Contaminated Media Management Plan

Seattle Public Schools, John Stanford Center

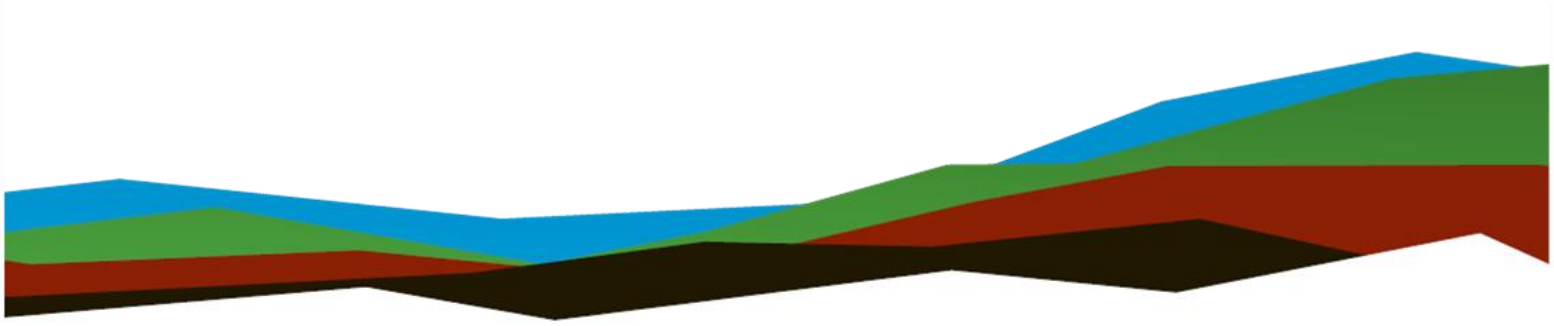
2445 3rd Avenue South

Seattle, King County, Washington

February 26, 2024 | Terracon Project No. 81247068

Prepared for:

Seattle Public Schools
Seattle, Washington



Prepared by:

Terracon Consultant, Inc.
Mountlake Terrace, Washington

Terracon

Nationwide
Terracon.com

- Facilities
- Environmental
- Geotechnical
- Materials

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Terracon.com

February 26, 2024

Seattle Public Schools
2445 3rd Avenue South
Seattle, Washington 98134

Attn: Mr. Milton Huertas
D: (206) 252-0661
E: mjhuertas@seattleschools.org

Re: Contaminated Media Management Plan
Seattle Public Schools, John Stanford Center
2445 3rd Avenue South
Seattle, King County, Washington 98134
Terracon Proposal No. P81247068

Dear Mr. Huertas:

Terracon Consultants, Inc. (Terracon) has prepared this Contaminated Media Management Plan (CMMP) for the above-referenced Site. Per your request, this plan was prepared to provide guidance on the handling and disposition of documented contaminated soils, other potentially contaminated soils and/or subsurface environmental features that may be encountered at the Site during earthwork activities. In addition, this plan also provides for general guidance regarding the impervious surfaces, identified as the "Cap", at the property in accordance with the Environmental Covenant, dated April 13, 1999.

Terracon appreciates the opportunity to perform these services for Seattle Public Schools. These services were performed in general accordance with Terracon Proposal No. P81247069, dated February 2, 2024.

Please contact us if you have questions regarding this information or if we can provide any other services.

Sincerely,

Terracon Consultants, Inc.

Madeleine Hummer, L.G.
Senior Staff Geologist

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

Kyle Bennett, L.G.
Project Manager

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CONTAMINATED MEDIA MANAGEMENT PLAN

Seattle Public Schools, John Stanford Center
2445 3rd Avenue South
Seattle, King County, Washington

Terracon Project No. 81247068
February 26, 2024

1.0 INTRODUCTION

Terracon Consultants, Inc. (Terracon) has prepared this Contaminated Media Management Plan (CMMP) for Seattle Public Schools (Client) to govern earthwork performed in association with the on-going renovation at the Site. Terracon understands that Client will retain a general and/or remediation contractor (Contractor) for the project, and the Client will provide them with a copy of this CMMP. Terracon will discuss the components of this CMMP during future preconstruction meetings to beginning earthwork so that all stakeholders are aware of the guidelines and requirements detailed herein. Should questions arise regarding the content of this CMMP, Terracon contact information is provided in Section 2.0.

1.1 Purpose

The objective of this CMMP is to provide guidance for the removal and disposal of the documented carcinogenic polycyclic aromatic hydrocarbon (cPAH)-contaminated soil, as well as characterization, handling, and disposal of cPAH-contaminated soil and/or other potentially contaminated soil, and/or other environmental related items (to be referenced as environmental features throughout this document) that may be encountered during earthwork activities at the Site that will require special handling or disposal at approved receiving facilities.

This CMMP has been prepared based on our understanding of proposed Site renovation, which includes tunnelling under the south building for utility replacement and is not intended to cover all potential future development activities at the Site and/or in the adjacent rights-of-way (ROW). However, this CMMP is intended to provide a basis for soil management, and to alert the construction contractor and related parties of the presence of contaminated soil that will be encountered during earthwork activities in specific areas of the Site, to provide guidance regarding handling, staging, sampling, transport, and disposition, and as a notification and guidance for the Cap in accordance with the Environmental Covenant (EC).

1.2 Site Description and Project Information

Terracon has prepared this CMMP for the property located at 2445 3rd Avenue South, and 230 South Lander, Seattle, Washington (King County Tax Parcel No. 766620-5235). The approximately 6.31-acre property is developed with an approximately 20,000-sf building on the north of the property and an approximately 350,000-square-foot (sf) three-story building on the south of the property. The property is currently occupied by the Seattle Public Schools and operates as a commercial kitchen and office space. It is Terracon's understanding that utility work is being completed beneath the south building via an approximately 350 feet tunnel, hereinafter the Site.

Based on previous investigations, the anticipated depth to groundwater at the Site ranges approximately 10 to 12 feet below ground surface (bgs), which is below the anticipated maximum depth of the planned utility work and is not anticipated to be encountered during the earthwork activities. The general location of the utility work is depicted on Exhibit 1.

1.3 Nature and Extent of Soil Contamination

Based on the previous environmental investigations conducted at the property, the northern building operated as a vehicle maintenance facility (VMF) by the United States Postal Service and the southern building operated as the USPS General Mail Facility (GMF). The VMF building had four former fueling underground storage tanks (USTs), in-ground hydraulic hoists, a waste oil UST, oil/water separators, a paint booth, two former heating oil USTs, and a steel culvert pipe. The features were assessed by previous consultants and petroleum impacts including cPAHs were identified in the soil and groundwater surrounding the features and were left-in-place. However, the property received a No Further Action (NFA) determination on March 8, 1999, and a revised NFA letter on April 5, 1999, contingent on the implementation of an EC, dated April 13, 1999. Per the established EC on the property, a notification to Ecology regarding the potential exposure of impacted media is required when removing or damaging the Cap (buildings, paved areas, landscaping, etc). It should be noted that soil and groundwater impacts previously identified at the property, and which remain in-place, are located to the north of the GMF building and soil or groundwater sampling does not appear to have been conducted in the vicinity of utility tunneling work under the GMF building as a source of potential contamination in this area of the property was not identified.

Prior to the utility tunneling at the Site, in an effort to assess soils ahead of the planned earthwork, on June 22, 2023, Krazan & Associates, Inc. (Krazan) conducted subsurface investigation at the site in the vicinity of the planned utility tunnel. Based on the findings of Krazan's investigation, concentrations of diesel-, oil-, and gasoline-range total petroleum hydrocarbons (TPH), benzene, toluene, ethyl benzene, xylenes, select metals, and polychlorinated biphenyls (PCBs) were not identified above laboratory

method reporting limits (MRLs) and/or Washington State's Model Toxics Control Act (MTCA) cleanup levels, with the exception of cPAHs (i.e. benzo[a]pyrene) in soil at a concentration exceeding MTCA Method A cleanup level in soil boring B1 at 6 feet bgs. This exceedance is likely associated with the fill material used beneath the structure, which includes creosote piles and building material debris. Furthermore, former creosote piles have been identified during the utility work and there is a potential that additional creosote piles will be discovered as utility work continues. The Krazan report is included in Appendix B

Based on these findings, this CMMP is intended to provide guidance for the handling and disposal of documented cPAH-contaminated soil that will be encountered at the Site during the under-slab utility work that is being completed beneath the southern building only and is not intended to cover all media management procedures for all areas of the property. This CMMP also provides a general guidance for notification, repair, and reporting for disturbance/damage to the Cap (e.g., impervious surfaces) in accordance with the EC.

2.0 TERRACON REPRESENTATIVE CONTACT AND NOTIFICATION INFORMATION

At least 72 hours prior to earthwork activities within the documented areas of environmental impacts, the Contractor will contact the Client (or authorized representative) and Terracon, so that proper documentation and observations may be performed. As necessary, a Terracon field representative will mobilize to the Site to observe and document excavation activities and collect excavation soil samples, as necessary. Details of sampling procedures will be determined by Terracon based on the conditions encountered, this CMMP and/or in accordance with local rules and regulations.

- **Primary Terracon contact**
  Kyle Bennett (425) 697-1128 office, (360) 913-5649 cell
- **Secondary Terracon contact**
  Matt Wheaton (425) 361-0360 office, (425) 218-4607 cell

Should Terracon personnel not be on-Site when contaminated or suspect soils/materials are encountered, or other environment features, the Contractor shall be prepared to document the work completed noting the location, approximate depth and elevation, as well as photographs of the material, and follow the procedures detailed herein.

3.0 COMPLIANCE WITH APPLICABLE ENVIRONMENTAL LAWS AND REGULATIONS

The Contractor and all subcontractors working at the Site shall at all times comply with all applicable environmental laws. Management and handling of contaminated media shall be conducted in accordance with Resource Conservation and Recovery Act (RCRA), 42 U.S.C. § 6901 et seq, and the Hazardous Waste Management Act (HWMA), RCW 70.105 and WAC 173-303, as necessary.

Washington OSHA is codified in Chapter 296-843 WAC. According to 29 CFR 1910.120(e), workers that could be potentially exposed to hazardous substances, health hazards, or safety hazards and their supervisors and management responsible for the Site work shall receive 40-hour HAZWOPER training under a qualified vendor. The Contractor's workers engaged in subsurface tunneling or other activities within the locations with soil impacts (described in Sections 1.3 and 5.1), and which may be potentially exposed to the contaminants and health hazards, shall receive a minimum of 40 hours of HAZWOPER instruction.

3.1 Planned Cap Disturbance—Notification, Repair Reporting

As previously mentioned, cPAH-contaminated soil was identified and left-in-place at the property and an EC, dated April 13, 1999, was signed. As per the EC, a notification to Ecology regarding the potential exposure of impacted media is required when removing or damaging the Cap (buildings, paved areas, landscaping, etc). The EC is included in Appendix B.

Property activities may require disturbance in the Cap and excavation of contaminated soil beneath the Cap, for example to install new utilities. Disturbance of the Cap for planned development activities is allowed if the work is conducted in accordance with this CMMP.

At least 30 days before the planned Cap disturbance, notification shall be provided to Ecology, including a description and diagrams of the work to be performed, and confirmation that the work will be performed in accordance with this CMMP. Ecology will need to approve any development within the restricted area in accordance with the EC.

In the event that the Cap is disturbed/damaged, it must be repaired, replaced, and/or reconstructed and restored to near original surface completion or with Ecology approved alternative surfaces.

After disturbance and repair activities are complete, as-built documentation, photographs of the work, and a letter summarizing that work was conducted according to the EC shall be submitted to Ecology within 45 days of completion.

4.0 WATER MANAGEMENT

Groundwater has been previously encountered at the Site at depths ranging from approximately 10 to 12 feet bgs. The tunneling is unlikely to encounter groundwater as the depth of the tunnel will be approximately 6 feet bgs. In the event that groundwater is encountered, the Contractor shall be prepared to manage the accumulated water.

The Contractor shall obtain necessary permits for the storage, treatment, and/or disposal of water collected and stored at the Site during construction, as necessary. The Contractor shall manage, treat, discharge, and/or dispose accumulated water in accordance with the requirements of local, state, and federal regulations.

5.0 EARTHWORK

During the utility tunneling activities, the Contractor will be on Site to observe and document handling and management of contaminated soils in accordance with the CMMP. Notably, the Contractor will monitor earthwork activities including excavation, utility replacement, and general earthwork phases of construction. Terracon will provide guidance regarding the segregation, export of excavation spoils and/or soil staging as necessary, during earthwork phases of construction. In addition, Terracon will be responsible for collecting soil samples, as necessary.

The Contractor will be responsible for coordinating with Terracon and the Client (or Client's representative), as detailed in Section 2.0, and to secure the necessary permits for disposal of contaminated excavation spoils, and the appropriate handling and management of spoils while following the requirements of this CMMP and all other applicable local, state, and federal rules and regulations.

5.1 Excavation Activities

As a general requirement, soil excavated from the tunnel shall be direct loaded into truck and/or containers to be exported from the Site as discussed in Section 5.4. It is Terracon's understanding that the soil will be removed using vacuum truck methods. During disposition, in order to unload the soil from the vacuum truck, a water rinse is included, and the final material made for disposition is a soil/water mix. Based on the information provided by the Contractor, the estimated total volume of soil that would be excavated is approximately 630 bank cubic yards (cy), roughly 882 tons, of which it is anticipated that a portion of this will likely be considered cPAH-contaminated soil. The location of the utility work is depicted on Exhibit 1.

CPAHs are not typically apparent during excavation activities (i.e., odors and sheens are not commonly observed with cPAH-contaminated soil associated with uncontrolled fill).

Therefore, throughout the earthwork activities, waste characterization soil samples will be collected from the excavation sidewalls and/or bottom, as necessary (i.e., in the event that "pockets" of construction debris or additional creosote-treated timbers are encountered during excavation activities), to further characterize the soils removed during tunneling activities for waste disposal purposes.

Furthermore, there is a potential that creosote piles will be encountered during the utility work and they should be properly removed and managed prior to disposition.

In addition, in the event that soils exhibiting visual and/or olfactory indications of impacts, such as staining, sheens, and/or odors, which may be indications of other impacts, such as petroleum releases, are encountered during excavation activities, waste characterization soil samples will be collected from the excavation sidewalls and/or bottom, as necessary. Samples will be submitted to a Washington-state accredited analytical laboratory on standard laboratory turnaround time. As necessary, sample analysis can be completed on an expedited 24-hour turnaround time to maintain construction schedule and minimize delays.

5.2 Sampling and Analysis Plan

To the extent sampling is required, excavation sampling of suspected or contaminated soil will be conducted in general accordance with the Ecology requirements presented in Guidance for Remediation of Petroleum Contaminated Sites, dated 2016, and/or the landfill disposal acceptance criteria. The following frequencies will apply for samples collected during excavation and generation of excavation spoils.

Cubic Yards of Soil	Number of Samples for Chemical Analysis
0-100	3
101-500	5
501-1000	7
1001-2000	10
>2000	10 + 1 for each additional 500 cubic yards

Source: Table 6.9, Typical Number of Samples Needed to Adequately Characterize Stockpiled Soil, Guidance for Remediation of Petroleum Contaminated Soils, June 2016

5.3 Disposition of Excavation Spoils

Based on the information provided by the contractor, it is estimated approximately 630 cy, roughly 882 tons of soil, of which it is anticipated that a portion of this will likely be considered cPAH-contaminated soil. **It should be noted that this volumetric estimate is not to be considered the actual amount of soil and the actual volume of soil generated during excavation could be greater or less than the predicted estimate.**

Since the soil will be removed using vacuum truck methods, the free liquid generated during the water rinse needed for unloading the soil from the vacuum truck requires special handling and may be restricted at select receiving facilities, such as Republic Services Transfer Station at 3rd Ave S and S Lander St in Seattle, Washington, and Cadman at 17 East Marine View Drive in Everett, Washington. Therefore, the Contractor should provide proper notification and coordinate with appropriate receiving facilities based on their acceptance criteria.

5.3.1 Disposition of Contaminated Soil

Potential disposal facilities for soil generated from the utility work managed as non-hazardous waste include the following examples:

- Dickson Company at Waller Road Inert Waste Landfill at 2839 48th St E in Tacoma, Washington.
- Lafarge North America, at 5400 W Marginal Way SW in Seattle, Washington, and transfer for disposal at the Columbia Ridge Landfill, a Subtitle D landfill at 18177 Cedar Springs Road, Arlington, Oregon 97812.

Potential disposal facilities for creosote pile waste generated from the utility work managed as non-hazardous waste include the following:

- Republic Services Black River Transfer Station at 501 Monster Road SW in Renton, Washington for disposal at the Roosevelt Regional Landfill, at 500 Roosevelt Grade Road, Roosevelt, Washington 99356.

Terracon will coordinate with the Contractor, Client, and selected disposal facility to prepare the soil waste characterization profile. In addition, the Contractor will coordinate with Terracon and Client to obtain a bill of lading to document transportation and disposal of contaminated soils slated for off-Site disposition. The Client will be responsible for signing the waste profile application as the generator. The Contractor will provide Terracon with the waste manifests/waste bill(s) of lading, truck scale tickets, waste profile submittals, and any other documentation provided to the Contractor by the permitted receiving facility. The Contractor is responsible for providing complete documentation of all off-Site disposition of soil on a daily basis.

5.4 Transport of Contaminated Media

Transport and disposal of contaminated media by the Contractor shall comply with all applicable federal, state, or local laws, codes, and ordinances that govern or regulate contaminated substance transportation and disposal. A manifest or bill of lading will be included for each load of contaminated media transported off-Site for disposal or treatment.

Contaminated media shall be loaded into transport vehicles in a manner that prevents the spilling or tracking of contaminated media into on-Site and off-Site uncontaminated areas. Media that spills or falls onto the ground shall be placed back into the truck immediately or into its original container/stockpile, and the affected area shall be cleaned immediately using appropriate equipment. Under no circumstances should contaminated media be washed into a catch basin or surface water area. If loading areas are paved, any loose media shall be cleaned from the pavement at the conclusion of the loading activities.

5.5 Decontamination

In the event that contaminated or suspect soil or other media are encountered, equipment that has come into contact with the impaired media must be decontaminated before use in areas without known environmental impacts to reduce the possibility of cross-contamination. The Contractor shall prepare a written description of planned worker or equipment decontamination procedures, location, and plan for characterization (if appropriate or necessary) and disposal of any decontamination wastes generated. The Contractor shall provide adequate wash basins for both personnel and equipment immediately adjacent to the work area and shall ensure that all personnel exposed to contaminated soils and/or water within the project Site thoroughly wash their hands, face, and exposed body parts prior to breaks and at the end of every work shift. Number, type, and location of wash basins shall be consistent with local, state and federal requirements.

The Contractor shall decontaminate equipment that has come into contact with contaminated soil by scraping soil off of equipment with a shovel, if possible, or by scrub washing or high temperature pressure wash (supplied by the Contractor).

6.0 REPORTING AND RECORD KEEPING

The Contractor shall prepare daily field reports (DFRs) in order to document all earthwork activities on the Site and verbal communications, as they pertain to contaminated media and this Plan. DFRs shall be completed on Site prior to leaving the

Site for the day. The Contractor shall provide the DFRs to Terracon and Client daily, as appropriate.

After completion of all tasks as discussed above, Terracon will provide Ecology with the pertinent information regarding field activities and methodologies, documenting the utility work, and final disposition or end use of all contaminated soils generated from the Site. Copies of all permits, soil recycling certificates, transportation manifest(s), and truck scale tickets will also be provided, as well as appropriate construction drawings and figures, as necessary, to reference the work performed relative to existing and future Site features.

The Contractor shall provide complete documentation related to any off-Site disposal of media at any disposal facility as described in Section 5.4 including, but not limited to the following: waste profile submittals, waste manifests/waste bill(s) of lading, truck scale tickets and any other documentation provided to the Contractor by the permitted receiving facility. The Contractor is responsible for providing complete documentation of off-Site disposition of soil and maintain records of earthwork activities, soil stockpiling, sampling, and off-Site disposal loading while present in the field. The Contractor shall provide complete documentation related to any on Site re-use/re-positioning of soil including but not limited to strict horizontal and vertical (elevation) control prior to and after re-positioning of said soil from both borrow and placement areas of the Site, and accurate quantity records of any soil subject to re-positioning/re-use on Site.

The Contractor shall keep daily records of Site safety briefings regarding work described in Section 5.0 and prepare daily reports to document management of contaminated media. The Contractor shall use a manifest or bill of lading for each off-Site shipment of contaminated media. The manifest or bill of lading shall include among other information, the date and time of shipment, the name of the transportation company, the name of the truck driver, the disposal Site, and a brief description of the contaminated media (e.g., soil).

7.0 STANDARD OF CARE

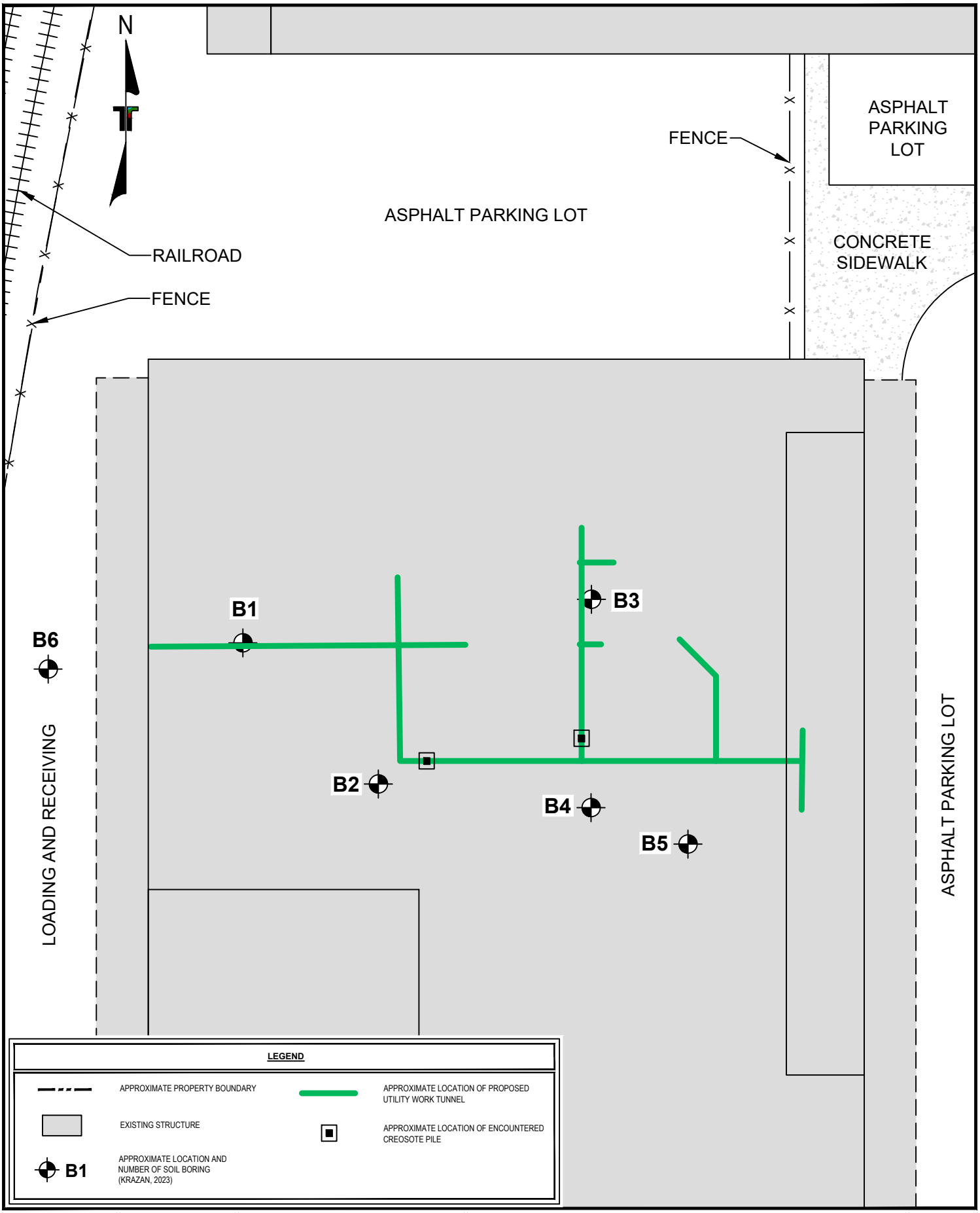
This CMMP was prepared in a manner consistent with generally accepted practices of the profession undertaken and with regard to similar projects in a similar geographic area during a similar time period. It is intended to be used a guidance document, as no CMMP can wholly eliminate uncertainty regarding the presence of contaminated media in connection with a property in recognition of reasonable limits of time, cost, and inferred risk. There are a number of unknown variables associated with construction projects with environmentally impaired media. This CMMP should therefore be considered a dynamic document, modification to which could be recommended by Terracon in

response to the results of conditions encountered in the field. The information used to develop this CMMP is based solely on the Client provided information.

The data, interpretations, findings, and our recommendations are based solely upon data obtained at the time and within the scope of these services. The limitations herein must be considered when the user of this report formulates opinions as to risks associated with the Site or otherwise uses the report for any other purpose.

APPENDIX A

EXHIBITS



Project Mngr: KSB	Project No. 81247068	Terracon Explore with us	**SITE DIAGRAM**
Drawn By: MMH	Scale: AS SHOWN	21905 64TH AVENUE W, STE 100 MOUNTLAKE TERRACE, WA 98043	Seattle Public Schools, John Stanford Center
Checked By: KSB	File No. Exhibit 1	PH. (425) 771-3304 FAX. (425) 771-3549	2445 3rd Avenue South
Approved By: MYW	Date: February 2024		Seattle, Washington

EXHIBIT 1

APPENDIX B

SUPPORTING DOCUMENTATION

6.4 Environmental Covenant

9904263013

9904263013 05:23:00 PM KING COUNTY RECORDS 007 THS 13.00

RETURN ADDRESS

Denver Facilities
8055 E. Tufts Ave Ste 400
Denver, CO 80237-

Please print neatly or type information

Document Title(s)

RCOVE

Reference Numbers(s) of related documents

Additional Reference #'s on page ___

Grantor(s) (Last, First and Middle Initial)

EAGLES, DAVID

Additional grantors on page ___

Grantee(s) (Last, First and Middle Initial)

Additional grantees on page ___

Legal Description (abbreviated form: i.e. lot, block, plat or section, township, range, quarter/quarter)

Additional legal is on page ___

Assessor's Property Tax Parcel/Account Number

Additional parcel #'s on page ___

The Auditor/Recorder will rely on the information provided on this form. The staff will not read the document to verify the accuracy or completeness of the indexing information provided herein.

RESTRICTIVE COVENANT

US Postal Service General Mail Facility
2445 Third Avenue South, Seattle, Washington

This declaration of Restrictive Covenant is made pursuant to RCW 70.105D.030 (1)(f) and WAC 173-340-440 by Mr. David Eales, Manager, Asset Management and senior officer with signature authority, United States Postal Service – Facilities, its successors and assigns, and the State of Washington Department of Ecology, its successors and assigns (hereafter "Ecology").

An independent remedial action (hereafter "Remedial Action") occurred at the property that is the subject of this Restrictive Covenant. The Remedial Action conducted at the property is described in the following documents.

1. ICF Kaiser, 1999, Washington State Model Toxics Control Act, Method C Calculations for the General Mail Facility, Seattle, Washington, 6 pp., letter report dated January 21, 1999.
2. ICF Kaiser, 1998, Supplemental Soil and Groundwater Sampling at General Mail Facility, Seattle, Washington, 10 pp., October 5, 1998.
3. Dames & Moore, 1998, Report – Soil and Groundwater Investigation at USPS General Mail Facility, Seattle, Washington, 16 pp., July 27, 1998.
4. ICF Kaiser, 1997, Phase I Environmental Site Assessment at General Mail Facility, Seattle, Washington, 47 pp., October 15, 1997.

9904263013

These documents and Ecology's No Further Action Letter are on file at Ecology's Northwest Regional Office in Bellevue, Washington.

This Restrictive Covenant is required because the Remedial Action resulted in residual concentrations of carcinogenic polynuclear aromatic hydrocarbons (cPAHs) in and around the soils of the hydraulic lift area (Restricted Area) and throughout the groundwater, exceeding the Model Toxics Control Act Method C cleanup levels for soil and ground water established under WAC 173-340-720 and WAC 173-340-745. A map depicting the Restricted Area is attached hereto as Attachment B

The undersigned, Mr. David Eales, is a senior officer with the US Postal Service with signature authority for the real property (hereafter "Property") at 2445 Third Avenue South, also listed as 230 South Lander Street, Seattle, King County, State of Washington, parcel #766620-5235 and tax E# 0696876 dated November 18, 1982, that is subject to this Restrictive Covenant. The Property is legally described in Attachment A of this Restrictive Covenant and made a part hereof by reference.

Mr. David Eales, senior officer with signature authority for the real property, makes the following declaration as to limitations, restrictions, and uses to which the Property may be put and specifies that such declarations shall constitute covenants to run with the land, as provided by law and shall be binding on all parties and all persons claiming under them, including all

current and future owners of any portion of or interest in the Property (hereafter "Owner").
Section 1. The Property shall be used for commercial purposes including office and administrative uses, or industrial purposes only. It shall not be used for residential uses as defined in Seattle Municipal Code section 23.84.032 as of the date of this Restrictive Covenant No ground water may be taken for any use from the Property.

Section 2. Any activity on the Property that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited.

Section 3. Any activity on the Property that may result in the release or exposure to the environment of a hazardous substances that remain in the Restricted Area or groundwater of the Property as part of the Remedial Action, or that may create a new exposure pathway for such hazardous substances, is prohibited without prior written approval from Ecology.

Section 4. The Owner of the Property must give thirty (30) day advance written notice to Ecology of the Owner's intent to convey any interest in the Property. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Remedial Action as set forth in the No Further Action Letter.

9904263013

Section 5. The Owner must restrict leases to uses and activities consistent with the Restrictive Covenant and notify all lessees of the restrictions on the use of the Property.

Section 6. The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of this Restrictive Covenant. Ecology may approve any inconsistent use only after public notice and comment.

Section 7. The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose of evaluating the Remedial Action, to take samples, to inspect remedial actions conducted at the Property, and to inspect records that are related to the Remedial Action.

Section 8. The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides that this Restrictive Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs.

D. Eales

David Eales, Manager, Asset Management and Senior Officer
US Postal Service – Facilities

DAVID EALES

Print Name

4/12/99

Date Signed

Subscribed and sworn to before me this 13 day of April 1999.

Arvelin C Warren
Signature

ARVELIN C WARREN
Name Printed or Stamped
Notary Public in and for the State of ~~Washington~~ Virginia
Residing at Arlington
My appointment expires 4/30/2002

[NOTE: The Property Owner must have this Restrictive Covenant notarized.]

9904263013

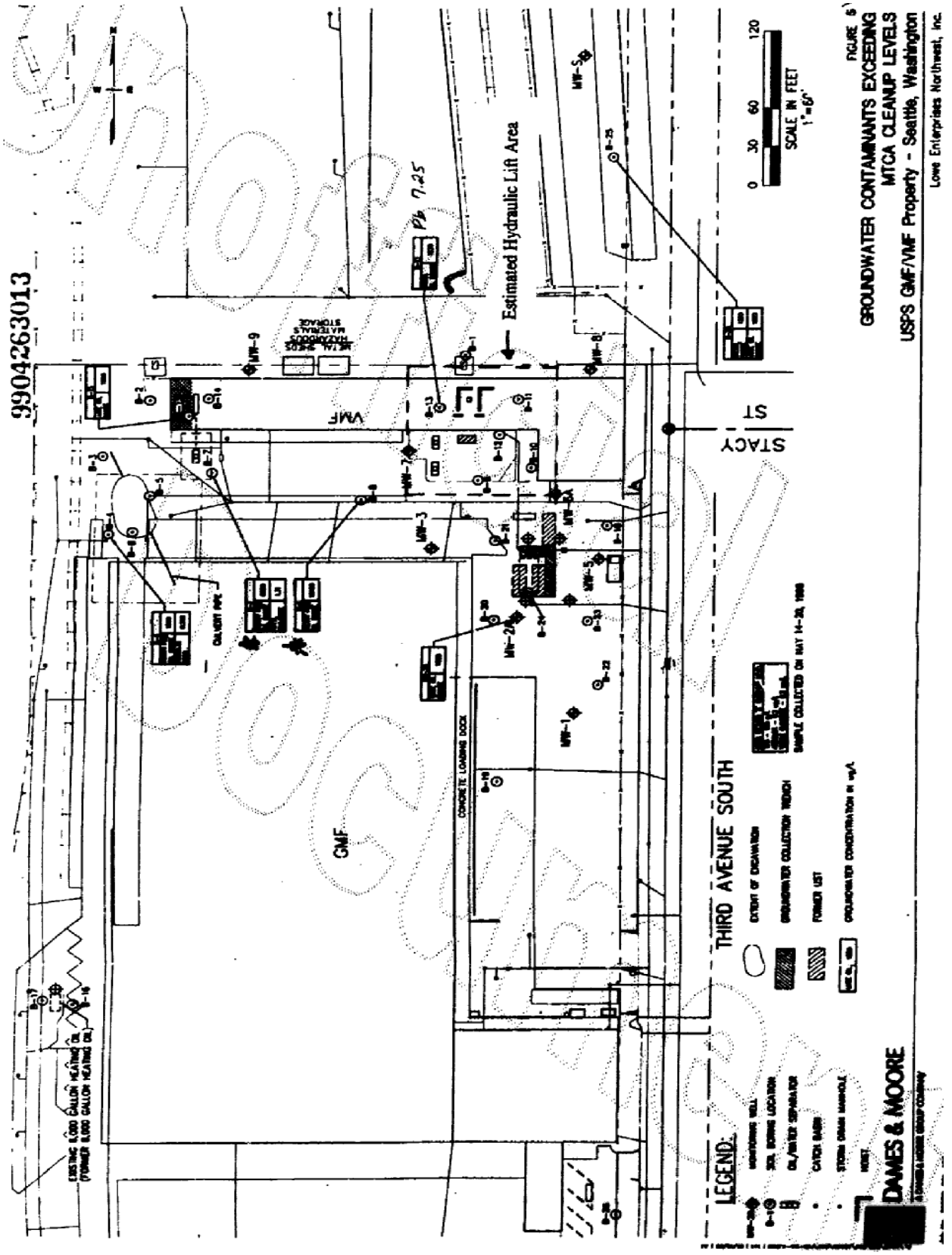
Attachment A

LEGAL DESCRIPTION

United States Postal Service, Former General Mail Facility,
2445 Third Avenue South Seattle, King County, Washington
also listed as 230 South Lander Street, Seattle, King County, Washington
Parcel # 766620-5235
Tax E# 0696876

(please attach)

9904263013


9904263013
Estimated Hydraulic Lift Area
GMF
VMF
STACY ST
THIRD AVENUE SOUTH
CONCRETE LOADING DOCK
LEGEND:
SCALE IN FEET
1"=60'
0
30
60
120
GROUNDWATER CONTAMINANTS EXCEEDING MTCA CLEANUP LEVELS
USPS GMF/VMF Property - Seattle, Washington
Lowe Enterprises Northwest, Inc.
DAMES & MOORE

Attachment B

SITE MAP

United States Postal Service, Former General Mail Facility,
2445 Third Avenue South Seattle, King County, Washington
also listed as 230 South Lander Street, Seattle, King County, Washington
from Dames & Moore 1998 figure-5.

PHASE II
ENVIRONMENTAL SITE ASSESSMENT
JSCEE KITCHEN SUBSURFACE SAMPLING
2445 3RD AVENUE SOUTH
SEATTLE, WASHINGTON

Project No. 094-23010
July 10, 2023

Prepared for:
Mr. Milton Huertas
Seattle Public Schools
2445 3rd Avenue South
Seattle, Washington

Prepared by:
Krazan & Associates, Inc.
4303 – 198th Street SW
Lynnwood, Washington 98036
(425) 485-5519

Krazan & ASSOCIATES, INC.
SITE DEVELOPMENT ENGINEERS

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Project No. 094-23010

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June 10, 2023 Project No. 094-22010

PHASE II ENVIRONMENTAL SITE ASSESSMENT
JOHN STANFORD CENTER FOR EDUCATION EXCELLENCE KITCHEN
SUBSURFACE SAMPLING
2445 3RD AVENUE SOUTH
SEATTLE, WASHINGTON

1.0 INTRODUCTION

This report summarizes the results of a Phase II Environmental Site Assessment (ESA) conducted by Krazan & Associates, Inc. (Krazan) on the referenced property. The scope of work (Proposal No. E23029WAL, dated June 19, 2023) was approved by Mr. Salman Usmani of Forma Construction on June 19, 2023.

2.0 EXECUTIVE SUMMARY

Krazan conducted a Phase II Limited Subsurface Assessment, located at 2445 3rd Ave South, Seattle, WA. The purpose of the assessment is to test for the presence or absence of contaminated underground media prior to future renovations at the property.

Soil

A total of seven (7) soil samples were collected from six (6) borehole locations. Soil collected from borehole location B1 at a depth of 6 feet below ground surface (bgs) contained **benzo(a)pyrene** at a concentration of 0.77 milligrams per kilogram (mg/kg), above the Model Toxics Control Act (MTCA) Method A Cleanup Limit of 0.10 mg/kg. The remaining six soil samples did not contain contaminant concentrations above MTCA Method A Cleanup Limits for constituents tested, including; Total Petroleum Hydrocarbon (TPH) Gx w/ BTEX, TPH-Diesel & Motor Oil, RCRA-8 Metals, Polycyclic Aromatic Hydrocarbons (PAHs), and Polychlorinated biphenyls (PCBs).

Groundwater

Groundwater was encounter in one (1) of the six (6) borehole locations. Groundwater was collected from borehole location B6 at a depth of 10 to 12 feet bgs. Laboratory analytical results indicate that the groundwater contained contaminant concentrations in exceedance of MTCA Method A Cleanup Levels for the follow constituents; **diesel** 530 µg/L – MTCA limit of 500 µg/L, **arsenic** 196 µg/L – MTCA limit of 5 µg/L, **cadmium** 15.1 µg/L – MTCA limit of 5 µg/L, **chromium** 554 µg/L – MTCA limit of 50 µg/L, **lead** 697 µg/L – MTCA limit of 15 µg/L, **mercury** 4.38 µg/L – MTCA limit of 4.38 µg/L, and the PAH **benzo(a)pyrene** 0.31 µg/L – MTCA limit of 0.1 µg/L.

3.0 SITE LOCATION AND DESCRIPTION

The subject site is located at 2445 3rd Avenue South, Seattle, Washington (see Figure 1). The site consists of one tax parcel, tax account number 766620-5235 and encompasses a total of 6.91 acres. The subject site is currently occupied by Seattle Public Schools and operations include commercial kitchen use and office space.

4.0 PROJECT BACKGROUND

The subject site is listed by the Washington Department of Ecology as a contaminated site (No. 6720) with confirmed soil and groundwater contamination and the cleanup started. The property was formerly occupied by the United States Postal Service (USPS). The buildings were formerly used as the USPS General Mail Facility (GMF) and Vehicle Maintenance Facility (VMF). A Restrictive Covenant was recorded for the Site in 1999 which imposed limitations on site uses and activities.

Historically, the site has contained contaminant concentrations above Model Toxics Control Act (MTCA) Cleanup Limits, including; Total Petroleum Hydrocarbons (TPH)-Gasoline w/ BTEX, TPH-Diesel & Motor Oil, Polycyclic Aromatic Hydrocarbons (PAHs), Polychlorinated biphenyls (PCBs), and Metals. Multiple contamination sources were identified, such as; former gasoline, diesel, and heating oil underground storage tanks (USTs), subsurface hydraulic equipment, former culvert remediation area, and oil/water separators. Much of the previous sampling, cleanup, and reporting was conducted in the northeast exterior of the building with no soil analytical data coming from the subsurface soils within the building footprint.

5.0 SCOPE OF SERVICES

Based upon the previous site contamination, the purpose of the Phase II ESA is to determine the presence or absence of contaminated media in soil and groundwater beneath the current kitchen floor foundation due to the historical uses of the property. The work done at the subject property consisted of:

1. Rebar locating in the area of the proposed drill locations to avoid severing rebar within the concrete slab.

2. Core drilling through the concrete slab to allow access to the subsurface soils.

3. Sampling soil from six (6) soil borings installed with a dolly-mounted drill rig in pre-determined boring locations where future subsurface activities are proposed to occur.

4. Sampling groundwater from one (1) soil boring in the location of the former grease trap on the exterior of the building

5. Screening of each soil sample for the presence of volatile hydrocarbons using a photoionization detector (PID).

6. Chemical analysis of selected soil samples for Total Petroleum Hydrocarbons (TPH) in the diesel-extended range (method TPH-Dx) and in the gas-range (method TPH-Gx), with the constituent's benzene, toluene, ethylbenzene, and total xylenes (BTEX), RCRA-8 Metals, Polycyclic Aromatic Hydrocarbons (PAHs), and Polychlorinated Biphenyls (PCBs).

7. Chemical analysis of groundwater sample for TPH-Dx, TPH-Gx w/ BTEX, RCRA-8 Metals, and PAHs.

8. Preparation of this report documenting the field investigation and findings.

6.0 SAMPLING METHODS

6.1 Drilling and Soil & Groundwater Sample Collection

A Krazan representative observed the rebar locate, concrete coring, drilling of the soil borings and obtained samples on June 22, 2023. Six (6) soil borings were drilled with a Holocene Drilling dolly-mounted, direct-push drill rig, to a maximum depth of 12 feet below ground surface (bgs) for the exterior borehole location B6 and 9 feet bgs for the interior samples or until equipment refusal. Interior samples collected at a depth of less than 7 feet bgs encountered equipment refusal.

During drilling, soil samples were collected in three-foot sections using a 2.0-inch diameter continuous sampler driven into the soil at the head of the probe. Geologic logs of the soil borings are attached in Appendix A. The collected soil samples were field-screened using a photo-ionization detector (PID) for the presence of volatile organic compounds. Soil samples were collected from all of the borings for chemical analysis. A minimum of one (1) soil sample was collected per boring. If volatile organic compounds were detected using olfactory senses or the PID, an additional sample was collected at that depth and location.

Borehole location B6 contained detectable levels of volatile organic compounds at 6 feet bgs when scanned with the PID and contained petroleum-like odor using olfactory senses. An additional soil sample was collected at this depth, as well as at ten feet. Groundwater was only encountered in borehole location B6 at approximately 10 feet bgs. The groundwater collection screen was placed in the borehole between 7.5 to 12 feet bgs.

A total of seven (7) soil samples and one (1) groundwater sample were collected from the borings and selected for analysis of the target compounds. Soil samples selected for analysis were placed directly in laboratory-supplied clean glassware using disposable stainless-steel spoons and disposable plastic syringes. Volatile organic compound (VOC) vials containing approximately 0.2 cubic inches of soil for each sample were collected using a disposable syringe, per the requirement of USEPA Sampling Method 5035A. The groundwater sample was pumped from the borehole into laboratory-supplied glass sampling containers following a period of water purging. Each sample jar/container was labeled with the project name, number, and sample depth. Following labeling, the samples were placed in an iced cooler and maintained at a temperature of approximately 4° Celsius.

6.2 Laboratory Analysis

The soil and groundwater samples were transported to Friedman & Bruya Laboratory in Seattle, Washington under chain-of-custody protocol for analysis. All soil samples were analyzed for Total Petroleum Hydrocarbon-Gasoline w/ benzene, toluene, xylene, and ethylbenzene (TPH-G w/ BTEX), TPH-Diesel & TPH-Motor Oil (TPH-Dx), RCRA-8 Metals, Polycyclic Aromatic Hydrocarbons (PAHs) and Polychlorinated Biphenyl's (PCBs). Groundwater was tested for TPH-Gx w/ BTEX, TPH-Dx, RCRA-8 Metals and PAHs.

7.0 SITE HYDROGEOLOGICAL CHARACTERISTICS

The site lies within the central Puget Lowland. North of Olympia, Washington, this lowland is glacially carved, with a depositional and erosional history including at least four separate glacial advances/retreats. The Puget Lowland is bounded to the west by the Olympic Mountains and to the east by the Cascade Range.

The lowland includes deposits of glacial and nonglacial sediments. The site vicinity is underlain by fill and compacted material consisting of construction debris, bricks, wood pieces, and other debris. Groundwater in the site vicinity is approximately 8 feet below ground surface (bgs).

The soil borings generally encountered medium-dense, silty sand with gravels. Groundwater was encountered at approximately 10 feet bgs for the exterior bore hole only. The remaining five bore holes did not encounter groundwater. For a detailed description of the soil conditions encountered, please refer to the soil boring logs in Appendix A. The description of the subsurface conditions provided herein was derived from on-site observations of soil samples collected only from the locations where borings were placed.

8.0 SITE ASSESSMENT ACTIVITIES AND ANALYTICAL RESULTS

Analysis and interpretation of the data generated during the field investigation and laboratory testing is presented in the following section. Where appropriate, the results are compared with regulatory limits for the chemicals identified. During the drilling, each soil sample collected was screened using a PID to indicate presence of volatile organic constituents. The PID detected volatile organic compounds in the exterior boring B6 at approximately 6 feet depth. An additional soil sample was collected at this depth. The PID did not detect volatile organic compounds in any of the five interior boring locations. See soil bore logs attached in Appendix A for PID information.

TABLE 1. Summary of Soil Sample Results

Parameter Name	MTCA Method A Cleanup Levels (mg/Kg)	Sample Identification						
		B1-6'	B2-7'	B3-5.5	B4-7'	B5-7'	B6-6'	B6-10'
Petroleum Hydrocarbons - EPA Method NWTPH-Dx								
Diesel Range Organics	2000	<50	<50	<50	<50	<50	<50	<50
Lube Oil	2000	<250	<250	<250	<250	<250	<250	<250
Gasoline Hydrocarbons - EPA Methods 8021B and NWTPH-Gx								
Benzene	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	7	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Ethyl Benzene	6	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Total xylenes	9	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
Gasoline Range Organics	30/100*	<5	<5	<5	<5	<5	<5	7.0
Total Metals - EPA Method 6020B								
Arsenic	20	3.71	4.65	2.59	3.34	2.25	4.40	5.51
Barium		74.5	34.8	44.8	26.3	41.5	25.1	77.5
Cadmium	2	<1	<1	<1	<1	<1	<1	<1
Chromium	2000	7.82	13.1	12.4	9.93	8.18	9.86	97.5
Lead	250	69.2	17.1	1.82	16.2	10.4	12.9	15.0
Mercury	2	<1	<1	<1	<1	<1	<1	<1
Selenium		<1	<1	<1	<1	<1	<1	<1
Silver		1.13	<1	<1	<1	<1	<1	<1
Polycyclic Aromatic Hydrocarbons (PAHs)								
1-Methylnaphthalene		<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

2-Methylnaphthalene		<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthene		0.14	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthylene		<0.05	<0.01	<0.01	<0.01	<0.01	0.044	<0.01
Anthracene		0.26	0.011	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo[a]anthracene		0.69	0.024	<0.01	<0.01	<0.01	0.013	0.20
Benzo(a)pyrene	0.1	**0.77**	0.029	<0.01	<0.01	0.010	0.016	0.023
Benzo(b)fluoranthene		0.68	0.034	<0.01	0.012	0.014	0.018	0.027
Benzo(g,h,i)perylene		0.45	0.021	<0.01	<0.01	<0.01	0.013	0.016
Benzo(j,k)fluoranthene		0.27	0.011	<0.01	<0.01	<0.01	<0.01	<0.01
Chrysene		0.70	0.031	<0.01	<0.01	0.011	0.016	0.024
Dibenzo(a,h)anthracene		0.093	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fluoranthene		1.3	0.059	<0.01	0.023	0.021	0.029	0.046
Fluorene		0.12	<0.01	<0.01	<0.01	<0.01	0.011	<0.01
Indeno(1,2,3-cd)pyrene		0.43	0.020	<0.01	<0.01	<0.01	0.012	0.015
Naphthalene	5.0	<0.05	<0.01	<0.01	<0.01	<0.01	0.010	<0.01
Phenanthrene		1.4	0.035	<0.01	0.011	0.012	0.021	0.022
Pyrene		1.8	0.073	<0.01	0.026	0.031	0.033	0.051
Polychlorinated Biphenyls (PCBs)								
Aroclor 1016	1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Aroclor 1221	1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Aroclor 1232	1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Aroclor 1242	1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Aroclor 1248	1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Aroclor 1254	1	0.022	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Aroclor 1260	1	0.044	0.12	<0.02	0.083	0.039	0.053	0.064
Aroclor 1262	1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Aroclor 1268	1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

Notes:

***** = gasoline mixtures without benzene

Concentrations listed in milligrams per kilogram (mg/kg) or parts per million (ppm)

MTCA = the Model Toxics Control Act regulation and the regulations promulgated thereunder (Washington Administrative Code, Chapter 173-340).

TABLE 2. Summary of Groundwater Sample Results

Parameter Name	MTCA Method A Cleanup Levels (µg/L)	Sample Identification
		GW6-7.5'
Petroleum Hydrocarbons - EPA Method NWTPH-Dx		
Diesel Range Organics	500	**530**
Lube Oil	500	<500
Gasoline Hydrocarbons - EPA Methods 8021B and NWTPH-Gx		
Benzene	5	<1
Toluene	1,000	<1
Ethyl Benzene	700	<1
Total xylenes	1,000	<3
Gasoline Range Organics	800/1,000*	<100
Total Metals - EPA Method 6020B		
Arsenic	5	**196**
Barium		2,570
Cadmium	5	**15.1**
Chromium	50	**544**
Lead	15	**697**
Mercury	2	**4.38**
Selenium		39.0
Silver		<10
Polycyclic Aromatic Hydrocarbons (PAHs)		
1-Methylnaphthalene		<0.8
2-Methylnaphthalene		<0.8
Acenaphthene		0.082
Acenaphthylene		<0.8
Anthracene		0.13
Benzo[a]anthracene		0.28
Benzo(a)pyrene	0.1	**0.31**
Benzo(b)fluoranthene		0.40
Benzo(g,h,i)perylene		0.22
Benzo(j,k)fluoranthene		0.14
Chrysene		0.36
Dibenzo(a,h)anthracene		<0.08
Fluoranthene		0.89
Fluorene		0.12
Indeno(1,2,3-cd)pyrene		0.23
Naphthalene	160.	<0.08
Phenanthrene		0.45
Pyrene		0.82

Notes:

***** = gasoline mixtures without benzene
Concentrations listed in microgram per liter (µg/L) or parts per billion (ppb)
MTCA = the Model Toxics Control Act regulation and the regulations promulgated thereunder (Washington Administrative Code, Chapter 173-340).

9.0 CONCLUSIONS

Based on the results of this assessment, the following conclusions have been developed:

Soil

A total of seven (7) soil samples were collected from six (6) borehole locations. Soil collected from borehole location B1 at a depth of 6 feet bgs contained the PAH **benzo(a)pyrene** at a concentration of 0.77 mg/kg, above the MTCA Method A Cleanup Limit of 0.10 mg/kg. The remaining six (6) soil samples did not contain contaminant concentrations above MTCA Method A Cleanup Limits for all constituents tested, including; TPH Gx w/ BTEX, TPH-Diesel & Motor Oil, RCRA-8 Metals, PAHs, and PCBs.

Groundwater

Groundwater was encounter in one (1) of the six (6) borehole locations. Groundwater was collected from borehole location B6 at a depth of 10 to 12 feet bgs. Laboratory analytical results indicate that the groundwater contained contaminant concentrations in exceedance of MTCA Method A Cleanup Levels for the follow constituents; **diesel** 530 µg/L – MTCA limit of 500 µg/L, **arsenic** 196 µg/L – MTCA limit of 5 µg/L, **cadmium** 15.1 µg/L – MTCA limit of 5 µg/L, **chromium** 554 µg/L – MTCA limit of 50 µg/L, **lead** 697 µg/L – MTCA limit of 15 µg/L, **mercury** 4.38 µg/L – MTCA limit of 4.38 µg/L, and **benzo(a)pyrene** 0.31 µg/L – MTCA limit of 0.1 µg/L. The relatively high level of occurrence of the metals may be affected by elevated turbidity, which can occur with borehole sampling conditions.

Contaminated soil and groundwater is to be handled and disposed of in a manner that is consistent with Washington State Department of Ecology (WDOE) regulatory requirements and in accordance with the Restrictive Covenant.

10.0 DISCUSSION

Borehole B1 did not contain groundwater and met equipment refusal at 6 feet bgs. The soil core sample contained red brick building material at 6 feet depth. This brick debris likely led to the equipment refusal and is a possible indicator of additional building material debris that may have led to the contamination in the soil. Borehole B1 is the western-most interior borehole. West of the building footprint exists former and current railroad lines. PAHs such as benzo(a)pyrene, indicative of creosote, are often associated with wooden railroad ties and/or burned material.

Borehole B6 is located on the west exterior of the property, approximately 30 to 40 feet east of the adjacent railroad tracks. The source of the diesel, metals and PAH contamination is unknown. However, based the location of the borehole along with the multiple forms of contamination, it is likely the groundwater is affected by activities associated with the railroad tracks and the onsite subsurface railroad ties and debris. The soil within the groundwater sampling zone of borehole B6 is gray silty soil with very low permeability.

The soil and groundwater collected during this assessment is not considered an exhaustive sampling of all soils potentially impacted by future site renovations. Contractors working in un-sampled areas of potentially contaminated soils should use ol-factory and visual indicators to assess to soil and groundwater for signs of contamination. If the soil or groundwater is suspected to contain contamination during excavation, additional soil and/or groundwater samples should be collected to confirm the presence or absence of contamination.

11.0 LIMITATIONS

This survey and review of the subject property has been limited in scope to those areas defined by the client. This investigation is undertaken with the risk that visual observations and random sampling alone would not reveal the presence, full nature, and extent of contaminants of concern. Krazan makes no representation as to the content of materials not sampled or that were inaccessible to our inspector. The sample locations are approximate, and are based on field notes and diagrams of sample locations. The opinions presented herein apply to the site condition existing at the time of the investigation. Opinions and recommendations provided herein may not apply to future conditions that may exist at the site.

The findings presented in this report were based on field observations and sampling as defined by the client. Therefore, the data obtained are clear and accurate only to the degree implied by the sources and methods used. The information presented herein is based on professional interpretation using presently accepted methods with a degree of conservatism deemed proper as of the report date. We do not warrant that future technical developments cannot supersede such data.

This report is provided for the exclusive use of the client noted on the cover page and is subject to the terms and conditions in the applicable contract between the client and Krazan. The client is the only party to whom Krazan has explained the risks involved and has been involved in the shaping of the scope of services needed to satisfactorily manage those risks, if any, from the client's point of view. Any third-party use of this report, including use by the Client's lender, prospective purchaser, or lessee will be subject to the terms and conditions governing the contractual work between the Client and Krazan. The unauthorized use of, reliance on, or release of the information contained in this report is strictly prohibited and will be without risk or liability to Krazan.

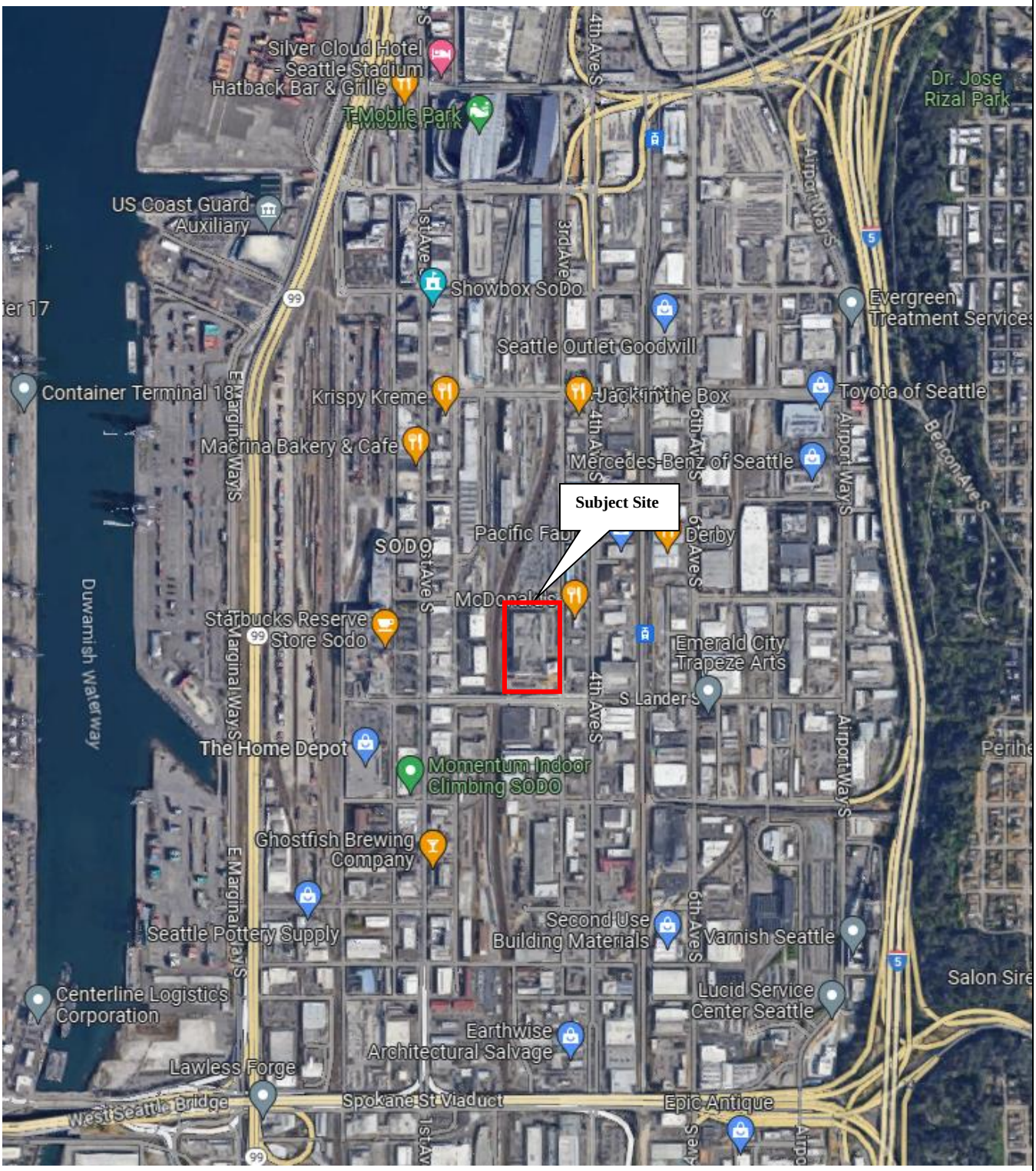
Laboratory analysis was conducted by a laboratory certified by the State of Washington, Department of Ecology. The results of the analyses are accurate only to the degree of care exercised by the independent laboratories and the representative nature of the samples obtained.

Krazan appreciates the opportunity to provide you with this information and trusts that you will find it useful. If you have any questions or if we may be of further assistance, please do not hesitate to contact our office at (425) 485-5519.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

Jordan Kain, P.E.
Environmental Department Manager

Shawn E. Williams, L.G. No. 228
Regional Environmental Manager

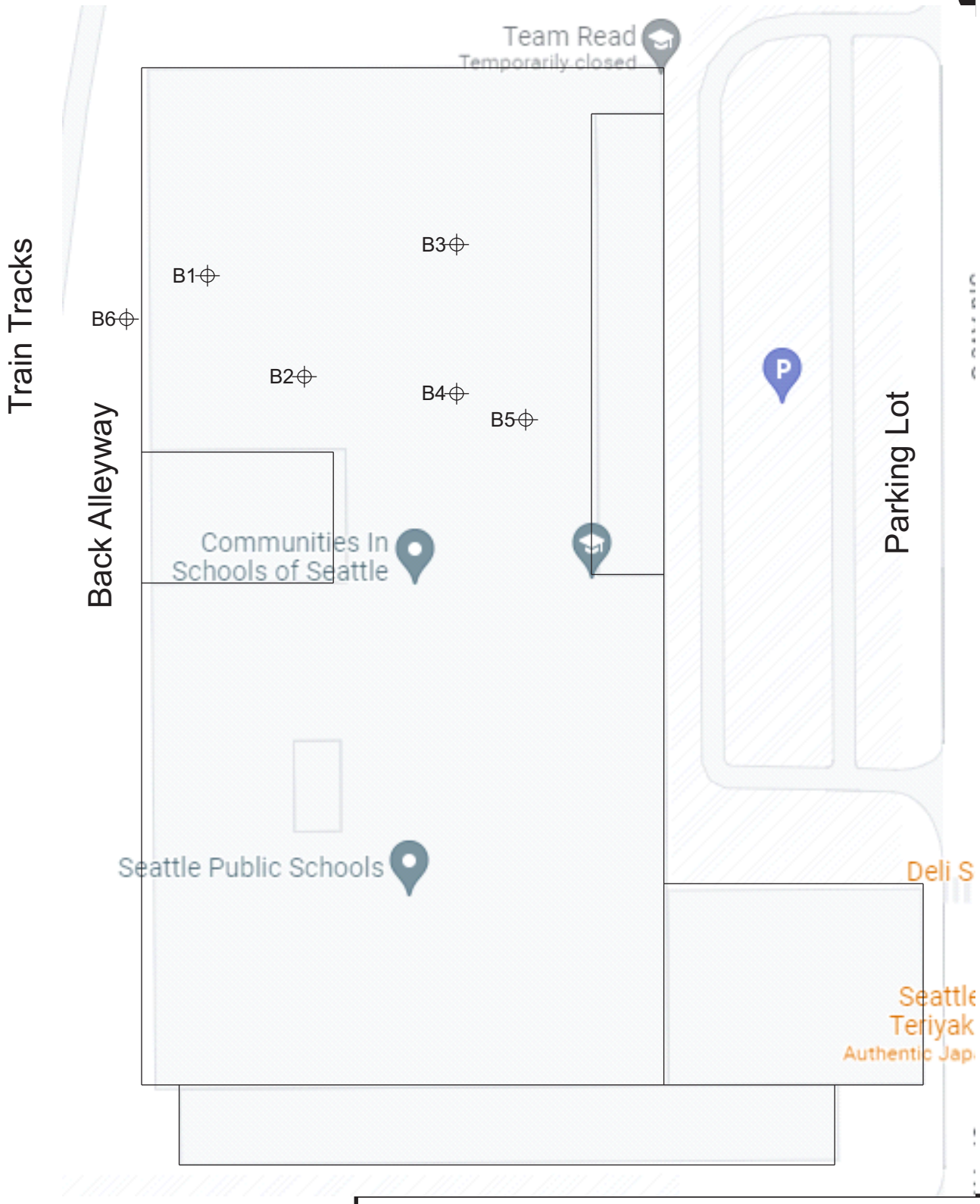


Source: Google Maps

VICINITY MAP	Scale: NTS	Date: July 2023	Krazan
JSCEE Kitchen **Phase II LSA** **2445 3rd Ave S** **Seattle, WA**	**Modified By:** JJK		**SITE DEVELOPMENT ENGINEERS** ***Offices Serving the Western United States***
	Project No. 094-23010	**Figure No.** 1	

Site Plan

(Not to Scale)



Notes

= Borehole Location

100'

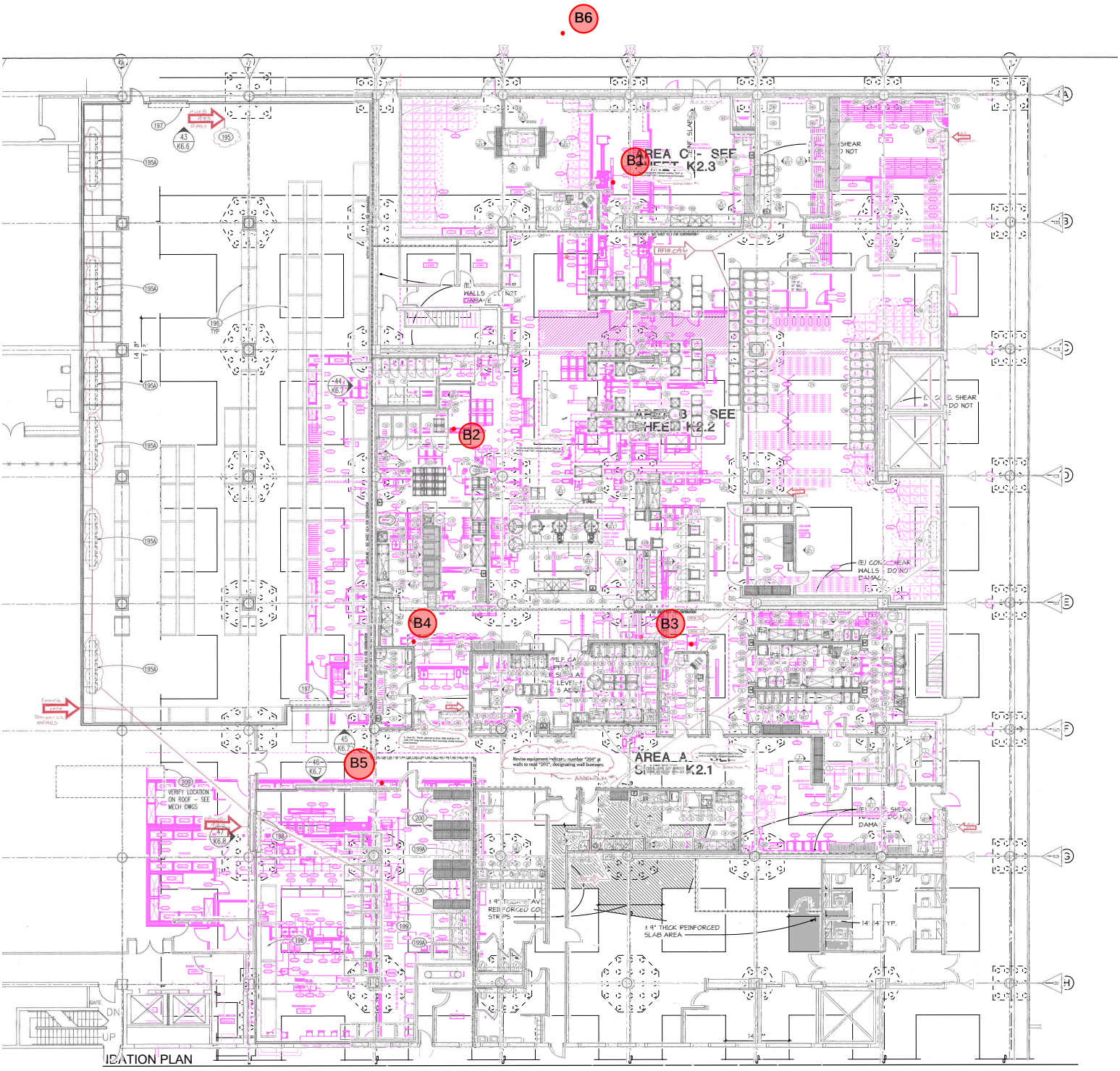
50'

Krazan & ASSOCIATES, INC.

JSCEE Kitchen Phase II Limited Subsurface Assessment - 2445 3rd Avenue South, Seattle, WA

Date: July 2023		
Drawn By: JJK	Sample Locations	Project Number: 094-23010

Train track side



3rd Ave side

N

Photo 1: Location of bore hole B6

Photo 2: Dolly mounted drill rig

Photo 3: Location of borehole B1

Photo 4: Slight sheen on sample collected from boring B-1

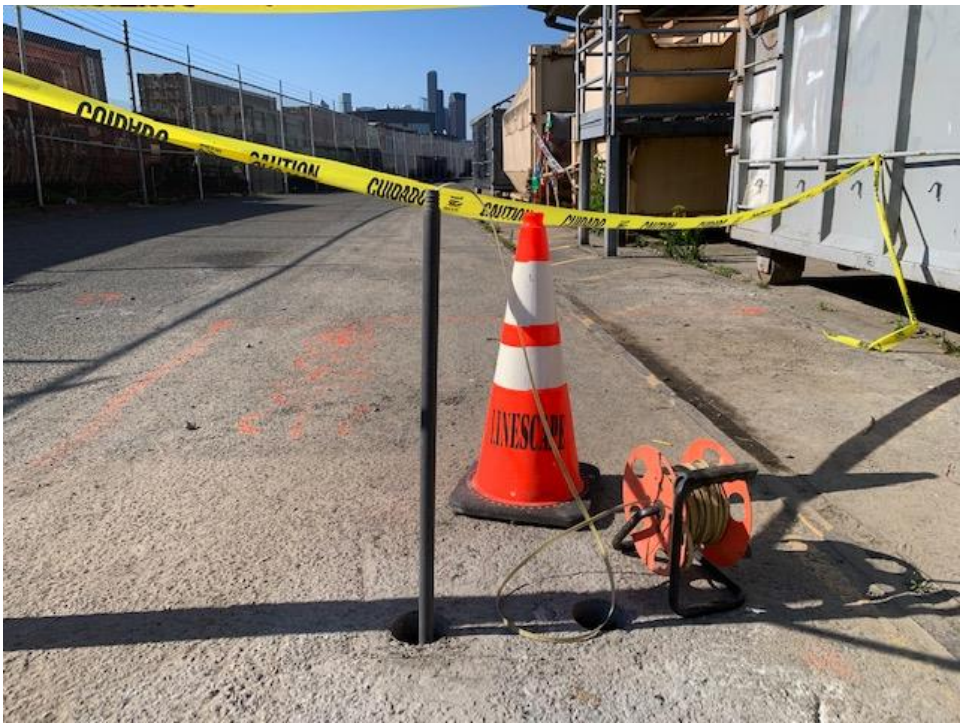


Photo 5: Groundwater infiltrating into borehole B6

Photo 6: Red brick debris at the bottom of borehole B1 that lead to equipment refusal

Photo 7: Location of borehole B2

Photo 8: Venting system leading exhaust to exterior

Photo 9: Location of borehole B4 and protective plastic

Photo 10: Concrete core location of borehole B4

Photo 11: Boring B5: 6 to 9 foot depth

Photo 12: Boring B3; 6 to 9 foot depth

Appendix A

SOIL BORING LOG

Location Map: N ↑	Project Name: JSCEE Phase II	Borehole Number: B1
	Project Number: 09423010	Page Number:
	Date: 6/22/23	Drilling Contractor:
	Location:	Drilling Method:
	Surface Elevation:	Sample Method:
	Logged By:	

Depth (ft)	Groundwater ▽	Sample Interval	Sample Recovery (In)	Hammer Blows	N-Value (SPT)	Soil Description	Notes
0							
1						Brown sand w/ gravel	PID = 0.0
2							
3						Concrete and gravel	PID = 0.0
4							
5						Brown sand w/ gravel Red brick w/ gravel	PID = 0.0
6							
7							
8							
9							
0							
1							
2							
3							
4							
5							
6							
7							
8							
9							
0							

Groundwater Observations:

Notes:

Krazan & Associates, Inc.

SOIL BORING LOG

Location Map: N ↑	Project Name: JSCEE Phase II	Borehole Number: B2
	Project Number: 09423010	Page Number:
	Date: 6/22/23	Drilling Contractor:
	Location:	Drilling Method:
	Surface Elevation:	Sample Method:
	Logged By:	

Depth (ft)	Groundwater ▽	Sample Interval	Sample Recovery (In)	Hammer Blows	N-Value (SPT)	Soil Description	Notes
0							
1						Brown sandy soil w/ gravel	PID = 0.0
2							
3						Gray sandy soil w/ gravel	PID = 0.0
4							
5						Gray sandy soil w/ sand	
6							
7						Gray silty soil	PID = 0.0
8							
9							
0							
1							
2							
3							
4							
5							
6							
7							
8							
9							
0							

Groundwater Observations:

Notes:

Krazan & Associates, Inc.

SOIL BORING LOG

Location Map: N ↑	Project Name: JSCEE Phase II	Borehole Number: B3
	Project Number: 09423010	Page Number:
	Date: 6/22/23	Drilling Contractor:
	Location:	Drilling Method:
	Surface Elevation:	Sample Method:
	Logged By:	

Depth (ft)	Groundwater ▽	Sample Interval	Sample Recovery (In)	Hammer Blows	N-Value (SPT)	Soil Description	Notes
0						Brown sand soil w/ gravel	
1							
2							
3						Gravely sand	PID = 0.0
4							
5						Brown sand w/ silt	PID = 0.0
6						* Refusal	PID = 0.0
7							
8							
9							
0							
1							
2							
3							
4							
5							
6							
7							
8							
9							
0							

Groundwater Observations:

Notes:

Krazan & Associates, Inc.

SOIL BORING LOG

Location Map: N ↑	Project Name: JSCEE Phase II	Borehole Number: B4
	Project Number: 09423010	Page Number:
	Date: 6/22/23	Drilling Contractor:
	Location:	Drilling Method:
	Surface Elevation:	Sample Method:
	Logged By:	

Depth (ft)	Groundwater ▽	Sample Interval	Sample Recovery (In)	Hammer Blows	N-Value (SPT)	Soil Description	Notes
0							
1						Brown sand soil w/ gravel	
2						Brown sandy soil	PID = 0.0
3							
4						Debris	
5						Brown sand w/ gravel	PID = 0.0
6							
7						Gray silty soil - little moisture	PID = 0.0
8							
9							
0							
1							
2							
3							
4							
5							
6							
7							
8							
9							
0							

Groundwater Observations:

Notes:

Krazan & Associates, Inc.

SOIL BORING LOG

Location Map: N ↑	Project Name: JSCEE Phase II	Borehole Number: B5
	Project Number: 09423010	Page Number:
	Date: 6/22/23	Drilling Contractor:
	Location:	Drilling Method:
	Surface Elevation:	Sample Method:
	Logged By:	

Depth (ft)	Groundwater ▽	Sample Interval	Sample Recovery (In)	Hammer Blows	N-Value (SPT)	Soil Description	Notes
0						Pea gravel	
1							
2						Brown sandy soil	PID = 0.0
3							
4						Brown silty sand w/ gravel	
5						Gravel w/ sand	PID = 0.0
6							
7						Sandy soil	PID = 0.0
8							
9							
0							
1							
2							
3							
4							
5							
6							
7							
8							
9							
0							

Groundwater Observations:

Notes:

Krazan & Associates, Inc.

SOIL BORING LOG

Location Map: N ↑	Project Name: JSCEE Phase II	Borehole Number: B6
	Project Number: 09423010	Page Number:
	Date: 6/22/23	Drilling Contractor:
	Location:	Drilling Method:
	Surface Elevation:	Sample Method:
	Logged By:	

Depth (ft)	Groundwater ▽	Sample Interval	Sample Recovery (In)	Hammer Blows	N-Value (SPT)	Soil Description	Notes
0							
1						Brown gravely sand	
2						Gray silty sand w/ gravel	PID = 0.0
3							
4						Brown silty soil	
5						Gray silty soil contains slight charcoal smell	PID = 3.3
6							
7							
8						Gray silty soil	
9						Moist soil	
0							
1							
2							
3							
4							
5							
6							
7							
8							
9							
0							

Groundwater Observations:

Notes:

Krazan & Associates, Inc.

Appendix B

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

5500 4th Avenue South
Seattle, WA 98108
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

June 30, 2023

Jordan Kain, Project Manager
Krazan & Associates
4303 198th Street SW
Lynnwood, WA 98036

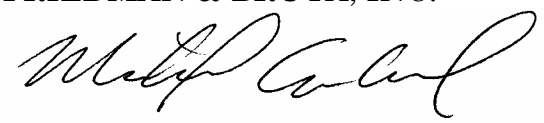
Dear Mr Kain:

Included are the results from the testing of material submitted on June 23, 2023 from the JSCEE Kitchen Soils 09423010, F&BI 306385 project. There are 51 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Krazan A/P
KRZ0630R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 23, 2023 by Friedman & Bruya, Inc. from the Krazan & Associates JSCEE Kitchen Soils 09423010, F&BI 306385 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Krazan & Associates
306385 -01	B6-6'
306385 -02	B6-10'
306385 -03	GW6-7.5'
306385 -04	B1-6'
306385 -05	B2-7'
306385 -06	B3-5.5'
306385 -07	B4-7'
306385 -08	B5-7'
306385 -09	B5-4'

All quality control requirements were acceptable.

Date of Report: 06/30/23
Date Received: 06/23/23
Project: JSCEE Kitchen Soils 09423010, F&BI 306385
Date Extracted: 06/26/23
Date Analyzed: 06/26/23

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING METHODS 8021B AND NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
B6-6' 306385-01	<0.02	<0.02	<0.02	<0.06	<5	129
B6-10' 306385-02	<0.02	<0.02	<0.02	<0.06	7.0	125
B1-6' 306385-04	<0.02	<0.02	<0.02	<0.06	<5	127
B2-7' 306385-05	<0.02	<0.02	<0.02	<0.06	<5	129
B3-5.5' 306385-06	<0.02	<0.02	<0.02	<0.06	<5	127
B4-7' 306385-07	<0.02	<0.02	<0.02	<0.06	<5	129
B5-7' 306385-08	<0.02	<0.02	<0.02	<0.06	<5	128
Method Blank 03-1399 MB	<0.02	<0.02	<0.02	<0.06	<5	131

Date of Report: 06/30/23
Date Received: 06/23/23
Project: JSCEE Kitchen Soils 09423010, F&BI 306385
Date Extracted: 06/26/23
Date Analyzed: 06/26/23

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND TPH AS GASOLINE USING METHODS 8021B AND NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
GW6-7.5' hs 306385-03	<1	<1	<1	<3	<100	106
Method Blank 03-1400 MB	<1	<1	<1	<3	<100	106

Date of Report: 06/30/23
Date Received: 06/23/23
Project: JSCEE Kitchen Soils 09423010, F&BI 306385
Date Extracted: 06/23/23
Date Analyzed: 06/23/23

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

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
B6-6' 306385-01	<50	<250	95
B6-10' 306385-02	<50	<250	95
B1-6' 306385-04	<50	<250	97
B2-7' 306385-05	<50	<250	98
B3-5.5' 306385-06	<50	<250	95
B4-7' 306385-07	<50	<250	97
B5-7' 306385-08	<50	<250	94
Method Blank 03-1504 MB	<50	<250	96

Date of Report: 06/30/23
Date Received: 06/23/23
Project: JSCEE Kitchen Soils 09423010, F&BI 306385
Date Extracted: 06/26/23
Date Analyzed: 06/26/23

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 50-150)
GW6-7.5' 306385-03 1/2	530 x	<500	103
Method Blank 03-1510 MB	<50	<250	104

Analysis For Total Metals By EPA Method 6020B

Client ID:	B6-6'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/23/23	Lab ID:	306385-01
Date Analyzed:	06/23/23	Data File:	306385-01.145
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Barium	25.1
Cadmium	<1
Chromium	9.86
Lead	12.9
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	B6-6'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/23/23	Lab ID:	306385-01
Date Analyzed:	06/26/23	Data File:	306385-01.043
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	4.40

Analysis For Total Metals By EPA Method 6020B

Client ID:	B6-10'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/23/23	Lab ID:	306385-02
Date Analyzed:	06/23/23	Data File:	306385-02.146
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Barium	77.5
Cadmium	<1
Chromium	97.5
Lead	15.0
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	B6-10’	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/23/23	Lab ID:	306385-02
Date Analyzed:	06/26/23	Data File:	306385-02.044
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	5.51

Analysis For Total Metals By EPA Method 6020B

Client ID:	B1-6'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/23/23	Lab ID:	306385-04
Date Analyzed:	06/23/23	Data File:	306385-04.147
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Barium	74.5
Cadmium	<1
Chromium	7.82
Lead	69.2
Mercury	<1
Selenium	<1
Silver	1.13

Analysis For Total Metals By EPA Method 6020B

Client ID:	B1-6'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/23/23	Lab ID:	306385-04
Date Analyzed:	06/26/23	Data File:	306385-04.045
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.71

Analysis For Total Metals By EPA Method 6020B

Client ID:	B2-7'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/23/23	Lab ID:	306385-05
Date Analyzed:	06/23/23	Data File:	306385-05.148
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Barium	34.8
Cadmium	<1
Chromium	13.1
Lead	17.1
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	B2-7'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/23/23	Lab ID:	306385-05
Date Analyzed:	06/26/23	Data File:	306385-05.046
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	4.65

Analysis For Total Metals By EPA Method 6020B

Client ID:	B3-5.5'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/23/23	Lab ID:	306385-06
Date Analyzed:	06/23/23	Data File:	306385-06.149
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Barium	44.8
Cadmium	<1
Chromium	12.4
Lead	1.82
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	B3-5.5'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/23/23	Lab ID:	306385-06
Date Analyzed:	06/26/23	Data File:	306385-06.047
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.59

Analysis For Total Metals By EPA Method 6020B

Client ID:	B4-7'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/23/23	Lab ID:	306385-07
Date Analyzed:	06/23/23	Data File:	306385-07.150
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Barium	26.3
Cadmium	<1
Chromium	9.93
Lead	16.2
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	B4-7'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/23/23	Lab ID:	306385-07
Date Analyzed:	06/26/23	Data File:	306385-07.048
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.34

Analysis For Total Metals By EPA Method 6020B

Client ID:	B5-7'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/23/23	Lab ID:	306385-08
Date Analyzed:	06/23/23	Data File:	306385-08.156
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	2.25
Barium	41.5
Cadmium	<1
Chromium	8.18
Lead	10.4
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Krazan & Associates
Date Received:	NA	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/23/23	Lab ID:	I3-508 mb
Date Analyzed:	06/26/23	Data File:	I3-508 mb.041
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Barium	<1
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	GW6-7.5'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/23/23	Lab ID:	306385-03 x4
Date Analyzed:	06/27/23	Data File:	306385-03 x4.178
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Mercury	4.38

Analysis For Total Metals By EPA Method 6020B

Client ID:	GW6-7.5'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/23/23	Lab ID:	306385-03 x10
Date Analyzed:	06/27/23	Data File:	306385-03 x10.157
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	196
Barium	2,570
Cadmium	15.1
Lead	697
Selenium	39.0
Silver	<10

Analysis For Total Metals By EPA Method 6020B

Client ID:	GW6-7.5'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/23/23	Lab ID:	306385-03 x100
Date Analyzed:	06/26/23	Data File:	306385-03 x100.099
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Chromium	544

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Krazan & Associates
Date Received:	NA	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/23/23	Lab ID:	I3-506 mb2
Date Analyzed:	06/23/23	Data File:	I3-506 mb2.106
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Barium	<1
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	B6-6'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/26/23	Lab ID:	306385-01 1/5
Date Analyzed:	06/26/23	Data File:	062610.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	70	16	137
2-Fluorobiphenyl	79	46	122
2,4,6-Tribromophenol	72	17	154
Terphenyl-d14	86	31	167

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.010
2-Methylnaphthalene	<0.01
1-Methylnaphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	0.044
Fluorene	0.011
Phenanthrene	0.021
Anthracene	<0.01
Fluoranthene	0.029
Pyrene	0.033
Benz(a)anthracene	0.013
Chrysene	0.016
Benzo(a)pyrene	0.016
Benzo(b)fluoranthene	0.018
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	0.012
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	0.013

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	B6-10'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/26/23	Lab ID:	306385-02 1/5
Date Analyzed:	06/26/23	Data File:	062611.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	65	16	137
2-Fluorobiphenyl	68	46	122
2,4,6-Tribromophenol	71	17	154
Terphenyl-d14	83	31	167

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
2-Methylnaphthalene	<0.01
1-Methylnaphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	0.022
Anthracene	<0.01
Fluoranthene	0.046
Pyrene	0.051
Benz(a)anthracene	0.020
Chrysene	0.024
Benzo(a)pyrene	0.023
Benzo(b)fluoranthene	0.027
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	0.015
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	0.016

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	B1-6'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/26/23	Lab ID:	306385-04 1/25
Date Analyzed:	06/26/23	Data File:	062616.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	71 d	16	137
2-Fluorobiphenyl	81 d	46	122
2,4,6-Tribromophenol	61 d	17	154
Terphenyl-d14	93 d	31	167

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.05
2-Methylnaphthalene	<0.05
1-Methylnaphthalene	<0.05
Acenaphthylene	<0.05
Acenaphthene	0.14
Fluorene	0.12
Phenanthrene	1.4
Anthracene	0.26
Fluoranthene	1.3
Pyrene	1.8
Benz(a)anthracene	0.69
Chrysene	0.70
Benzo(a)pyrene	0.77
Benzo(b)fluoranthene	0.68
Benzo(k)fluoranthene	0.27
Indeno(1,2,3-cd)pyrene	0.43
Dibenz(a,h)anthracene	0.093
Benzo(g,h,i)perylene	0.45

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	B2-7'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/26/23	Lab ID:	306385-05 1/5
Date Analyzed:	06/26/23	Data File:	062612.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	78	16	137
2-Fluorobiphenyl	76	46	122
2,4,6-Tribromophenol	74	17	154
Terphenyl-d14	86	31	167

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
2-Methylnaphthalene	<0.01
1-Methylnaphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	0.035
Anthracene	0.011
Fluoranthene	0.059
Pyrene	0.073
Benz(a)anthracene	0.024
Chrysene	0.031
Benzo(a)pyrene	0.029
Benzo(b)fluoranthene	0.034
Benzo(k)fluoranthene	0.011
Indeno(1,2,3-cd)pyrene	0.020
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	0.021

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	B3-5.5'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/26/23	Lab ID:	306385-06 1/5
Date Analyzed:	06/26/23	Data File:	062613.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	72	16	137
2-Fluorobiphenyl	72	46	122
2,4,6-Tribromophenol	69	17	154
Terphenyl-d14	83	31	167

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
2-Methylnaphthalene	<0.01
1-Methylnaphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	B4-7'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/26/23	Lab ID:	306385-07 1/5
Date Analyzed:	06/26/23	Data File:	062614.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	64	16	137
2-Fluorobiphenyl	72	46	122
2,4,6-Tribromophenol	63	17	154
Terphenyl-d14	80	31	167

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
2-Methylnaphthalene	<0.01
1-Methylnaphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	0.011
Anthracene	<0.01
Fluoranthene	0.023
Pyrene	0.026
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	0.012
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	B5-7'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/26/23	Lab ID:	306385-08 1/5
Date Analyzed:	06/26/23	Data File:	062615.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	74	16	137
2-Fluorobiphenyl	74	46	122
2,4,6-Tribromophenol	70	17	154
Terphenyl-d14	87	31	167

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
2-Methylnaphthalene	<0.01
1-Methylnaphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	0.012
Anthracene	<0.01
Fluoranthene	0.021
Pyrene	0.031
Benz(a)anthracene	<0.01
Chrysene	0.011
Benzo(a)pyrene	0.010
Benzo(b)fluoranthene	0.014
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Krazan & Associates
Date Received:	Not Applicable	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/26/23	Lab ID:	03-1511 mb 1/5
Date Analyzed:	06/26/23	Data File:	062609.D
Matrix:	Soil	Instrument:	GCMS12
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	78	16	137
2-Fluorobiphenyl	83	46	122
2,4,6-Tribromophenol	76	17	154
Terphenyl-d14	92	31	167

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
2-Methylnaphthalene	<0.01
1-Methylnaphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	GW6-7.5'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/26/23	Lab ID:	306385-03 1/4
Date Analyzed:	06/26/23	Data File:	062609.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	35	15	144
2-Fluorobiphenyl	37	25	128
2,4,6-Tribromophenol	58	10	142
Terphenyl-d14	53	41	138

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.8
2-Methylnaphthalene	<0.8
1-Methylnaphthalene	<0.8
Acenaphthylene	<0.08
Acenaphthene	0.082
Fluorene	0.12
Phenanthrene	0.45
Anthracene	0.13
Fluoranthene	0.89
Pyrene	0.82
Benz(a)anthracene	0.28
Chrysene	0.36
Benzo(a)pyrene	0.31
Benzo(b)fluoranthene	0.40
Benzo(k)fluoranthene	0.14
Indeno(1,2,3-cd)pyrene	0.23
Dibenz(a,h)anthracene	<0.08
Benzo(g,h,i)perylene	0.22

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Krazan & Associates
Date Received:	Not Applicable	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/26/23	Lab ID:	03-1512 mb
Date Analyzed:	06/26/23	Data File:	062608.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	77	15	144
2-Fluorobiphenyl	82	25	128
2,4,6-Tribromophenol	79	10	142
Terphenyl-d14	107	41	138

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.2
2-Methylnaphthalene	<0.2
1-Methylnaphthalene	<0.2
Acenaphthylene	<0.02
Acenaphthene	<0.02
Fluorene	<0.02
Phenanthrene	<0.02
Anthracene	<0.02
Fluoranthene	<0.02
Pyrene	<0.02
Benz(a)anthracene	<0.02
Chrysene	<0.02
Benzo(a)pyrene	<0.02
Benzo(b)fluoranthene	<0.02
Benzo(k)fluoranthene	<0.02
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	<0.04

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	B6-6'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/23/23	Lab ID:	306385-01 cl 1/30
Date Analyzed:	06/26/23	Data File:	062605.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	100	11	184
Decachlorobiphenyl	104	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	<0.02
Aroclor 1260	0.053
Aroclor 1262	<0.02
Aroclor 1268	<0.02

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	B6-10'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/23/23	Lab ID:	306385-02 1/30
Date Analyzed:	06/23/23	Data File:	062327.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	150	11	184
Decachlorobiphenyl	124	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	<0.02
Aroclor 1260	0.064
Aroclor 1262	<0.02
Aroclor 1268	<0.02

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	B1-6'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/23/23	Lab ID:	306385-04 1/30
Date Analyzed:	06/23/23	Data File:	062328.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	122	11	184
Decachlorobiphenyl	124	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	0.022
Aroclor 1260	0.044
Aroclor 1262	<0.02
Aroclor 1268	<0.02

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	B2-7'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/23/23	Lab ID:	306385-05 1/30
Date Analyzed:	06/24/23	Data File:	062329.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	127	11	184
Decachlorobiphenyl	103	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	<0.02
Aroclor 1260	0.12
Aroclor 1262	<0.02
Aroclor 1268	<0.02

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	B3-5.5'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/23/23	Lab ID:	306385-06 1/30
Date Analyzed:	06/24/23	Data File:	062330.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	88	11	184
Decachlorobiphenyl	150 vo	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	<0.02
Aroclor 1260	<0.02
Aroclor 1262	<0.02
Aroclor 1268	<0.02

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	B4-7'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/23/23	Lab ID:	306385-07 cl 1/30
Date Analyzed:	06/26/23	Data File:	062606.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	75	11	184
Decachlorobiphenyl	110	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	<0.02
Aroclor 1260	0.083
Aroclor 1262	<0.02
Aroclor 1268	<0.02

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	B5-7'	Client:	Krazan & Associates
Date Received:	06/23/23	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/23/23	Lab ID:	306385-08 1/30
Date Analyzed:	06/24/23	Data File:	062332.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	122	11	184
Decachlorobiphenyl	109	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	<0.02
Aroclor 1260	0.039
Aroclor 1262	<0.02
Aroclor 1268	<0.02

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Krazan & Associates
Date Received:	Not Applicable	Project:	JSCEE Kitchen Soils 09423010
Date Extracted:	06/23/23	Lab ID:	03-1506 mb 1/30
Date Analyzed:	06/23/23	Data File:	062324.D
Matrix:	Soil	Instrument:	GC9
Units:	mg/kg (ppm) Dry Weight	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Tetrachlorometaxylene	162	11	184
Decachlorobiphenyl	146 vo	25	127

Compounds:	Concentration mg/kg (ppm)
Aroclor 1221	<0.02
Aroclor 1232	<0.02
Aroclor 1016	<0.02
Aroclor 1242	<0.02
Aroclor 1248	<0.02
Aroclor 1254	<0.02
Aroclor 1260	<0.02
Aroclor 1262	<0.02
Aroclor 1268	<0.02

Date of Report: 06/30/23
Date Received: 06/23/23
Project: JSCEE Kitchen Soils 09423010, F&BI 306385

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES, AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 306366-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	1.0	89	70-130
Toluene	mg/kg (ppm)	1.0	89	70-130
Ethylbenzene	mg/kg (ppm)	1.0	91	70-130
Xylenes	mg/kg (ppm)	3.0	93	70-130
Gasoline	mg/kg (ppm)	40	97	70-130

Date of Report: 06/30/23
Date Received: 06/23/23
Project: JSCEE Kitchen Soils 09423010, F&BI 306385

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES, AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 306372-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	<1	<1	nm
Ethylbenzene	ug/L (ppb)	<1	<1	nm
Xylenes	ug/L (ppb)	<3	<3	nm
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/L (ppb)	50	104	70-130
Toluene	ug/L (ppb)	50	108	70-130
Ethylbenzene	ug/L (ppb)	50	104	70-130
Xylenes	ug/L (ppb)	150	100	70-130
Gasoline	ug/L (ppb)	1,000	99	70-130

Date of Report: 06/30/23
Date Received: 06/23/23
Project: JSCEE Kitchen Soils 09423010, F&BI 306385

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

Laboratory Code: 306366-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	(Wet wt) Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	96	94	53-141	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	90	71-126

Date of Report: 06/30/23
Date Received: 06/23/23
Project: JSCEE Kitchen Soils 09423010, F&BI 306385

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	96	84	65-151	13

Date of Report: 06/30/23
Date Received: 06/23/23
Project: JSCEE Kitchen Soils 09423010, F&BI 306385

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

Laboratory Code: 306385-08 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	1.87	89	93	75-125	4
Barium	mg/kg (ppm)	50	34.5	70 b	75 b	75-125	7 b
Cadmium	mg/kg (ppm)	10	<1	97	101	75-125	4
Chromium	mg/kg (ppm)	50	6.79	84	89	75-125	6
Lead	mg/kg (ppm)	50	8.64	85	91	75-125	7
Mercury	mg/kg (ppm	5	<1	90	95	75-125	5
Selenium	mg/kg (ppm)	5	<1	94	95	75-125	1
Silver	mg/kg (ppm)	10	<1	94	97	75-125	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	98	80-120
Barium	mg/kg (ppm)	50	95	80-120
Cadmium	mg/kg (ppm)	10	94	80-120
Chromium	mg/kg (ppm)	50	96	80-120
Lead	mg/kg (ppm)	50	95	80-120
Mercury	mg/kg (ppm)	5	91	80-120
Selenium	mg/kg (ppm)	5	94	80-120
Silver	mg/kg (ppm)	10	94	80-120

Date of Report: 06/30/23
Date Received: 06/23/23
Project: JSCEE Kitchen Soils 09423010, F&BI 306385

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

Laboratory Code: 306365-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	1.14	98	100	75-125	2
Barium	ug/L (ppb)	50	6.66	103	106	75-125	3
Cadmium	ug/L (ppb)	5	<1	97	99	75-125	2
Chromium	ug/L (ppb)	20	<1	92	95	75-125	3
Lead	ug/L (ppb)	10	<1	86	88	75-125	2
Mercury	ug/L (ppb)	5	<1	88	91	75-125	3
Selenium	ug/L (ppb)	5	<1	104	106	75-125	2
Silver	ug/L (ppb)	5	<1	93	95	75-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	99	80-120
Barium	ug/L (ppb)	50	102	80-120
Cadmium	ug/L (ppb)	5	98	80-120
Chromium	ug/L (ppb)	20	93	80-120
Lead	ug/L (ppb)	10	92	80-120
Mercury	ug/L (ppb)	5	94	80-120
Selenium	ug/L (ppb)	5	106	80-120
Silver	ug/L (ppb)	5	97	80-120

Date of Report: 06/30/23
Date Received: 06/23/23
Project: JSCEE Kitchen Soils 09423010, F&BI 306385

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: 306385-01 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	mg/kg (ppm)	0.83	0.0083	82	78	50-150	5
2-Methylnaphthalene	mg/kg (ppm)	0.83	<0.01	92	86	50-150	7
1-Methylnaphthalene	mg/kg (ppm)	0.83	<0.01	92	85	50-150	8
Acenaphthylene	mg/kg (ppm)	0.83	<0.01	87	84	50-150	4
Acenaphthene	mg/kg (ppm)	0.83	0.036	88	85	50-150	3
Fluorene	mg/kg (ppm)	0.83	0.0085	90	87	50-150	3
Phenanthrene	mg/kg (ppm)	0.83	0.017	91	91	10-170	0
Anthracene	mg/kg (ppm)	0.83	<0.01	92	88	37-139	4
Fluoranthene	mg/kg (ppm)	0.83	0.023	95	97	10-203	2
Pyrene	mg/kg (ppm)	0.83	0.027	93	94	10-208	1
Benz(a)anthracene	mg/kg (ppm)	0.83	0.010	96	94	37-146	2
Chrysene	mg/kg (ppm)	0.83	0.013	95	93	36-144	2
Benzo(a)pyrene	mg/kg (ppm)	0.83	0.013	98	96	40-150	2
Benzo(b)fluoranthene	mg/kg (ppm)	0.83	0.015	94	92	45-157	2
Benzo(k)fluoranthene	mg/kg (ppm)	0.83	<0.01	94	94	50-150	0
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.83	0.0094	98	98	24-145	0
Dibenz(a,h)anthracene	mg/kg (ppm)	0.83	<0.01	101	98	31-137	3
Benzo(g,h,i)perylene	mg/kg (ppm)	0.83	0.011	95	94	14-141	1

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Naphthalene	mg/kg (ppm)	0.83	84	59-105
2-Methylnaphthalene	mg/kg (ppm)	0.83	92	62-108
1-Methylnaphthalene	mg/kg (ppm)	0.83	93	62-108
Acenaphthylene	mg/kg (ppm)	0.83	92	61-111
Acenaphthene	mg/kg (ppm)	0.83	91	61-110
Fluorene	mg/kg (ppm)	0.83	95	62-114
Phenanthrene	mg/kg (ppm)	0.83	95	64-112
Anthracene	mg/kg (ppm)	0.83	92	63-111
Fluoranthene	mg/kg (ppm)	0.83	94	66-115
Pyrene	mg/kg (ppm)	0.83	99	65-112
Benz(a)anthracene	mg/kg (ppm)	0.83	97	64-116
Chrysene	mg/kg (ppm)	0.83	99	66-119
Benzo(a)pyrene	mg/kg (ppm)	0.83	97	62-116
Benzo(b)fluoranthene	mg/kg (ppm)	0.83	100	61-118
Benzo(k)fluoranthene	mg/kg (ppm)	0.83	102	65-119
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.83	94	64-130
Dibenz(a,h)anthracene	mg/kg (ppm)	0.83	95	67-131
Benzo(g,h,i)perylene	mg/kg (ppm)	0.83	95	67-126

Date of Report: 06/30/23
Date Received: 06/23/23
Project: JSCEE Kitchen Soils 09423010, F&BI 306385

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	ug/L (ppb)	5	72	74	50-104	3
2-Methylnaphthalene	ug/L (ppb)	5	81	85	52-113	5
1-Methylnaphthalene	ug/L (ppb)	5	81	86	51-115	6
Acenaphthylene	ug/L (ppb)	5	83	86	60-114	4
Acenaphthene	ug/L (ppb)	5	83	85	57-110	2
Fluorene	ug/L (ppb)	5	91	93	61-115	2
Phenanthrene	ug/L (ppb)	5	91	95	63-113	4
Anthracene	ug/L (ppb)	5	86	92	65-117	7
Fluoranthene	ug/L (ppb)	5	96	101	68-121	5
Pyrene	ug/L (ppb)	5	83	88	62-133	6
Benz(a)anthracene	ug/L (ppb)	5	92	93	66-131	1
Chrysene	ug/L (ppb)	5	101	103	66-129	2
Benzo(a)pyrene	ug/L (ppb)	5	100	103	66-129	3
Benzo(b)fluoranthene	ug/L (ppb)	5	94	96	55-144	2
Benzo(k)fluoranthene	ug/L (ppb)	5	99	104	58-139	5
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	96	100	62-136	4
Dibenz(a,h)anthracene	ug/L (ppb)	5	101	106	55-146	5
Benzo(g,h,i)perylene	ug/L (ppb)	5	94	99	58-137	5

Date of Report: 06/30/23
Date Received: 06/23/23
Project: JSCEE Kitchen Soils 09423010, F&BI 306385

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: 306366-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Control Limits	RPD (Limit 20)
Aroclor 1016	mg/kg (ppm)	0.25	<0.02	97	106	24-163	9
Aroclor 1260	mg/kg (ppm)	0.25	<0.02	107	119	10-194	11

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	mg/kg (ppm)	0.25	112	47-158
Aroclor 1260	mg/kg (ppm)	0.25	116	69-141

Data Qualifiers & Definitions

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

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

ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the standard reporting limit. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

k – The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

306385

SAMPLE CHAIN OF CUSTODY

06/23/23 VW1/I2/VS-B1/M4

Page # 1 of 1

Send Report To Jordan Kain

Company Krazan & Assocaites

Address 4303 198th St SW

City, State, ZIP Lynnwood, WA, 98036

Phone # 425-485-5519 Fax #

Email Address jordankain@krazan.com

SAMPLERS (signature)

PROJECT NAME/NO. JSCEE Kitchen Soils

PO # 09423010

PROJECT ADDRESS

ELECTRONIC DATA REQUESTED

TURNAROUND TIME
Standard Turnaround
RUSH See Notes
Rush charges authorized by:

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

Samples Received at ____ °C

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	PAHs	RCRA-8	PCBs			Notes
B6-6'	01 A-D	6-22-23	5:00pm	Soil	4	X	X	X				X	X	X			1-Day Rush
B6-10'	02		5:00pm	Soil	4	X	X	X				X	X	X			1-Day Rush
GW6-7.5'	03		11:45pm	Water	4	X	X	X				X	X				1-Day Rush
B1-6'	04		7:00pm	Soil	4	X	X	X				X	X	X			Standard TAT
B2-6'	05		8:00			X	X	X				X	X	X			
B3-5.5'	06		9:00			X	X	X				X	X	X			
B4-7'	07		10:00			X	X	X				X	X	X			
B5-7'	08		11:00			X	X	X				X	X	X			
B5-4'	09		11:00			X											Hold
					hold												

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Jordan Kain	Krazan	6-23-23	
Received by:	Nhan Phan	FEBI	6/23/23	1345
Relinquished by:				

Samples received at 4 °C

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