Contractor will control dust generation by spraying water prior to daily work activities, during excavation/loading activities (as necessary), and at truck staging locations. Watering equipment will be continuously available to provide proper dust control.
- All equipment will be decontaminated prior to leaving the excavation area by dry brushing any visible loose soil and by driving over rumble strips to loosen soil in the truck tire treads. While on the property, all vehicles will maintain slow speeds (i.e., less than 5 miles per hour) for safety purposes and for dust control measures. Efforts will also be made to minimize the soil drop height from the soil handling equipment into the transport trucks, soil bin, or soil stockpiles.

The air-monitoring professional will monitor on-Site meteorological instrumentation and/or coordinate with off-Site meteorological professionals to identify conditions that require cessation of work.

4 ASSESSMENT OF HAZARDS

4.1 Site Hazard Overview

Apparent Hazard		Type of Facility		Status of Facility	
Serious		Dump		Active	
Moderate	X	Landfill		Inactive	X
Low		Open	X	Unknown	
None		Enclosed			
Unknown		Other			

Waste Types		Waste Characteristics		Type/Form of Hazard	
Gas	X	Toxic	X	Dust	X
Liquid		Corrosive		Liquid	x
Sludge		Ignitable	X	Fumes	x
Solid	X-Potential	Volatile	X	Vapors	x
Unknown		Radioactive		Contact	x
Other		Reactive		Respiratory	x

Exposure to elevated levels of hydrocarbon vapors presents potential health risks that must be properly understood and controlled. These vapors constitute a health hazard when inhaled, and they present a fire or explosion risk when they accumulate in an explosive mixture with oxygen. Where elevated exposures

risks are determined to exist, respiratory protection will be the primary control method to protect personnel from inhalation of hydrocarbon vapors.

5 CHEMICAL HAZARDS

The primary known or suspected potential constituents of concern associated with the Site are VOCs and Title 22 Metals (arsenic). The list of chemicals of concern for the Site will be reassessed, as more data becomes available. Potential exposures to these chemicals during field activities include the following:

- Inhalation of organic vapors or dust
- Dermal contact with and accidental ingestion of potentially contaminated rinse liquid and soil residue during decontamination and soil sampling; and
- Splash hazards during decontamination.

To protect workers from eye and skin contact and skin absorption, PPE will be used as outlined in Section 5.

5.1 Chemical Hazard Summary

Materials	Route of Exposure	Symptoms	Target Organs
Arsenic	Inhalation/absorption/ contact/ ingestion	Ulceration of nasal septum, dermatitis, gastrointestinal disturbances, respiratory irritation, hyper pigmentation of the skin	Liver, kidneys, skin, lunch, lymphatic system
PCE	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, skin, nose, throat, respiratory system; nausea; flush face, neck; dizziness, incoordination; headache, drowsiness; skin erythema (skin redness); liver damage; [potential occupational carcinogen]	Eyes, skin, respiratory system, liver, kidneys, central nervous system
TCE	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, skin; headache, visual disturbance, lassitude (weakness, exhaustion), dizziness, tremor, drowsiness, nausea, vomiting; dermatitis; cardiac arrhythmias, paresthesia; liver injury; [potential occupational carcinogen]	Eyes, skin, respiratory system, heart, liver, kidneys, central nervous system
Benzene	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, skin, nose, respiratory system; dizziness; headache, nausea, staggered gait; anorexia, lassitude (weakness, exhaustion); dermatitis; bone marrow depression; [potential occupational carcinogen]	Eyes, skin, respiratory system, blood, central nervous system, bone marrow

Materials	Route of Exposure	Symptoms	Target Organs
Naphthalene	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes; headache, confusion, excitement, malaise (vague feeling of discomfort); nausea, vomiting, abdominal pain; irritation bladder; profuse sweating; jaundice; hematuria (blood in the urine), renal shutdown; dermatitis, optical neuritis, corneal damage	Eyes, skin, blood, liver, kidneys, central nervous system
Chloroforms[1]	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, skin; dizziness, mental dullness, nausea, confusion; headache, lassitude (weakness, exhaustion); anesthesia; enlarged liver; [potential occupational carcinogen]	Liver, kidneys, heart, eyes, skin, central nervous system
Ethylbenzene	inhalation, ingestion, skin and/or eye contact	irritation eyes, skin, mucous membrane; headache; dermatitis; narcosis, coma	Eyes, skin, respiratory system, central nervous system

[1]: Including chloroform, bromodichloromethane, and dibromochloromethane

5.2 Exposure Limits

Chemical name	PEL/STEL	IDLH
Arsenic	0.010 milligrams per cubic meter (mg/m^3) [0.005 m^3 Action Level]	5 mg/ m^3
PCE	100 parts per million (ppm)	150 ppm
TCE	100 ppm	1,000 ppm
Benzene	1 ppm/5 ppm	500 ppm
Naphthalene	10 ppm/15 ppm	250 ppm
Chloroforms	50 ppm	500 ppm
Ethylbenzene	100 ppm/125 ppm	800 ppm

Chemical name	PEL/STEL	IDLH

PEL= Permissible Exposure Limits (concentration should not be exceeded during an 8-hour workday during a 40-hour work-week)
STEL = Short-term exposure limit (15 -minute TWA exposure that should not be exceeded at any time during a workday)
IDLH = Immediately dangerous to life or health concentrations

5.3 Explosive Limits

Chemical Name	LEL	UEL
Arsenic	NA	NA
PCE	NA	NA
TCE	8%	10.5%
Benzene	1.2%	8%
Naphthalene	0.9%	5.9%
Chloroforms	NA	NA
Ethylbenzene	0.8%	6.7%

LEL = Lower exposure limit
UEL = Upper exposure limit
NA = Not applicable

6 LEVEL OF PERSONAL PROTECTION AND SAFE WORK PRACTICES

6.1 Protection Level

Based on the types of work to be performed and chemical hazards that may be encountered, EPA Level D personal protection have been determined to be adequately protective and suitable for tasks in this project. Personal protective equipment requirements for each level of protection are summarized below:

Level D
Steel-toed work boots
High visible traffic safety vests
Hard hat
Eye protection (safety glasses, goggles or face shield)
Tyvek suits and/or coveralls
Hearing protection during heavy equipment operation
Fire extinguisher (A, B, and C type)
Portable organic vapor analyzer (OVA)
First aid kit
Gloves, nitrile

7 GENERAL HEALTH AND SAFETY REQUIREMENTS

7.1 Site Safety Meeting

Site safety orientation and training meetings must be convened (1) before the field team begins work at the site, (2) when there are modifications to the site safety plan that are applicable to the field personnel, and (3) when additional staff or subcontractors begin fieldwork. Safety meetings will be held on a daily basis, attended by personnel involved in carrying out the project, and presided over the Site Health and Safety Officer or his/her designee. A list of attendees will be provided to the Project Health and Safety Officer.

At a minimum, the meeting agenda must include

- A review of the Health and Safety Plan, and
- Attendee signatures, acknowledging receipt and understanding of the plan and agreement to comply.

7.2 The Site Health and Safety Officer (SSO)

The Site Health and Safety Officer (SSO) is responsible for carrying out the health and safety requirements detailed in this plan and has the authority to halt work or dismiss people from the site if they do not adhere to the plan.

The Site Health and Safety Officer will maintain a list of addresses and telephone numbers of emergency assistance units (ambulance service, police, hospitals, etc.). A detailed description of the SSO's responsibilities is provided in Attachment D.

7.3 Accident/Incident Reports

All accidents or injuries will be reported immediately to the Site Health and Safety officer, who is responsible to report to the Project Manager. The Project Manager will be responsible for ensuring that all lost time, accidents, or injuries are fully investigated, reported, and documented.

8 HEALTH AND SAFETY TRAINING AND MEDICAL MONITORING

Each employee will be familiar with the requirements of the site safety and health plan and will participate in site activity and safety briefings. Staff and subcontractors participating in the fieldwork must have completed a 40-hour health and safety training course (8 CCR 5192(e)) as appropriate for their particular tasks and have annual refresher training. Before personnel arrive on-Site, each employer will be responsible for certifying that its employees meet the Cal/OSHA training requirements.

Below is a brief review of the basic required safety training, based on the different roles and responsibilities of various types of Site workers.

8.1 Safety Training

OSHA regulations under Title 29 CFR, Part 1910.120 include training requirements applicable to all employees who may be exposed to site hazards. Training requirements vary according to job assignment and potential for exposure to hazardous substances.

General site workers who engage in activities which have a high exposure potential are required to complete the following:

- Forty hours of off-site instruction;
- Three days of on-the-job training under the direct supervision of a trained, experienced supervisor; and
- Eight hours of annual refresher training.

Employees who work only in areas which have been monitored and fully characterized, indicating that no PPE is required and that emergencies are unlikely (for example, the site support zone), are required to complete the following:

- Twenty-four hours of off-site instruction;
- One day of on-the-job training under the direct supervision of a trained, experienced supervisor; and
- Eight hours of annual refresher training.

The same requirements apply to employees who make site visits occasionally to perform specific tasks (for example, groundwater monitoring or land surveying) and are unlikely to experience exposure in excess of applicable limits. If, at some time after initial training, employees such as these are to be transferred into a job involving a higher exposure potential, they must complete an additional 16 hours of off-site training and two days of on-site training in order to upgrade to full certification.

Supervisors must complete the following:

- The same (or equivalent) training as required for the employees they supervise;
- Eight additional hours of specialized off-site supervisory training; and
- Eight hours of annual refresher training.

The new worker is naturally prone to accidents and can be a serious threat, both to himself/herself and to co-workers. Proper training that follows the following guidelines will help to eliminate this danger.

1. Tell the new worker what to do.
2. Show the new worker how to do it.
3. Watch closely as he/she does the work.
4. Correct, but never ridicule the new worker when wrong.
5. Commend the new worker when a job is well done.
6. Warn him/her of dangers.
7. Don’t allow him/her to work alone until you are sure the new worker is capable of doing so.

The proper training of a new worker is particularly important since lack of proper training can be disastrous. A new worker cannot be expected to be familiar with all the hazards involved in doing a job. Therefore, he/she cannot be expected to look out for unknown hazards. The new worker may be so concerned with trying to master an unfamiliar job that surrounding hazards are not noticed.

8.2 Medical Monitoring

Medical surveillance and monitoring is conducted as a routine program, which meets the requirements of 8 CCR 5192 (f); the medical surveillance program is detailed in Appendix B. There will not be any special medical tests or examinations required for staff involved in this project.

All personnel will be trained and qualified to operate their respective equipment, including respiratory protection if site conditions exist where respirators are needed. Under no circumstance will untrained or unqualified personnel operate equipment.

8.3 Fit Testing and Respirator Training

While not expected for the planned scope of work, in the event that it becomes necessary to upgrade respiratory protection to level C PPE, all employees using a respirator will be properly fit tested and trained to use/operate such equipment prior to use. NV5's standard operating procedures for use and decontamination of PPE including respirators is provided as Appendix C. Under no circumstance will untrained or unqualified personnel operate equipment.

8.4 Confined Space Entry Training

According to the 8 CCR §5157(b), a confined space is defined as a space that (1) is large enough and so configured that an employee can bodily enter and perform the assigned work; (2) has limited or restricted means of entry or exit (i.e., one exit); and (3) Is not designed for continuous employee occupancy.

It is not anticipated that the Site investigation activities will include confined space entry.

9 SITE CONTROL

9.1 Barricades and Worker Delineation

During inspection or sampling activities (if required) proper high-visible delineators will be placed around work areas to alert traffic to steer clear of personnel. In addition, all NV5 and subcontractor personnel are required to don high-visibility traffic safety vests.

10 PHYSICAL HAZARDS

Field personnel should be aware of and act to minimize dangers associated with physical hazards typically encountered during site activities. These hazards include heat-related illnesses, uneven terrain, slippery surfaces, and lifting. Personnel will walk at all times. Running greatly increases the probability of slips, trips, and falls.

10.1 Heat Stress

The potential for heat stress is higher on this site during the summer months, given the warm southern California climate and potential use of protective garments. Heat stress potential during the remaining seasons is unsystematic. Based on the type of work and required levels of PPE to be donned for this project, the potential for exposure to heat stress is high for all workers. Heat illness prevention must comply with 8 CCR §3395. A detailed description of Heat stress, heat stress monitoring, and heat stress prevention procedures are discussed in attached Appendix D.

10.2 Severe Weather

Fieldwork shall not be conducted when lightning can be seen or thunder heard from the work area. When lightning and/or thunder occur, employees are to cease work, perform emergency personal and equipment decontamination as needed, and then seek shelter.

During extreme weather conditions, the Field Team Leader shall use his/her best judgment and has the authority to stop fieldwork or dismiss workers for the day. Examples of conditions that may warrant work stoppage include: tornado warnings, high winds, hail, flooding, and ice storms.

10.3 Heavy Equipment

Any equipment defects that affect safety will be corrected by the contractor in a timely manner so that a personnel hazard is not created. When defects make continued operation hazardous to personnel, the defective equipment will be taken out of service and placed in the designated area for repair. Once tagged out, continued use of equipment is prohibited until the defects are repaired. Defects on self-propelled mobile equipment affecting safety that are not corrected immediately will be reported to the Field Team Leader. The Field Team Leader will keep a log that will include the date the defect was reported, the equipment's identification, a description of the defect, and the date of repair.

Equipment repairs or maintenance will be performed only after the power is off, and the equipment is blocked against hazardous motion. Equipment motion or activation is permitted to the extent that adjustments or testing cannot be performed without such motion or activation, provided that people are effectively protected from hazardous motion.

Operators of self-propelled mobile equipment will maintain control of the equipment while it is moving. Operating speeds will be consistent with conditions of roadways, grades, clearances, visibility, traffic, and the type of equipment used. Equipment will be operated at speeds that permit stopping in no more than half the visibility distance.

People will not be transported

- in or on dippers, clamshells or buckets,
- in beds of mobile equipment,
- atop loads in mobile equipment,
- outside cabs, equipment operator's stations, or beds of mobile equipment, and
- to or from work areas in overcrowded equipment (i.e., the vehicle will not carry more people than the number of seats on that vehicle).

All self-propelled mobile equipment will be equipped with a service brake system capable of stopping and holding the equipment with its typical load on the maximum grade it travels (does not apply to equipment not originally equipped with brakes). If equipped, the parking brake on self-propelled mobile equipment will be capable of holding the equipment under typical load condition on the maximum travel grade.

All braking systems installed on self-propelled mobile equipment will be maintained in a functional condition.

Front-end loaders and bulldozers should have protection from falling objects.

Seat belts meeting the requirements of SAE J386, *Operator Restraint Systems for Off-Road Work Machines,* 1985, will be provided and worn in haulage trucks. Seat belts will be maintained in functional condition and replaced when necessary to assure proper performance.

Mobile equipment will not be left unattended unless the controls are placed in the park position, the parking brake, if provided, is set, and the ignition turned off.

People will not work on top of, under, or from mobile equipment in a raised position until the equipment has been blocked or secured to prevent it from rolling or falling accidentally.

10.4 Electrocution

Electrical power lines above (overhead) and below ground will be identified at the Site before to the start of any activities to prevent electrocution. Minimum safe distance will be established by the SSO in areas of overhead and underground power lines. Subcontracted utility locating services will be used as necessary to locate or confirm the presence of suspected underground utilities at drilling or boring locations.

10.5 Slippery Terrain, Slips, Trips and Falls

Slippery and uneven terrain is common and may increase the risk of injuries. Personnel shall wear the appropriate foot protection while on-Site. The SSO will monitor site work surfaces for potential trip and fall hazards. Overhead hazards consist of potential contact with falling objects, rigging equipment, or other items in use at the Site. Hard hats are required at all times when at the Site.

10.6 Noise

Previous surveys indicate that heavy equipment such as drilling equipment may produce continuous and impact noise at or above the action level of 85 dBA. All Site personnel within 25 feet of operating equipment, or near an operation that creates noise levels high enough to impair conversation, shall wear hearing protective devices (either muffs or plugs). Personnel will wash their hands with soap and water prior to inserting earplugs to avoid initiating ear infections.

11 ILLUMINATION

Nighttime work activities are not anticipated; however, if nighttime work becomes necessary, illumination at the Site will be supplemented in order to ensure safe working conditions.

12 EMERGENCY RESPONSE PLAN

12.1 Communication Procedures

Emergency procedures listed in this plan are designed to give the field team instructions in handling medical emergencies, fires and explosions, and excessive emissions during the operational activities. These emergency procedures will be carefully reviewed with the field team during the health and safety training session.

Personnel in the Exclusion Zone should remain within sight of the Site Safety Officer. Repeated horn blasts will be the emergency signal to indicate that all personnel should leave the Exclusion Zone.

The following standard hand signals will be used when vocal communication is not possible.

Hands gripping throat	Out of air, can't breathe
Grip partner's wrist or both hands around waist	Leave area immediately
Hands on top of head	Need assistance
Thumbs up	OK, I am all right, I understand
Thumbs down	No, negative

EMERGENCY PHONE NUMBERS

Police	**911**	**NV5**	**(562) 495-5777**
Fire	**911**	**McKinley Elementary Scool**	**(310) 828-5011**
Hospital	**(310) 829-5511**	**Dig Alert**	**811**

12.2 Fire and Explosion Hazards

Fires on-site are of concern during work, due to the possibility of encountering flammable liquids. Multi-purpose fire extinguishers (A,B,C) will be available on-site at all times. If a fire occurs, the local fire agency will be contacted immediately.

12.3 First Aid/CPR

Move victim to fresh air and call emergency medical care. If victim is not breathing, give artificial respiration. In case of contact with material, immediately wash skin with soap and water. Remove and isolate contaminated clothing and shoes at the site and follow SDS recommendations, if available. NV5 will ensure that §5193 (Bloodborne Pathogens) protocol will be followed.

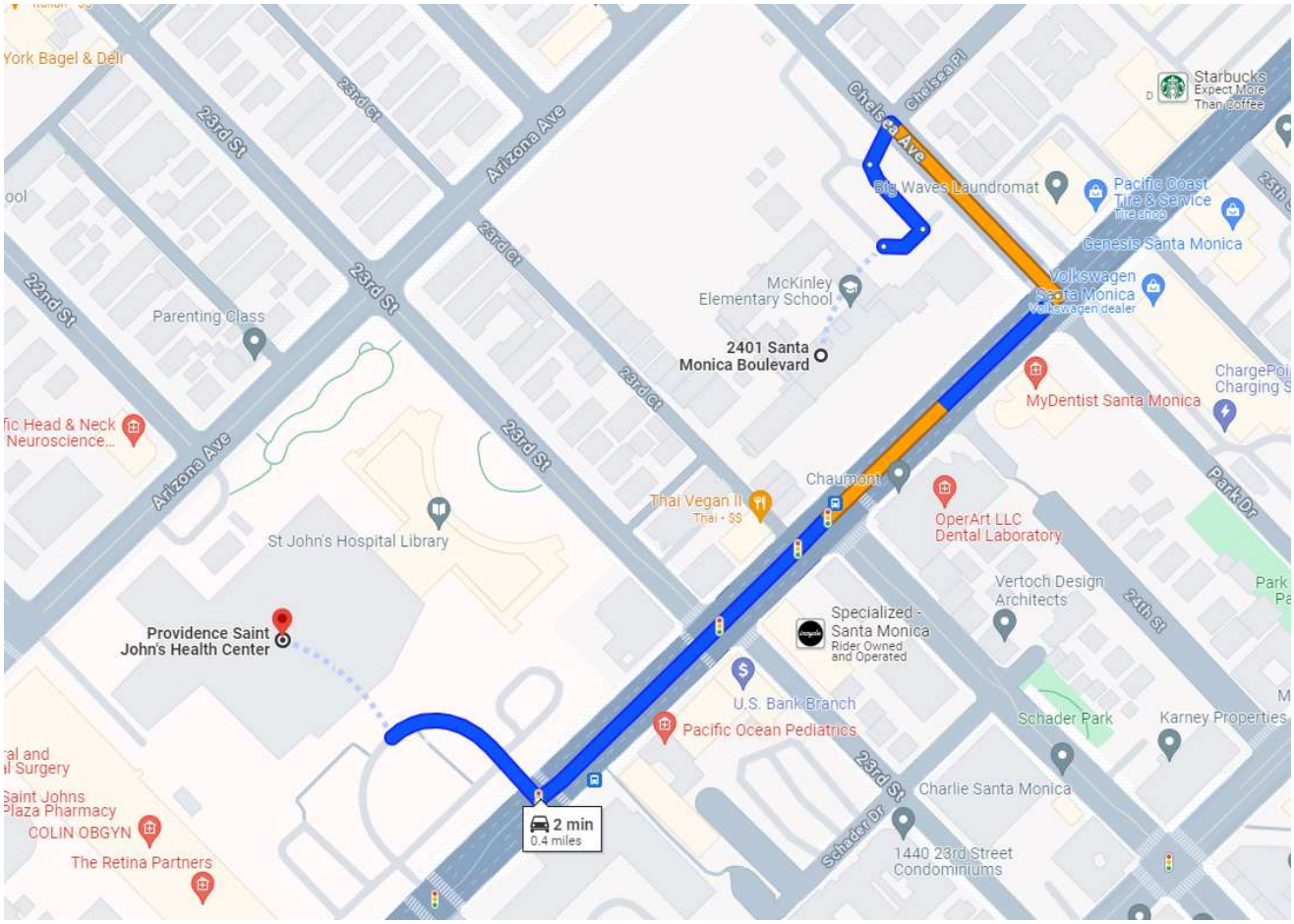
12.4 Hospital

The Los Angeles County Hospital is located at **2121 Santa Monica Boulevard in Santa Monica, CA**, approximately 0.3 miles southwest of the site (Figure 1). Directions to the hospital from the site are as follows:

1. Turn right onto Chelsea Ave 338 ft
2. Trun right onto Santa Monica Blvd. 0.2 mi
3. Destination will be on the right.

Figure 1 – Vicinity Map/Route to Hospital

PROVIDENCE ST. JOHN'S HEALTH CENTER – 2121 SANTA MONICA BLVD, SANTA MONICA, CA



13 APPROVAL / DISTRIBUTION OF HEALTH AND SAFETY PLAN

Position	Name (print)	Signature
Project Manager	Eric Fraske	
Tel: 562-544-3910		
Site Health and Safety Officer	NV5-	
Tel:		

The following have read this plan and understand its provisions:

Company	Name	Signature	Date

14 SITE ENTRY CHECKLIST

- ❒ 1. Worker knows the names of the *on-site* safety and health personnel.
- ❒ 2. Worker knows the site hazards. (Reviewed reference materials)
- ❒ 3. Personal protective equipment (PPE) selected is appropriate for specific job task.
  - ❒ User is familiar with equipment and has successfully completed training.
  - ❒ User can recognize symptoms of heat strain related to work in PPE and knows preventive measures to avoid heat injury.
- ❒ 4. Chemical protective clothing selected is appropriate for hazards present and specific job task of user.
- ❒ 5. Personal protective clothing has been checked for contamination, signs of chemical degradation, tears, pinholes, or other defects, and replaced if faulty or cleaned if not decontaminated.
- ❒ 6. Respirators inspected for use.
  - ❒ Facepiece inspected for damage and to check fit.
  - ❒ Respirator decontaminated and disinfected since previous use.
  - ❒ Fresh cartridges or canister installed for APRs.
  - ❒ Air tanks full, and all system components checked for proper function for SCBA.
  - ❒ Airlines and escape air bottles inspected for SARs.
  - ❒ User has been successfully fit-tested with the appropriate respirator facepiece.
- ❒ 7. Worker knows safe work practices procedures for this project.
  - ❒ Confined space entry
  - ❒ Trenching and excavation
  - ❒ Drilling activities
  - ❒ Use of heavy equipment
  - ❒ Bulking of drummed wastes
  - ❒ Handling of containers
- ❒ 8. Worker is familiar with all communication systems used on-site.
- ❒ 9. Worker is familiar with use of the buddy system on-site.
- ❒ 10. Worker is familiar with site layout, site zoning system, zone boundaries, and the zone barrier or boundary marking system use.
- ❒ 11. Worker knows what additional engineering controls are being used and why.
  - ❒ Dikes
  - ❒ Berms (earthen walls to segregate incompatible materials)
  - ❒ Ditches and excavations
- ❒ 12. Medical examinations have been conducted in compliance with medical surveillance requirements (29 CFR 1910.120).
- ❒ 13. Bodily symptoms which will alert worker to overexposure of chemicals, oxygen-deficiency, and other site hazards are known.

- ❒ 14. Familiar with decontamination procedures.
  - ❒ Decon station locations for equipment and personnel are known.
  - ❒ Contaminated equipment disposal locations are known.
- ❒ 15. The latest revision of the site emergency response plan has been reviewed during on-site training.
  - ❒ Site Emergency Response personnel, and notification procedures are known.
  - ❒ Worker is familiar with their specific role in a response.
  - ❒ Worker is aware of potential emergencies.
  - ❒ Worker can recognize a developing emergency (i.e., bulging drums, bubbling liquids, or heat generation) and knows appropriate preventive measures.
  - ❒ Emergency exit locations known.
  - ❒ Evacuation signals, and emergency alert signals are known.
  - ❒ Emergency decon procedures, if different from normal procedures, are known.
  - ❒ Site-specific procedures for responding in the event of injury to a worker, including decon and first aid, are known.
- ❒ 16. Spill containment procedures are known.
  - ❒ Worker knows what equipment is available on-site.
  - ❒ Worker knows location, the large quantities of materials on-site, and variety of containers.
- ❒ 17. Worker is familiar with safe trenching and excavation procedures, if applicable, on-site.
- ❒ 18. Worker is familiar with hazard monitoring procedures (including calibration and maintenance procedures for field equipment) which workers are required to use on-site.
- ❒ 19. Worker knows location of command post and is familiar with the site safety plan.

Attachment A

First Report of Injury

ATTACHMENT A: First Report of Injury

Site Name _____

Date of Incident _____

Name of Injured Person _____

Reported by _____

Job # _____

Scope of Work _____

Report of Injury to
(Site Health and Safety Officer): _____ Time: _____ Date: _____

DESCRIPTION OF INJURY:

_____

_____

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Attachment B

Medical Monitoring Program

ATTACHMENT B: Medical Monitoring Program

The workers most likely to be exposed to contaminated materials at the Site are sampling and inspection personnel. These personnel are included in this Medical Monitoring Program.

The purposes of the Medical Monitoring Program are to identify any illness or problem that would put an employee at an unusual risk from exposures; to ensure that each employee can use negative-pressure respirators safely and withstand heat or cold stress; and to establish and maintain a medical data base for employees to monitor any abnormalities that may be related to work exposure and that could increase injury risk for the employee or others in the performance of job functions. The Medical Monitoring Program includes:

- A baseline physical examination;
- A medical determination of fitness of duty, including work restrictions after any job-related injury or illness or non-job-related absence lasting more than three working days;
- The review of each site-specific Health and Safety Plan and potential exposure list to determine the need for specific biological and medical monitoring; and
- Annual and exit physical examinations with attention given to specific exposures or symptoms.

Baseline Physical Examination

- A Baseline Physical Examination will be performed on each employee engaged in hazardous waste activities. The purposes of this examination are to identify any illness or problem that would put an employee at unusual risk from certain exposures; to certify the safe use of negative-pressure respirators (OSHA Safety and Health Standard 29 CFR 1910.134); and to develop a database for the assessment of exposure-related events detected through periodic medical monitoring. Variable data, such as age, sex, race, smoking, prior employment, and exposure history, that may have a bearing on the occurrence of subsequent events after employment begins will be gathered.
- The content of the Baseline Physical Examination will include:
- Medical, occupational, and fertility histories;
- A physical examination, stressing neurological, cardiopulmonary, musculoskeletal, and skin systems;
- An electrocardiogram;
- PA and lateral chest x-rays;
- A pulmonary function test (FEV1, FVC, FEV 25-75);
- An audiogram;
- A multi-chemistry blood panel, including kidney and liver function tests, CBC with differential, and urinalysis;
- Tests deemed necessary by symptoms or exposure history;
- A red blood cell cholinesterase; and
- Physical parameters, including blood pressure and visual acuity testing.

Annual Physical Examination

An examination and updated occupational history will be performed on an annual basis during the anniversary month of the baseline physical examination. The Annual Physical Examination serves to identify and prevent illness caused by cumulative exposure to toxic substances.

The Annual Physical Examination will include:

- A personal work history (based on specific project histories);
- A physical examination, stressing neurological, cardiopulmonary, musculoskeletal, and skin systems;
- Pulmonary function test (FEV1, FVC, FEV 25-75);
- A multi-chemistry blood panel, including kidney and liver function test;
- An audiogram;
- Tests deemed necessary by symptoms or exposure history; and
- An optional wellness profile.

Return to Work Examination

Any job-related illness or injury will be followed by a medical examination to determine fitness for duty or possible job restrictions based on the physical findings of the medical examiner. A similar examination will be performed following three missed workdays caused by a non job-related illness or injury requiring medical intervention.

Exit Physical Examination

The content of the Exit Physical Examination will include:

- a personal work history (based on specific project histories);
- medical, exposure, and fertility histories;
- a physical examination, stressing neurological, cardiopulmonary, musculoskeletal, and skin systems;
- a pulmonary function test (FEV1, FVC, FEV 25-75);
- an electrocardiogram;
- PA and lateral chest x-rays;
- an audiogram;
- a multi-chemistry blood panel, including kidney and liver function tests, CBC with differential, and urinalysis;
- tests deemed necessary by symptoms or exposure history;
- a red blood cell cholinesterase; and
- physical parameters, including blood pressure and visual acuity testing.

Attachment C

Field SOPs for Use and Decontamination of PPE

Appendix C: Field Standard Operating Procedures for Use and Decontamination of Personal Protective Equipment

1. Park vehicles outside the site boundaries.
2. During the pre-work safety meeting, the SSO will provide the following information:
    A. a description of the Site and known problem areas
    B. the level of protection required
    C. emergency medical information
    D. the locations of the first aid kit and fire extinguisher
3. Use the nearest lavatory.
4. Lay out and check safety gear.
5. Check and don Level D PPE.
6. For work in Level C PPE, put on safety gear in the following order:
    A. Coveralls
    B. Hearing Protection (if required)
    C. Gloves (inner and outer)
    D. Steel-toed work boots
    E. Connect suit and boots with tape
    F. Outer booties, if used
    G. Air purifying respirators (APRs), if required
    H. Eye protection (if using a ½ Face APR
    I. Hard hat
7. For work in Level C PPE, put on APRs as follows:
    A. Inspect.
        (1) Inspect before each use to ensure that they have been cleaned adequately.
        (2) Check material conditions for signs of pliability, deterioration, or distortion.
        (3) Examine cartridges and ensure that they are the correct type for the intended use, that the expiration date has not passed, and that they have not been opened or used previously.
        (4) Check face shields for cracks or fogginess.
    B. Loosen all harness strap adjustments.

C. Place chin in chin cup and draw back evenly on strap adjustments - the two bottom straps first, then the two top straps, and the center top strap last.

D. Check that the respirator is centered evenly on the face and that the straps are not uncomfortably tight.

E. Check for leaks or proper facial seals.

(1) To conduct a negative-pressure test, close the inlet part with the palm of the hand so it does not pass air, and gently inhale for about 10 seconds. Any inward rush of air indicates a poor fit. Note that a leaking facepiece may be drawn tightly to the face to form a good seal, giving a false indication of adequate fit.

(2) To conduct a positive-pressure test, gently exhale while covering the exhalation valve to ensure that a positive pressure can be built up. Failure to build a positive pressure indicates a poor fit.

8. Put on the rest of the gear in the following order:

A. Raise hood

B. Hard hat, if necessary

C. Surgical gloves

D. Outer gloves

E. Connect gloves and suit with tape

9. Select a buddy to act as a safety backup.

10. Check your buddy's equipment and have your buddy check yours for rips, tears, or malfunctions. Pay special attention to respirators, making sure that seals are good and that cartridges are securely in place.

11. If any equipment or gear gets damaged or if your suit tears badly, GO BACK.

12. If you experience physical discomfort, breathing difficulties, light-headedness, dizziness, or other abnormalities, GO BACK.

13. When you return, have your buddy check for external accumulation of contamination and remove it. Also check gear for damage.

14. Decontamination will be performed in steps as follows (as appropriate for the PPE being utilized):

Step 1 – Segregated Equipment Drop: Deposit equipment used on-Site (tools, sampling devices and containers, monitoring instruments, clipboards, etc.) in different containers with plastic liners. Each may be contaminated to a different degree. Segregation at the drop reduces the probability of cross-contamination. This equipment may be reused if properly decontaminated.

Equipment: various sizes of containers/plastic drop cloths

15. **Step 2 – Boot Cover and Outer Glove Wash and Rinse:** (Optional – will be used at the Site Safety Officer's discretion.)

    Equipment: spray bottle/container with nozzle/ two wash basins or tubs/scrub brush/water/Liqui-nox non-phosphate soap solution (1%)

    Step 3 – Tape Removal: Remove tape around boots and gloves, and deposit in container with plastic liner. Remove boot covers, then outer gloves, and place them in the container.

    Equipment: container (30–-50 gallons)/ plastic liners/ folding chairs

    Step 4 – Safety Boot Wash and Rinse: (Optional - will be used at discretion of field team members.)

    Equipment: two wash basins or tubs/scrub brush/water/ Liqui-nox solution (1%)

    Step 5 – Protective Coveralls Removal: With the assistance of a helper, remove protective coveralls. Deposit in container with plastic liner.

    Equipment: container (30–50 gallons)/folding chairs/plastic liners

    Step 6 – Respirator Removal: Remove facepiece. Avoid touching face with gloves. If work is completed for the day, discard cartridges in lined container, and wash and rinse respirator.

    Equipment: container (30–50 gallons)/ plastic liners

    Step 7 – Inner Glove Removal: Remove inner gloves and deposit in container with plastic liner.

    Equipment: container (20–30 gallons)/ plastic liners

16. Respirators will be cleaned daily by hand washing with MSA cleaner-sanitizer solution followed by a thorough rinse and air drying. NEVER ALLOW A RESPIRATOR TO DRY WITH THE STRAPS PLACED FORWARD ACROSS THE FACESHIELD BECAUSE THIS MAY CAUSE CHANGES IN THE FACE-TO-RESPIRATOR SEAL SURFACE. The specific procedures to be employed are as follows:

    A. Remove all cartridges (canisters) and filters plus gaskets and seals not permanently affixed to their seats.

    B. Loosen harness adjustment straps.

    C. Remove exhalation valve cover.

    D. Remove inhalation and exhalation valves.

    E. Remove protective face-shield cover.

    F. Wash facepiece in MSA cleaner/sanitizer powder mixed with warm water, preferably at a temperature of 120 F. Wash components separately from facepiece. Heavy soil may be removed from the facepiece surface using a medium-soft hand brush.

G. Remove all parts from the wash solution, and rinse twice in clean, warm water.

H. Air-dry all parts in a designated clean area.

I. Pat facepieces, valves, and seats to remove any remaining soap residue, water, or other foreign material with a clean, damp, lint-free cloth.

J. Reassemble respirator.

K. Place respirator in a plastic bag and the respirator box or otherwise store the respirator to prevent exposure to dust, moisture, sunlight, damaging chemicals, extreme temperatures, and impact.

17. Investigation-derived waste material will be handled as follows:

A. Used PPE and disposable equipment will be double bagged and placed in a municipal refuse dumpster on Site. These wastes are not considered hazardous and can be sent to a municipal landfill. Any PPE and disposable equipment that is to be disposed of which can still be reused will be rendered inoperable before disposal in the refuse dumpster.

B. Wash and rinse waters from personal and equipment decontamination will be poured onto the ground or into a storm drain.

Attachment D

Heat Stress Procedures

ATTACHMENT D: Heat Stress Procedures and Prevention

Heat is one of the most common (and potentially serious) illnesses at hazardous waste sites where PPE is worn; therefore, regular monitoring and other preventive precautions are vital. Shelter from the sun will be provided during rest periods and potable drinking water will be made available and accessible onsite at all times. Below is a list of the signs and symptoms of heat stress. Initial work schedules will be approximately 90 minutes of work followed by 15 minutes of rest. Work intervals will be adjusted to shorter periods based on the assessment of the SSO. Monitoring for heat stress will be conducted by visual observation by the individual team members.

Signs and Symptoms of Heat Stress

- **Heat rash** may result from continuous exposure to heat or humid air.
- **Heat cramps** are caused by heavy sweating with inadequate electrolyte replacement. Signs and symptoms include:
    - muscle spasms
    - pain in the hands, feet, and abdomen
- **Heat exhaustion** occurs from increased stress on various body organs, including inadequate blood circulation caused by cardiovascular insufficiency or dehydration. Signs and symptoms include:
    - pale, cool, moist skin
    - heavy sweating
    - dizziness
    - nausea
    - fainting
- **Heat stroke** is the most serious form of heat stress. Temperature regulation fails, and the body temperature rises to critical levels. Immediate action must be taken to cool the body before serious injury and death occur. Competent medical help must be obtained. Signs and symptoms include:
    - red, hot, usually dry skin
    - lack of or reduced perspiration
    - nausea
    - dizziness and confusion
    - strong, rapid pulse
    - coma

First-aid remedies for heat stress and heat stroke includes removing the worker to a cool place, providing cool water or a commercial sport drink, loosen tight clothing, and call for an ambulance if victim vomits or starts to lose consciousness.

Attachment E

Site Safety Officer (SSO) Responsibilities

Attachment E: Site Safety Officer (SSO) Responsibilities

An SSO will be designated. The responsibilities of the SSO will include the following:

- briefing personnel on the hazards at the Site, the standard operating procedures to be employed, and emergency procedures;
- conducting on-Site health monitoring;
- coordinating access control and site security, including responsibility for protection of third parties, such as visitors or the surrounding community;
- monitoring work practices and decontamination to ensure that required procedures are being followed;
- being available to document and respond to any concerns or complaints made by on-site personnel;
- documenting unsafe work practices or conditions;
- documenting any accidents or incidents that result in illness or injury to personnel; and
- evaluating and amending the HASP daily to remedy deficiencies and post entry briefings.

Appendix

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Appendix C Amended Mitigation Monitoring and Reporting Program

May 2024| Amended Mitigation Monitoring and Reporting Program
State Clearinghouse No. 2023010230

MCKINLEY ELEMENTARY SCHOOL CAMPUS MASTER PLAN PROJECT

for Santa Monica-Malibu Unified School District

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PLACEWORKS

Table of Contents

Section **Page**

1. INTRODUCTION 1-1

1.1 PURPOSE OF MITIGATION MONITORING PROGRAM 1-1

1.2 PROJECT LOCATION 1-2

1.3 PROJECT SUMMARY 1-2

1.4 ENVIRONMENTAL IMPACTS 1-3

2. MITIGATION MONITORING PROCESS 2-1

2.1 MITIGATION MONITORING PROGRAM ORGANIZATION 2-1

List of Tables

Table **Page**

Table 2-1 Mitigation Monitoring Requirements 2-3

Table of Contents

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1. Introduction

1.1 PURPOSE OF MITIGATION MONITORING PROGRAM

This Mitigation Monitoring Program has been developed to provide a vehicle by which to monitor mitigation measures and conditions of approval outlined in the Draft Environmental Impact Report (DEIR), State Clearinghouse No. 2023010230. The Mitigation Monitoring Program has been prepared in conformance with Section 21081.6 of the Public Resources Code and Santa Monica-Malibu Unified School District (SMMUSD or District) Monitoring Requirements. Section 21081.6 states:

(a) When making findings required by paragraph (1) of subdivision (a) of Section 21081 or when adopting a mitigated negative declaration pursuant to paragraph (2) of subdivision (c) of Section 21080, the following requirements shall apply:

(1) The public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation. For those changes which have been required or incorporated into the project at the request of a responsible agency or a public agency having jurisdiction by law over natural resources affected by the project, that agency shall, if so requested by the lead or responsible agency, prepare and submit a proposed reporting or monitoring program.

(b) The lead agency shall specify the location and custodian of the documents or other material which constitute the record of proceedings upon which its decision is based. A public agency shall provide that measures to mitigate or avoid significant effects on the environment are fully enforceable through permit conditions, agreements, or other measures. Conditions of project approval may be set forth in referenced documents which address required mitigation measures or, in the case of the adoption of a plan, policy, regulation, or other public project, by incorporating the mitigation measures into the plan, policy, regulation, or project design.

(c) Prior to the close of the public review period for a draft environmental impact report or mitigated negative declaration, a responsible agency, or a public agency having jurisdiction over natural resources affected by the project, shall either submit to the lead agency complete and detailed performance objectives for mitigation measures which would address the significant effects on the environment identified by the responsible agency or agency having jurisdiction over natural resources affected by the project, or refer the lead agency to appropriate, readily available guidelines or reference documents. Any mitigation

> measures submitted to a lead agency by a responsible agency or an agency having jurisdiction over natural resources affected by the project shall be limited to measures which mitigate impacts to resources which are subject to the statutory authority of, and definitions applicable to, that agency. Compliance or noncompliance by a responsible agency or agency having jurisdiction over natural resources affected by a project with that requirement shall not limit the authority of the responsible agency or agency having jurisdiction over natural resources affected by a project, or the authority of the lead agency, to approve, condition, or deny projects as provided by this division or any other provision of law.

The Mitigation Monitoring and Reporting Program (MMRP) will serve to document compliance with adopted/certified mitigation measures that are formulated to minimize impacts associated with development under the McKinley Elementary School Campus Master Plan Project (Proposed Project).

1.2 PROJECT LOCATION

The McKinley ES campus (Proposed Project's Site) is located at 2401 Santa Monica Boulevard (Assessor's Parcel Number [APN] 4276-023-900) in the Mid-City neighborhood of the city of Santa Monica, Los Angeles County, California. The campus consists of a 6.48-acre rectangular parcel that includes the existing campus and is entirely District-owned. The campus is approximately 0.60 mile north of Interstate 10 (I-10), 2.0 miles east of the Pacific Coast Highway (PCH) and Santa Monica State Beach, and is bounded by Santa Monica Boulevard to the southeast, Chelsea Avenue to the northeast, Arizona Avenue to the northwest, and 23rd Court (alley) to the southwest. McKinley ES is in an urban area surrounded by residential, commercial, and institutional uses. Direct access to the campus is provided by Santa Monica Boulevard and Chelsea Avenue, with student drop-off/pick-up along Chelsea Avenue.

1.3 PROJECT SUMMARY

The Proposed Project would renovate and modernize McKinley ES campus to update the campus facility to align with the Districtwide Educational Specifications (SMMUSD 2019). The Proposed Project would develop new and renovated facilities that would support a modern project-based learning approach at McKinley ES that would expand instructional strategies currently in place in the District and would address future learning that is flexible, adaptable, and project-centered in its delivery.

The Districtwide Educational Specifications shift the instructional design of the past that was defined by a traditional teacher-at-the-front-of-the-classroom style of learning to one that provides for rotational learning within the classroom, incorporating a variety of project-based learning experiences that allow for individualized, small group, and large group instruction to occur simultaneously. Learning spaces would be adapted with enhanced flexibility, mobility, and access to technology and resources in real time, where instructors and students may shift seamlessly between programs and instructional opportunities. The Districtwide Education Specifications also call for larger classrooms, more and larger multipurpose rooms, and several new shared spaces which do not currently exist. The redesigned campus would have more square feet of interior space.

The Proposed Project would be constructed in three phases and would occur over approximately 5.7 acres of the 6.48-acre District-owned campus. Redevelopment and modernization of McKinley ES includes the demolition and removal of some existing structures, renovation of structures to remain, and construction of two new buildings and outdoor facilities. Eleven existing portable classrooms (B1 through B11), playground restrooms, one modular building (Building D), and one elevator (serving Building B and C) would be selectively demolished and removed as part of the Proposed Project. Two new classroom buildings would be constructed to replace the 11 portable classrooms to be removed. The existing library and Building C would undergo renovations. Improvements to outdoor recreational areas, circulation improvements including a new pickup/drop off area along Chelsea Avenue, and relocation of the parking lot would also be implemented.

1.4 ENVIRONMENTAL IMPACTS

1.4.1 Impacts Considered Less Than Significant

During preparation of the Initial Study, SMMUSD determined that the following environmental impact categories would not be significantly affected by the proposed McKinley Elementary School Campus Master Plan Project. These categories are not discussed in detail in this DEIR.

- Agriculture and Forestry Resources
- Biological Resources.
- Land Use and Planning
  - Divide an Established Community
- Mineral Resources
- Population and Housing
- Public Services
- Utilities/Service Systems
- Tribal Cultural Resources
- Wildfire

The DEIR determined that six environmental factors would have less than significant impacts if the Proposed Project is implemented.

- Aesthetics
- Air Quality
- Cultural Resources
  - Historical Resources
- Energy
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
  - Transport, use, and disposal of hazardous materials
  - Hazardous materials site

  - Emergency Response or evacuation plan
- Hydrology and Water Quality
- Land Use and Planning
- Noise (operational)
- Recreation
- Transportation
  - Conflict with a plan or policy addressing circulation system.
  - Vehicle Miles Traveled (VMT)
    - Emergency access

1.4.2 Potentially Significant Adverse Impacts That Can Be Mitigated

The DEIR determined that five environmental factors would have potentially significant impacts without mitigation.

- Cultural Resources
  - Impacts to archaeological resources
- Geology and Soils
  - Impacts to paleontological resources
- Hazards and Hazardous Materials
  - Release of hazardous materials into the environment
  - Emit hazardous emissions or handle hazardous materials within one-quarter mile of a school.
- Noise
  - Construction-related noise
  - Construction groundborne vibration
- Transportation
    - Hazards due to a geometric design feature or incompatible uses

1.4.3 Unavoidable Significant Adverse Impacts

Unavoidable adverse impacts may be considered significant on a project-specific basis, cumulatively significant, and/or potentially significant. However; this DEIR did not identify any significant and unavoidable adverse impacts, as defined by CEQA, that would result from implementation of the Proposed Project.

2. Mitigation Monitoring Process

2.1 MITIGATION MONITORING PROGRAM ORGANIZATION

CEQA requires that a reporting or monitoring program be adopted for the conditions of project approval that are necessary to mitigate or avoid significant effects on the environment (Pub. Resources Code, § 21081.6). The mitigation monitoring and reporting program is designed to ensure compliance with adopted mitigation measures during project implementation. For each mitigation measure recommended in the DEIR, specifications are made herein that identify the action required and the monitoring and reporting that must occur. In addition, a responsible agency is identified for verifying compliance with individual conditions of approval contained in the Mitigation Monitoring and Reporting Program. To effectively track and document the status of mitigation measures, a mitigation matrix has been prepared (see Table 2-1, *Mitigation Monitoring Requirements*).

2. Mitigation Monitoring Process

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Table 2-1 Mitigation Monitoring Requirements

	Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
5.3. CULTURAL RESOURCES					
CUL-1	Prior to issuance of any permits allowing ground-disturbing activities for the Project (for each individual phase of the Project), the District shall ensure that an archaeologist who meets the Secretary of the Interior's standards for professional archaeology has been retained for the Project and will be on-call during all grading and other significant ground-disturbing activities. The Qualified Archaeologist shall ensure that the following measures are followed for the Project: • Prior to any ground disturbance, the Qualified Archaeologist, or their designee, shall provide worker environmental awareness protection training to construction personnel regarding regulatory requirements for the protection of cultural (prehistoric and historic) resources. As part of this training, construction personnel shall be briefed on proper procedures to follow should unanticipated cultural or paleontological resources be made during construction. • In the event that a prehistoric archeological site (such as any unusual amounts of stone, bone, or shell) or a historic-period archaeological site (such as concentrated deposits of bottles or bricks, amethyst glass, or other historic refuse), is uncovered during grading or other construction activities, all ground-disturbing activity within 50 feet of the discovery shall be halted. The District shall be notified of the potential find and a qualified archeologist shall be retained to investigate its significance. • If significant Native American cultural resources are discovered for which a treatment plan must be prepared the project applicant or the archaeologist on call shall contact the applicable Native American tribal contact(s). If requested by the Native American tribe(s), the project applicant or archaeologist on call shall, in good faith, consult on the discovery and its disposition (e.g., avoidance, preservation, reburial, return of artifacts to tribe). • Any previously undiscovered resources found during construction will be recorded on appropriate California Department of Parks and Recreation 523 forms and evaluated for significance under all applicable regulatory criteria. If the archaeologist determines that the find does not meet the CRHR standards of significance, construction may proceed. If the find is determined to be significant by the qualified archaeologist (i.e., because the	Construction Contractor, Santa Monica-Malibu Unified School District, Qualified Archaeologist	Prior to construction of each phase of Project	Santa Monica-Malibu Unified School District	

2. Mitigation Monitoring Process

Table 2-1 Mitigation Monitoring Requirements

	Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
	find is determined to constitute either an historical resource or a unique archaeological resource), the archaeologist shall work with the District to follow accepted professional standards such as further testing for evaluation or data recovery, as necessary. The results of the identification, evaluation, and/or data recovery program for any unanticipated discoveries shall be presented in a professional-quality report that details all methods and findings, evaluates the nature and significance of the resources, and analyzes and interprets the results.				
5.5 GEOLOGY AND SOILS					
GEO-1	Prior to the commencement of any on-site excavation or grading activities, the District shall retail a qualified paleontologist meeting the Society of Vertebrate Paleontology (SVP) Standards (SVP 2010) (Qualified Paleontologist). The Qualified Paleontologist shall provide technical and compliance oversight of all work as it relates to paleontological resources, shall be responsible for ensuring the employee training provisions are implemented during implementation of the Project, and shall report to the Project's Site in the event potential paleontological resources are encountered. A Paleontological Resources Management Plan (PRMP) shall be prepared by the Qualified Paleontologist that incorporates all available geologic data for the Project in order to determine the necessary level of effort for monitoring based on the planned rate of excavation and grading activities, the materials being excavated, and the depth of excavation. The PRMP establishes the ground rules for the entire paleontological resource mitigation program. The Qualified Paleontologist will implement the PRMP as the project paleontologist, program supervisor, and principal investigator. The PRMP shall incorporate the results of the paleontological resources assessments, geotechnical investigation, and the final engineering/grading plans for the project including pertinent geological and paleontological literature, geologic maps, and known fossil locality information. The PRMP shall include processes and procedures for paleontological monitoring, fossil salvaging (if needed), reporting, and curation (if needed). The PRMP shall also require the Qualified Paleontologist to prepare a report of the findings of the monitoring efforts after construction is completed. The PRMP shall also require the Qualified Paleontologist to obtain a curatorial arrangement with a qualified repository (e.g., Los Angeles County Natural History Museum) prior to construction if significant paleontological resources are discovered and require curation.	Construction Contractor, Santa Monica-Malibu Unified School District, Qualified Paleontologist	Prior to the commencement of excavation or grading activities	Santa Monica-Malibu Unified School District	

Table 2-1 Mitigation Monitoring Requirements

Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
A paleontological monitor, defined as an individual who has experience in the collection and salvage of fossil materials, shall work under the direction of the Qualified Paleontologist and shall be on-site during excavations into native sediments of older alluvium below a depth of five feet and native sediments of young alluvium below a depth of 20 feet. Drilling or pile driving activities, regardless of depth, have a low potential to produce fossils meeting significance criteria because any fossils brought up by the auger during drilling will not have information about formation, depth or context. The only instance in which such fossils will meet significance criteria is if the fossil is a species new to the region. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor will temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery will be roped off with a 50-foot radius buffer. Fossil remains collected during the monitoring and salvage portion of the program shall be cleaned, repaired, sorted, and catalogued. Once documentation and collection of the find is completed, the monitor will remove the rope and allow grading to recommence in the area of the find. Prepared fossils, along with copies of all pertinent field notes, photos, and maps, shall be deposited (as a donation) in a scientific institution with permanent paleontological collections, such as the Los Angeles County Natural History Museum. A final Paleontological Monitoring and Data Recovery Report shall be completed that outlines the results of the monitoring program. This report shall include discussions of the methods used, stratigraphic section(s) exposed, fossils collected, and significance of recovered fossils.				

2. Mitigation Monitoring Process

Table 2-1 Mitigation Monitoring Requirements

	Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
5.7 HAZARDS AND HAZARDOUS MATERIALS					
HAZ-1	Prior to demolition or renovation activities, the existing buildings proposed for demolition or renovation will be inspected by a qualified environmental specialist for the presence of hazardous building materials, including asbestos containing materials asbestos-containing materials (ACMs), lead-based paints (LBP), and polychlorinated biphenyls (PCBs). If hazardous building materials are detected, abatement and removal of these materials will be conducted in accordance with applicable federal, state, and local guidelines as follows: • In the event that ACM and LBP are found on the campus, notice shall be provided to South Coast Air Quality Management District (AQMD), and any demolition activities likely to disturb ACM and LBP shall be carried out by a contractor trained and qualified to conduct lead- or asbestos-related construction work in conformance with South Coast AQMD, CalOSHA, Department of Toxic Substances Control (DTSC), and other applicable requirements. If found, ACM and LBP will be disposed of at an appropriately permitted facility. • If PCBs are found on the campus, these materials shall be managed in accordance with the Metallic Discards Act of 1991 (PRC, sections 42160-42185) and other state and federal guidelines and regulations. Demolition plans and contract specifications will incorporate any necessary abatement measures in compliance with the Metallic Discards Act, particularly section 42175, Materials Requiring Special Handling, for the removal of PCB-containing materials. • Once hazardous building materials are removed, a follow-up inspection shall be performed of the existing buildings prior to demolition or renovation to confirm that the hazardous items have been removed to an acceptable level per DTSC requirements before commencing with demolition activities.	Construction Contractor, Santa Monica-Malibu Unified School District, qualified environmental specialist	Prior to demolition or renovation activities	Santa Monica-Malibu Unified School District	

Table 2-1 Mitigation Monitoring Requirements

	Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
HAZ-2	In order to address the potential presence of contaminated soils and/or soil vapor at the site, Tthe District will retain a licensed Professional Geologist, Professional Engineering Geologist, or Professional Engineer with more than 2 years of experience conducting hazardous material and contamination assessments to conduct soil sampling. The soil sampling will be conducted prior to any disturbance of the area(s) suspected of potential soil and/or soil vapor contamination to evaluate shallow soil conditions with respect to lead-based paint (LBP) residues from on-site structures built prior to 1990 and chemicals commonly used at drycleaners including chlorinated solvents due to historic uses at nearby properties. If the soil sampling identifies the presence of contaminated soils and/or soil vapor at levels that require remediation, the contractor shall prepare and implement a contaminated soils DTSC-approved cleanup selection document (such as a removal action workplan (RAW)) for removal appropriate treatment of affected soils and soil vapor on-site. All recommendations in the cleanup selection document regarding soil handling, treatment, and storage shall be implemented. Soil vapors shall also be treated according to procedures outlined in the RAW. Affected soils shall be excavated and disposed of off-campus at a landfill permitted to accept such waste, and tThe campus shall be cleaned to an acceptable level per DTSC requirements. After the District confirms that the affected media has soils have been appropriately treated, removed, through the collection of soil samples in the excavation areas, the excavation shall be backfilled and compacted with clean soil, and the contractor will prepare a Removal Action Completion Report for DTSC that documents the cleanup activities removal and presents analytical results for the confirmation samples, if required. Regarding soil vapor, the District shall prepare a long-term operation, maintenance, monitoring, and reporting plan for DTSC to ensure long-term effectiveness of the treatment system.	Construction Contractor; Santa Monica-Malibu Unified School District; Professional Geologist, Professional Engineering Geologist, or Professional Engineer	Prior to disturbance of the area(s) suspected of potential contamination	Santa Monica-Malibu Unified School District	
5.11 NOISE					
N-1	The Santa Monica-Malibu Unified School District construction contract bid shall require the chosen construction contractor(s) to prepare a Construction Noise Control Plan. The details of the Construction Noise Control Plan shall be included as part of the permit application drawing set and as part of the construction drawing set. The Construction Noise Control Plan shall include, but not be limited to the following: • During the entire active construction period, equipment and trucks used for Project construction shall utilize the best available noise control techniques (e.g., improved	Construction Contractor, Santa Monica-Malibu Unified School District	Prior to construction activities	Santa Monica-Malibu Unified School District	

2. Mitigation Monitoring Process

Table 2-1 Mitigation Monitoring Requirements

Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
mufflers, equipment re-design, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds).				
• The District shall require the contractor to use impact tools (e.g., jack hammers and hoe rams) that are hydraulically or electrically powered wherever such alternatives are available. Where the use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used along with external noise jackets on the tools.				
• During the entire active construction period, stationary noise sources shall be located as far from sensitive receptors as possible, and they shall be muffled and enclosed within temporary sheds, or insulation barriers, or other measures.				
• During the entire active construction period, noisy operations shall be combined so that they occur in the same time period because the total noise level produced would not be significantly greater than the level produced if the operations were performed separately (and the noise would be of shorter duration).				
• Signs shall be posted at the job site entrance(s), within the on-site construction zones, and along queueing lanes (if any) to reinforce the prohibition of unnecessary engine idling. All other equipment shall be turned off if not in use for more than 5 minutes.				
• During the entire active construction period and to the extent feasible, the use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only. The construction manager shall use smart back-up alarms, which automatically adjust the alarm level based on the background noise level or switch off back-up alarms and replace with human spotters in compliance with all safety requirements and laws.				
• For on-site receptors, erect a fence with sound blankets at least 8 feet tall in the immediate proximity between the construction perimeter and active classrooms as to block the line of site during school hours. The blanketed fence shall not have any gaps between blankets or between the blankets and the ground.				

Table 2-1 Mitigation Monitoring Requirements

	Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
N-2	Vibratory compaction that is within 25 feet of any surrounding residential structure shall use a static roller in lieu of a vibratory roller. Specifically, use of a static roller is predicted to generate vibration levels of approximately 0.05 in/sec PPV at a distance of 25 feet (New Zealand Transport Agency 2012). At a distance greater than 25 feet, a vibratory roller would no longer exceed 0.20 in/sec PPV.	Construction Contractor, Santa Monica-Malibu Unified School District	During vibration compaction that is within 25 feet of any surrounding residential structure	Santa Monica-Malibu Unified School District	
5.12 TRANSPORTATION					
T-1	Preparation and Implementation of a Construction Management Plan Santa Monica Municipal Code (SMMC) Section 8.98 stipulates the preparation of a Construction Management Plan for any project that meets the criteria set forth in SMMC Section 8.98.030 in order to coordinate, communicate, and manage the temporary effects of construction activity on surrounding residents, businesses, and commuters in the community. In accordance with SMMC Section 8.98, prior to initiating construction, the District and/or its contractors shall prepare and implement a Construction Management Plan that meets the requirements of SMMC Section 8.98.040 (Content of a Construction Management Plan). The Construction Management Plan shall also include a Temporary Traffic Control Plan (TTCP) to address anticipated impacts to or closures of public rights-of-way. The Construction Management Plan (including the TTCP) shall be submitted to the City Public Works Department for approval prior to construction of each phase of the Project. The TTCP will demonstrate appropriate traffic handling during construction activities for all work that could impact the traveling public (e.g., the transport of equipment and materials to the campus area). The TTCP shall minimize hazards through industry-accepted traffic control practices. At a minimum, the TTCP shall require the contractor to do the following: • Strictly adhere to adhere to the construction noise restrictions per Section 4.12.110 of the Santa Monica Municipal Code. Construction and demolition work times are: Monday through Friday, 8:00 a.m. until 6:00 p.m.; Saturdays 9:00 a.m. until 5:00 p.m. No construction or demolition is allowed on Sundays and holidays; • Obtain transportation permits necessary for oversize and overweight load haul routes and follow regulations of the applicable jurisdiction for transportation of oversized and overweight loads; • Provide adequate signage and traffic flagger personnel, if needed, to control and direct traffic for deliveries, if they could preclude free flow of traffic in both directions or cause a	Construction Contractor, Santa Monica-Malibu Unified School District	Prior to initiating construction	Santa Monica-Malibu Unified School District	

2. Mitigation Monitoring Process

Table 2-1 Mitigation Monitoring Requirements

Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
temporary traffic hazard; prohibit deliveries of heavy equipment and construction materials during periods of heavy traffic flow (i.e., 30 minutes before or after school start and end times); • Develop a Traffic Education Program to assist in educating parents, students, and staff on drop-off/pick-up procedures specific to each phase of construction that includes informational materials regarding student drop-off and pick-up procedures via regular parent/school communication methods and posted on the school website; • Utilize portable message signs and information signs at construction sites as needed; • Coordinate with the responsible agency departments, including the City of Santa Monica Public Works and Planning Departments, and the City of Santa Monica Fire Department no less than 10 days prior to the start of the work for each phase including specifying whether any temporary vehicle, pedestrian, or bicycle construction detours are needed, if construction work would encroach into the public right-of-way, or if temporary use of public streets surrounding the campus is needed; and • Review all existing emergency access and evacuation plans and identify procedures for construction area evacuation in the case of an emergency declared by local authorities. • Additionally, the District shall ensure that the construction contractor follows all applicable requirements and regulations established in the City of Santa Monica Procedures and Requirements for Temporary Traffic Control Plans to ensure the TTCP is prepared to City standards and approved as necessary.				

Appendix

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