



Construction Completion Report
721 East Pine Street
Seattle, Washington

Prepared for
O&S Partners, LLC

July 22, 2014
17937-02

This page is intentionally left blank
for double-sided printing.



HARTCROWSER

Construction Completion Report

**721 East Pine Street
Seattle, Washington**

**Prepared for
O&S Partners, LLC**

**July 22, 2014
17937-02**

**Prepared by
Hart Crowser, Inc.**

Angie Goodwin, LHG
Project Hydrogeologist
Angie.Goodwin@hartcrowser.com

Julie K. W. Wukelic
Senior Principal
JKW@hartcrowser.com

This page is intentionally left blank
for double-sided printing.

Contents

1.0 EXECUTIVE SUMMARY	1
2.0 INTRODUCTION	2
3.0 PROPERTY DESCRIPTION AND BACKGROUND	2
3.1 Geology and Hydrogeology	3
3.2 Historical Background	3
3.3 Previous Environmental Investigations	3
4.0 CONCEPTUAL SITE MODEL	4
4.1 Source and Release Background	4
4.2 Environmental Constituents of Concern	5
4.3 Physical Characteristics of Impacted Areas	5
4.4 Fate and Transport Considerations	6
4.5 Potential Receptors and Pathways for Exposure	6
5.0 EVALUATION OF REMEDIAL ALTERNATIVES	6
6.0 SUMMARY OF COMPLETED REMEDIAL ACTION	6
6.1 Remedial Action Overview	6
6.1.1 Impacted Soil Removal and Sample Results	7
7.0 COMPLIANCE WITH MTCA REQUIREMENTS	9
7.1 Exposure Pathways	9
8.0 REFERENCES	10

TABLES

- 1 Analytical Results for Characterization Soil Samples
- 2 Analytical Results for Verification Soil Samples
- 3 Analytical Results for UST Soil Samples

FIGURES

- 1 Vicinity Map
- 2 Soil Sample Location Plan

APPENDIX A

Chemical Data Quality Review and Laboratory Reports

APPENDIX B

UST Decommissioning Documents

Construction Completion Report

721 East Pine Street

Seattle, Washington

1.0 EXECUTIVE SUMMARY

The Cue Apartments on 721 East Pine Street (Site) is located in the Capitol Hill neighborhood of Seattle, Washington, and occupies the northeast corner of the block bounded by East Pine Street, East Pike Street, Harvard Avenue East, and Boylston Avenue East (Figure 1). The property is being developed by O&S Partners, LLC, into a mid-rise apartment building with one level of underground parking.

The Site was previously occupied by a motorcycle shop, a restaurant, and an auto garage. Potential environmental concerns were identified based on historical use of the property and subsurface investigations and included total petroleum hydrocarbon (TPH) compounds, metals, and volatile organic compounds (VOCs). Historical soil samples collected at the site contained benzene and lead concentrations that exceed Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA – Chapter 173-340 WAC) Method A cleanup levels. Several soil samples collected during construction activities contained concentrations that exceed MTCA Method A cleanup levels for diesel- and heavy oil-range TPH.

Before construction activities began in April 2014, remedial options to address the impacted soil were evaluated. Since property redevelopment plans involved subsurface excavation and grading, off-site disposal of the impacted soil was determined to be the most effective cleanup option. The excavations described in this report were completed in accordance with all applicable MTCA requirements for remedial actions.

Hart Crowser provided on-site construction oversight assistance with identification and isolation of potentially impacted soil or other media during excavation work between May and June 2014. Hart Crowser also provided a Washington State Site Assessor for assistance with the two unknown USTs that were discovered in the southeast corner of the parking lot off Harvard Avenue. The unknown USTs were unregulated heating oil tanks and were removed in June 2014. Some residual TPH-impacted soil associated with the southern UST were removed and disposed of off site at a Subtitle D landfill.

Characterization and verification soil sampling and analysis conducted during cleanup activities confirmed that benzene-, lead-, and TPH-impacted soil was limited to the southern portion of the Site within the upper 6 feet. Approximately 615.34 tons of impacted soil were removed and disposed of off site at Republic Services' Subtitle D landfills. Locations of areas containing impacted soil with constituents of concern (COCs) of benzene, lead, and TPH above MTCA Method A cleanup levels are shown on Figure 2. Other areas with soil that exhibited odors or detections of COCs below MTCA cleanup levels were also removed and disposed of off site at a Subtitle D landfill to ensure that a conservative and MTCA-compliant cleanup was performed. Based on the characterization results and

field observations, all soil that exceeded MTCA Method A cleanup levels was removed. For efficiency purposes, most of the soil removed and disposed of off site did not contain COC concentrations above MTCA Method A cleanup levels. Verification soil sample locations are shown on Figure 2.

During soil excavation and removal activities, 34 soil characterization, stockpile, and verification samples were collected, and 33 samples were analyzed. Soil screening and laboratory testing activities were performed to characterize potentially impacted soil for appropriate disposal and to verify that soil remaining in place did not exceed regulatory criteria (unrestricted MTCA Method A cleanup levels). Only 5 of the 33 samples analyzed contained COCs above MTCA Method A cleanup levels (Tables 1 and 3). All soil with COCs above MTCA Method A cleanup levels was excavated and removed from the property. Additional excavation occurred beyond the remedial action limits as part of redevelopment across the property to final depths ranging from 10 to 15 feet. Verification soil samples collected from these impacted areas confirmed that residual COC concentrations were below MTCA Method A unrestricted cleanup levels or were non-detect at the laboratory reporting limits. Analytical results for soil characterization and verification samples are presented in Tables 1 and 2, respectively. Analytical results from the soil samples collected for the UST areas are presented in Table 3.

The cleanup actions on the property meet all of the applicable MTCA requirements for remedial actions. Compliance with cleanup objectives for each of the potential exposure pathways (direct contact, soil to groundwater, and soil vapor) have been met and are discussed in Section 6.0, Compliance with MTCA Requirements. It is Hart Crowser's opinion that the Site does not pose a threat to human health or the environment and no further remedial actions are necessary.

2.0 INTRODUCTION

On behalf of O&S Partners, LLC, Hart Crowser oversaw environmental cleanup activities at the Site located at 721 East Pine Street in Seattle, Washington (Figure 1). Our activities were completed during construction and redevelopment of the property. Remedial activities were completed in accordance with MTCA.

Previous investigations have occurred on the property since 2012. This final construction completion report is intended to supplement the previous evaluations described in Section 3.3.

3.0 PROPERTY DESCRIPTION AND BACKGROUND

The project site is on the northeast corner of the block bounded by East Pine Street, East Pike Street, Harvard Avenue East, and Boylston Avenue East in Seattle's Capitol Hill neighborhood (Figure 1).

The Site was previously occupied by various structures (Figure 2). The southern half of the site was occupied by a paved surface parking lot. The northern half consisted of a single-story building housing a motorcycle shop, a restaurant, and an auto garage. Prior to construction, the site sloped downward from north to south and from east to west with a grade change of approximately 8 feet from the northeast corner to the southwest corner of the site.

O&S Partners, LLC, is redeveloping the Site, which includes a mid-rise apartment building with one level of underground parking. Excavation for underground parking required removal and disposal of soil from across the Site. The excavation for the parking structure extended vertically to 10 feet deep with select areas to 15 feet for footings. The excavation for redevelopment included removal of all known areas of impacted soil.

3.1 Geology and Hydrogeology

Based on soil conditions at the project site as described in the Geotechnical Engineering Design Study (dated April 19, 2013), the geologic units at the Site consist of fill and native (till and outwash sand) units. The fill unit consist of loose to medium dense, moist, silty, gravelly Sand and sandy Gravel with scattered brick fragments and organic material with an approximate depth of 5-1/2 feet to 8 feet. Most of the excavation was within these soils. Underneath the fill unit, native soils were encountered and consist of dense to very dense, moist, slightly gravelly to gravelly, silty Sand. The native soil was encountered to depths of over 35 feet and generally consists of glacially overconsolidated till and outwash soil. The bottom of the excavation generally terminated in this layer.

One historical boring (HCDOP-2) encountered perched water at a depth of 14 feet. However, groundwater or perched water was not encountered during excavation. Groundwater was identified in the surrounding area at a depth of approximately 50 feet. Groundwater levels could fluctuate depending on groundwater conditions including depth and volume, which may be caused by variations in rainfall, temperature, season, and other factors.

The property elevation is higher to the northeast along East Pine Street and Harvard Avenue (approximate elevation 299 feet). The surrounding area topography slopes down to the west and south toward Elliott Bay, located approximately 1 mile southwest of the Site. Based on site and surrounding area topography, groundwater is likely to flow to the west/southwest, toward Elliott Bay.

3.2 Historical Background

An auto garage and a motorcycle shop previously occupied the Site and had operated for decades before redevelopment began in 2014. Potential contaminants identified include TPH compounds, metals, and VOCs. VOCs are often used in automotive repair and maintenance services such as parts cleaning, degreasing, and painting

3.3 Previous Environmental Investigations

Based on environmental soil conditions at the project site as described in the Geotechnical Engineering Design Study (Hart Crowser 2013) and recognized environmental concerns (RECs) described in the Draft Phase I Environmental Site Assessment Update (Hart Crowser 2014), only one small isolated area in the south parking lot had a shallow soil sample (0.125 to 1.0 feet) with a concentration of benzene and lead above MTCA Method A soil cleanup levels. This sample was also analyzed for TCLP lead and was below the Dangerous Waste criteria. The soil sample collected and analyzed directly below this sample at a depth of to 8.5 feet contained no detections of benzene and lead above the laboratory detection limit. Based on the shallow nature of this soil sample, and that the area is used as a surface

parking lot, the detected constituents were probably related to minor releases of gas and oil from parked vehicles. The other soil samples collected, screened and analyzed across the site during the geotechnical study did not indicate any other petroleum, benzene, or lead in the shallow or deeper soil samples.

In addition, two test pits were excavated below the basement floor of the former 15th Avenue Garage building to determine the soil types beneath the building and to evaluate if any obvious environmental impacts were observed. The test pit located at the southern portion of the building was excavated to about 8 feet below the floor. The material in the test pit consisted of rubble including bricks, concrete blocks, soil, and boulders. The second test pit was located along the west wall, in the northern half of the garage, and contained mainly gravelly soil with some brick and a large metal bolt. No obvious environmental impacts such as odors or sheens were observed in either test pit; therefore, no environmental samples were collected for chemical analysis.

The adjacent site to the west (Pike Motorworks) is currently under development. The mass excavation has been completed to the full depth of the excavation at approximately 30 feet below the surface. This site is active in Ecology's Voluntary Cleanup Plan (VCP). Known petroleum- and metal-impacted soil was removed during mass excavation in accordance with the Ecology-approved Cleanup Action Plan (CAP)/Construction Contingency Plan (CCP). We understand that all of the impacted soil that exceeds MTCA Method A soil cleanup levels has been removed from the site in accordance with the Ecology-approved CAP.

4.0 CONCEPTUAL SITE MODEL

This section provides a conceptual understanding of the Site that is based on the results of historical research, previous subsurface investigations, and final remedial actions performed at the Site. A discussion of the chemicals and media of concern, the fate and transport characteristics of the release of COCs, and the potential exposure pathways are included in this section.

4.1 Source and Release Background

Isolated areas of environmental impacts were identified during the geotechnical study and during the redevelopment, specifically the excavation for underground parking in the southern portion of the Site. The environmental impacts consisted of isolated areas of benzene and lead impacts possibly associated with minor releases of gas and oil from parked vehicles as well as TPH and impacts associated with two unknown USTs located on the southeast corner of the Site.

Benzene-Impacted Soil. During the geotechnical study, one soil sample had a benzene concentration above the MTCA Method A cleanup level of 30 mg/kg in one isolated area near the western area of the Site. The benzene-impacted soil was overexcavated and removed.

Lead-Impacted Soil. During the geotechnical study, one soil sample had concentration of lead above the MTCA Method A cleanup level of 250 mg/kg in one hot spot area near the western area of the Site. Elevated lead concentrations were identified in additional soil samples collected during the excavation of this hot spot area. Lead-impacted soil was located in the southwest corner of the property within

the upper 6 feet. One historical sample and five soil samples collected from the redevelopment excavation between depths of 0.125 and 7 feet deep in this area were analyzed for TCLP lead with none of the samples exceeding the Dangerous Waste designation criteria. The lead-impacted soil was overexcavated and removed.

Unknown USTs and TPH-Impacted Soils. Two unknown, non-regulated USTs were encountered during the mass excavation in the southeast corner along Harvard Avenue. The small heating oil USTs (estimated at 500 gallons) were decommissioned and removed in June 2014. Section 6.1.1.3 Two Unknown USTs, provides details on the conditions of the USTs and verification samples collected and analyzed for the USTs.

The TPH impacts from the two unknown USTs appear to have been primarily located in the southeast area of the Site in the upper 5 feet. This small isolated area exhibited petroleum-like odors and detected heavy oil concentrations ranging between 200 and 6,000 mg/kg; diesel concentration of 6,200 mg/kg; and a gasoline concentration of 32 mg/kg. Two soil samples (E21-N8.5-290 and UST1-F1, Table 1 and 3, respectively) were above the MTCA Method A cleanup level of 2,000 mg/kg for diesel and heavy oil and a 30 mg/kg for gasoline (when benzene is present at the site). The impacted soil was overexcavated and removed.

Verification soil samples collected from excavation side walls and from beneath these areas confirmed that the impacted material was removed. Verification soil sample results are discussed in Section 6.1.1, Soil Removal and Sample Results.

Verification soil samples confirmed the final vertical and lateral limits of the remedial excavations. Figure 2 show the characterization and verification soil sample locations and Section 6.0, Summary of Completed Remedial Action, provides details on verification samples by impacted area or USTs.

4.2 Environmental Constituents of Concern

Environmental COCs identified at the Site include:

- **Soil.** Diesel-range TPH (TPH-D), gasoline-range TPH (TPH-G), heavy oil-range TPH (TPH-O), benzene, and lead.
- **Groundwater.** None

Overall, the extent of the TPH, benzene, and lead releases to the soil were limited and isolated. The removal actions have been successful in removing impacted soil above MTCA Method A unrestricted cleanup levels on the property, as shown by the verification soil sample analytical results.

4.3 Physical Characteristics of Impacted Areas

The environmentally impacted areas were isolated to the former parking lot in the southern portion of the Site. The former parking lot had an approximate elevation of 295 feet. Subsurface mass excavation extended to elevations of 285 to 280 feet (depths of 10 to 15 feet). Verification samples

shown on Figure 2 confirm that the areas of impacted soil above MTCA unrestricted soil cleanup levels have been excavated and removed.

4.4 Fate and Transport Considerations

Benzene and lead occurrences were shallow (upper 6 feet) and located in an area that was used as a surface parking lot, and was possibly associated with historical releases of gas and oil from parked vehicles. TPH occurrences were associated primarily with soil near the two unknown USTs in the southeast area within the upper 5 feet.

The identified benzene-, lead-, and TPH-impacted areas were excavated and removed from the property. Field screening and verification soil samples collected from beneath the impacted materials confirmed that the impacted soil was removed and that applicable cleanup levels were met.

4.5 Potential Receptors and Pathways for Exposure

The potential receptor pathways for exposure to benzene-, lead-, or TPH-impacted soil on the Site have been eliminated. The soil at the property has been cleaned up to concentrations consistent with unrestricted land use. Groundwater was not encountered during the redevelopment, so there is no pathway to groundwater.

5.0 EVALUATION OF REMEDIAL ALTERNATIVES

Prior to site redevelopment, only one small isolated area of impacted soil was identified. Excavation and off-site disposal was the selected remedial alternatives based on the COC and the planned excavation as part of the development. The cleanup option selected to address the isolated area of impacted soil and any other discovered similar areas of impacted soil at the Site was soil excavation and off-site disposal, because:

- The planned redevelopment included subsurface excavation;
- The permanence of removing impacted soil; and
- Cost-effectiveness, since cleanup could be conducted at the same time as development activities.

6.0 SUMMARY OF COMPLETED REMEDIAL ACTION

The remedial action of excavation and off-site disposal of the impacted soil was conducted at the Site in June 2014. This section summarizes the remedial action and provides a brief description of when the action occurred, what was performed, and the results.

6.1 Remedial Action Overview

Hart Crowser provided full-time or part-time environmental construction oversight activities in June 2014. Acting as a representative of the owner, Hart Crowser field representatives observed, screened, and characterized impacted soil, as appropriate, and assisted with the off-site disposal of impacted soil when encountered.

Field screening consisted of sampling soil vapors with a photoionization detector (PID), conducting sheen tests, and visually observing soil to identify and segregate potentially impacted soil. Soil sampling and laboratory analysis characterized impacted soil for appropriate disposal, and verified that the soil remaining in place did not exceed MTCA Method A unrestricted soil cleanup levels. Field reports were completed to document activities observed, conditions encountered, and samples collected.

Most of the soil impacts were located in the southern area of the Site. In addition, most of the impacted soil did not contain COCs above the MTCA Method A cleanup levels. The actual soil impacts with COCs above MTCA Method A cleanup levels were small and isolated and were fully removed during excavation.

In order to provide a conservative and fully MTCA-compliant remedial action, it was determined that any soil that exhibited physical evidence of environmental impacts (e.g., odors, staining) or contained low concentrations of COCs would also be removed and disposed of off site at Republic Services' Subtitle D landfill. Approximately 615.34 tons of potentially impacted soil was removed from the site.

6.1.1 Impacted Soil Removal and Sample Results

Within the footprint of the planned building and underground parking garage, the depth of the excavation was to a maximum depth of 15 feet. Excavation within the development area removed all of the known impacted soil at the Site.

The approximate general areas where the impacted soil was removed, including the highlighted small isolated impacted areas above MTCA Method A cleanup levels, are identified on Figure 2. A total of 33 performance soil samples were collected during the cleanup activities. Of these performance samples, 24 samples (including 5 samples collected from the unknown UST areas) are considered verification samples and were collected from the excavation limits that confirmed the final vertical and lateral limits of the excavations in each impacted area. Five samples are considered characterization samples (including one sample from the unknown UST area) and were overexcavated based on chemical results. Additionally, four samples (for a total of nine characterization samples) were collected from stockpiles of impacted soil prior to disposal. These characterization and verification soil sample analytical results are presented in Tables 1 and 2, respectively. Soil samples collected after the two unknown USTs were removed are presented in Table 3. The following section describes soil removal and characterization and verification soil sample analytical results, organized by impacted area.

6.1.1.1 West and Southwest Areas

Based on the geotechnical study soil boring, HCDOP-1, benzene- and lead-impacted soil was identified at a sample located at 0.125 to 1.0 feet deep. This sample was also analyzed for TCLP lead and was below the Dangerous Waste criteria. The soil sample collected and analyzed directly below this sample at a depth of 8.5 feet contained no detections of lead and benzene above the laboratory detection limit. This area was targeted for hot spot excavation and impacted soil was overexcavated and removed from the Site. Verification soil samples include E12-N1-287, E16-N1-286, and

E16-N1.5-286, E18.5-N1-288. Sample analytical results were not detected for benzene and were below MTCA Method A cleanup levels for lead.

One characterization sample (E18.5-N1.5-289) had elevated lead concentrations above MTCA Method A cleanup levels. Additional characterization soil sampling to the south (E21-N4-291) and east (E19-N5-288) of the identified elevated lead concentrations. These lead-impacted areas were overexcavated and additional verification sampling was performed. Verification soil samples for the south/southwest lead-impacted area include N5-E18-289, E19-N5-287, N6-E19-287.5, E21.5-N7-292, N4.5-E23-285.25, E22.75-N3-289, E23-N1.5-286, N1-E22.5-285.25, E18.5-N1-288, and N3-E19.5-286.5.

The soil verification sample analytical results show that soil remaining on the property is below MTCA Method A cleanup levels for benzene and lead.

6.1.1.2 Southeast Area

After the removal of one of the unknown USTs (UST #1), TPH-impacted soil was identified in the soil beneath the tank (Section 6.1.1.3 describes the unknown USTs in further detail). Soil sample UST1-F1 (Table 3) was collected from the floor of where UST #1 was located and had a TPH-D and TPH-G concentration that exceeded MTCA Method A soil cleanup levels. Soil in the UST #1 area was overexcavated and removed.

Additional soil sampling identified one area (characterization sample E21-N8.5-290, Table 1) to the north of UST #1 area that exceeded MTCA Method A cleanup levels for TPH-O. The area was overexcavated and the soil was removed. Verification soil samples were collected from the side walls and bottom of the excavation in the UST #1 area. The verification samples include E20-N8-290, E21-N9-286, E21.5-290, E24-N9.5-290, E23-N9-287, E21.5-N8.5-292, and E21.5-N7-292.

The soil verification sample analytical results show that soil remaining on the property is below MTCA Method A cleanup levels for TPH.

6.1.1.3 Two Unknown USTs

Two unknown USTs were encountered during construction activities and Kleen Environmental Tech (Kleen) was subcontracted to conduct the decommissioning services (Figure 2). The USTs were identified as 500-gallon heating oil tanks and were decommissioned and removed on June 1, 2014.

Unknown UST #1 was encountered during excavation in the southwest corner of the parking lot off Harvard Avenue. The cylindrical tank measured 5 feet in length by 2 feet in diameter, and was observed to contain petroleum residue. Prior to the UST removal, the petroleum residue was removed by a vac truck and the UST was triple rinsed. UST #1 had one small hole at the bottom at the north-facing end of the tank and two holes at the top of the south-facing end of the tank. After removal, soil around UST #1 was observed to have a petroleum-like odor and no discoloration. Soil was excavated and disposed of at a Subtitle D landfill. Verification sample results from the side walls (UST1-SW-1 and UST1-SW-2) were non-detect at the laboratory reporting limit for TPH and BTEX. The floor sample (UST1-F1) exceeded MTCA Method A cleanup level for TPH-D and TPH-G. Excavation of this soil is discussed in Section 6.1.1.2.

Unknown UST #2 was also encountered during excavation and located approximately 30 feet north of UST #1. The cylindrical tank measured 5 feet in length by 3 feet in diameter and was observed to contain no petroleum product or residue. Prior to the UST removal, the tank was triple rinsed. The UST looked to be in good condition and no indications of petroleum releases were observed during excavation. Verification sample results from the side walls and floor (UST2-SW-1, UST2-SW-2, and UST2-F1) were non-detect at the laboratory reporting limit for TPH and BTEX. The floor sample (UST2-F1) was also analyzed for metals and VOCs and were either non-detect at laboratory reporting limits or had detections that were below MTCA Method A cleanup levels for the respective analyte.

UST removal documentation including the Marine Chemist Certificate and the Decommissioning Permit can be found in Appendix B.

7.0 COMPLIANCE WITH MTCA REQUIREMENTS

It is Hart Crowser's opinion that cleanup actions conducted on the Site comply with the requirements of MTCA and are fully protective of all potential exposure pathways. Compliance with cleanup objectives for each of the potential exposure pathways (direct contact, soil to groundwater, and soil vapor) have been met and are discussed below.

The Site has been characterized in a manner consistent with the requirements of MTCA and performance monitoring indicates compliance with MTCA Method A unrestricted soil cleanup levels throughout the Site.

Approximately 615.34 tons of benzene-, lead-, and TPH-impacted soil were removed and disposed of off site. Based on verification soil sample analytical results collected following impacted soil removal, concentrations of COCs in soil remaining beneath the property are below MTCA Method A cleanup levels.

The remedial action conducted on the Site should be considered final under WAC 173-340-350 through -390.

7.1 Exposure Pathways

Direct Contact Pathway. Benzene-, lead-, and TPH-impacted soil within the property boundary has been removed. The direct contact exposure pathway for the Site has been eliminated.

The verification soil samples collected and analyzed following impacted soil removal were below MTCA Method A unrestricted cleanup levels. In addition, the Site plans include construction of an underground parking garage and building. These data results and construction site features indicate that direct contact is no longer a complete exposure pathway.

Soil to Groundwater Pathway. The identified benzene-, lead-, and TPH-impacted soil was removed and disposed of off site. Soil sample analysis confirms that the benzene-, lead-, and TPH-impacted soil was successfully remediated; therefore, the remaining soil on the property no longer poses a risk to groundwater quality.

Soil Vapor Pathway. As discussed under the **Direct Contact Pathway** section, since the impacted soil has been successfully remediated at the Site, and the verification soil samples collected and analyzed following impacted soil removal were below MTCA Method A unrestricted cleanup levels for soil, the soil vapor pathway is not a potential exposure pathway.

Following the extensive removal and disposal of benzene-, lead-, and TPH-impacted soil during construction activities and based on field observations and verification soil sample analytical results, we believe current site conditions satisfy MTCA Method A cleanup requirements for protectiveness of human health and the environment.

8.0 REFERENCES

Hart Crowser, Inc. 2013. Geotechnical Engineering Design Study, East Pine Street at Harvard Avenue East (Denny Onslow Property), Seattle, Washington, April 19, 2013. 17937-00.

Hart Crowser, Inc. 2014. Draft Phase I Environmental Site Assessment Update, Cue Apartment Property, 721 East Pine Street and 1523 Harvard Avenue, Seattle, Washington, April 2, 2014. 19019-00.

L:\Jobs\1793702\CCR\O&S CCR.docx

Table 1 - Analytical Results for Characterization Soil Samples

Sheet 1 of 1

Sample ID	MTCA	E18.5-N1.5-289	E19-N5-288	E21-N4-291	E21-N8.5-290	SPA-1	SPA-2	SPA-3	SPA-4
Sampling Date	Cleanup	6/12/2014	6/6/2014	6/12/2014	6/10/2014	6/16/2014	6/16/2014	6/16/2014	6/16/2014
Sample Depth in Feet	Level (a)	6	7	4	5	Stockpile	Stockpile	Stockpile	Stockpile
Moisture in %		16	11	11	12	15	14	13	13
NWTPH-Dx in mg/kg									
Kerosene/Jet fuel	2000	20 U		20 U	20 U	20 U	20 U	20 U	20 U
Diesel/Fuel oil	2000	20 U		20 U	20 U	20 U	20 U	20 U	20 U
Heavy oil	2000	50 U		50 U	6000	50 U	50 U	50 U	50 U
NWTPH-Gx in mg/kg									
Mineral spirits/Stoddard	100	5 U		5 U	5 U	5 U	5 U	5 U	5 U
Gasoline	30/100 (b)	5 U		5 U	5 U	5 U	5 U	5 U	5 U
BTEX in µg/kg									
Benzene	30	20 U		20 U	20 U	20 U	20 U	20 U	20 U
Toluene	7000	50 U		50 U	50 U	50 U	50 U	50 U	50 U
Ethylbenzene	6000	50 U		50 U	50 U	50 U	50 U	50 U	50 U
Xylenes	9000	50 U		50 U	50 U	50 U	50 U	50 U	50 U
Lead in mg/kg	250	860	1200	580	3.9	150	300	250	120
TCLP Lead in mg/L	5 (c)	0.47	1.0	0.69					

Notes:

U = Not detected at reporting limit indicated.

Bolding denotes a detected concentration.

Shading denotes a detected concentration exceeding cleanup level .

Blank indicates sample not analyzed for specific analyte.

(a) Method A soil cleanup level for unrestricted land uses.

(b) 30 when benzene present/100 without benzene.

(c) Dangerous Waste Criteria.

Hart Crowser

L:\Jobs\1793702\Deliverables\Reports\CCR\Final\O&S CCR.xlsx-Table 1 - Characterization

Table 2 - Analytical Results for Verification Soil Samples

Sheet 1 of 3

Sample ID Sampling Date Sampl Depth in Feet	MTCA Cleanup Level (a)	E21.5-N7-292 6/10/2014 3	E18.5-N1-288 6/10/2014 7	E22.75-N3-289 6/12/2014 6	E23-N1.5-286 6/12/2014 9	E23-N9-287 6/10/2014 8	E21-N9-286 6/10/2014 9	E21.5-290 6/10/2014 5
Moisture in %		10	11	13	13	15	16	11
NWTPH-Dx in mg/kg								
Kerosene/Jet fuel	2000	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Diesel/Fuel oil	2000	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Heavy oil	2000	50 U	50 U	50 U	50 U	200	50 U	50 U
NWTPH-Gx in mg/kg								
Mineral spirits/Stoddard	100	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Gasoline	30/100 (b)	5 U	5 U	5 U	5 U	5 U	5 U	5 U
BTEX in µg/kg								
Benzene	30	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Toluene	7000	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Ethylbenzene	6000	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Xylenes	9000	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Lead in mg/kg	250	150	13	210	54	1 U	1 U	1 U
TCLP Lead in mg/L	5 (c)	0.12		0.18				

Table 2 - Analytical Results for Verification Soil Samples

Sheet 2 of 3

Sample ID Sampling Date Sampl Depth in Feet	MTCA Cleanup Level (a)	E24-N9.5-290 6/10/2014 5	E21.5-N8.5-292 6/10/2014 3	E16-N1-286 6/10/2014 9	E12-N1-287 6/10/2014 8	E16-N1.5-286 6/10/2014 9	E19-N5-287 6/10/2014 8	N1-E22.5-285.25 6/16/2014 9.75
Moisture in %		26	14	12	11	12	11	14
NWTPH-Dx in mg/kg								
Kerosene/Jet fuel	2000	20 U	20 U	20 U	20 U	20 U		
Diesel/Fuel oil	2000	20 U	20 U	20 U	20 U	20 U		
Heavy oil	2000	1400	50 U	50 U	50 U	50 U		
NWTPH-Gx in mg/kg								
Mineral spirits/Stoddard	100	5 U	5 U	5 U	5 U	5 U		
Gasoline	30/100 (b)	5 U	5 U	5 U	5 U	5 U		
BTEX in µg/kg								
Benzene	30	20 U	20 U	20 U	20 U	20 U		
Toluene	7000	50 U	50 U	50 U	50 U	50 U		
Ethylbenzene	6000	50 U	50 U	50 U	50 U	50 U		
Xylenes	9000	50 U	50 U	50 U	50 U	50 U		
Lead in mg/kg	250	16	1 U	1.8	1 U	8.3	11 J	5.7
TCLP Lead in mg/L	5 (c)							

Hart Crowser

L:\Jobs\1793702\Deliverables\Reports\CCR\Final\O&S CCR.xlsx-Table 2 - Verification

Table 2 - Analytical Results for Verification Soil Samples

Sample ID	MTCA	N4.5-E23-285.25	N3-E19.5-286.5	N6-E19-287.5	N5-E18-289	E20-N8-290
Sampling Date	Cleanup	6/16/2014	6/16/2014	6/16/2014	6/20/2014	7/2/2014
Sampl Depth in Feet	Level (a)	9.75	8.5	7.5	6	5
Moisture in %		13	12	13	10	8.6
NWTPH-Dx in mg/kg						
Kerosene/Jet fuel	2000				20 U	20 U
Diesel/Fuel oil	2000				20 U	20 U
Heavy oil	2000				50 U	50 U
NWTPH-Gx in mg/kg						
Mineral spirits/Stoddard	100				5 U	5 U
Gasoline	30/100 (b)				5 U	5 U
BTEX in µg/kg						
Benzene	30				20 U	20 U
Toluene	7000				50 U	50 U
Ethylbenzene	6000				50 U	50 U
Xylenes	9000				50 U	50 U
Lead in mg/kg	250	1.3	2.7	31	1 U	15 J
TCLP Lead in mg/L	5 (c)					

Notes:

U = Not detected at reporting limit indicated.

Bolding denotes a detected concentration.

Blank indicates sample not analyzed for specific analyte.

(a) Method A soil cleanup level for unrestricted land uses.

(b) 30 when benzene present/100 without benzene.

(c) Dangerous Waste Criteria.

Table 3 - Analytical Results for UST Soil Samples

Sheet 1 of 2

Sample ID	MTCA	UST1-SW-1	UST1-SW-2	UST1-F1	UST2-SW-1	UST2-SW-2	UST2-F1
Sampling Date	Cleanup	6/2/2014	6/2/2014	6/2/2014	6/2/2014	6/2/2014	6/2/2014
Sample Type	Level (a)	Verification	Verification	Characterization	Verification	Verification	Verification
Sample Depth		4	4	6	4	4	5
Moisture in %		10	11	11	11	10	10
NWTPH-Dx in mg/kg							
Kerosene/Jet fuel	2000	20 U	20 U	20 U	20 U	20 U	20 U
Diesel/Fuel oil	2000	20 U	20 U	6200	20 U	20 U	20 U
Heavy oil	2000	50 U	50 U	50 U	50 U	50 U	50 U
NWTPH-Gx in mg/kg							
Mineral spirits/Stoddard	100	5 U	5 U	5 U	5 U	5 U	5 U
Gasoline	30/100 (b)	5 U	5 U	32	5 U	5 U	5 U
BTEX in µg/kg							
Benzene	30	20 U	20 U		20 U	20 U	
Toluene	7000	50 U	50 U		50 U	50 U	
Ethylbenzene	6000	50 U	50 U		50 U	50 U	
Xylenes	9000	50 U	50 U		50 U	50 U	
Metals in mg/kg							
Lead (Pb)	250			23			55 J
Chromium (Cr)	19/2000 (d)			2.0			19 J
Cadmium (Cd)	2			1.0 U			1.0 U
Arsenic (As)	20			1.0 U			1.0 U
Mercury (Hg) (7471)	2			0.5 U			0.5 U
Copper (Cu)				2.9			11
Nickel (Ni)				1.0			3.0
Zinc (Zn)				2.6			11
Volatiles in µg/kg							
MTBE				100 U			100 U
Dichlorodifluoromethane				50 U			50 U
Chloromethane				50 U			50 U
Vinyl chloride				50 U			50 U
Bromomethane				50 U			50 U
Chloroethane				50 U			50 U
Trichlorofluoromethane				50 U			50 U
1,1-Dichloroethene				50 U			50 U
Methylene chloride	20			20 U			20 U
trans-1,2-Dichloroethene				50 U			50 U
1,1-Dichloroethane				50 U			50 U
2,2-Dichloropropane				50 U			50 U
cis-1,2-Dichloroethene				50 U			50 U
Chloroform				50 U			50 U
1,1,1-Trichloroethane	2000			50 U			50 U
Carbontetrachloride				50 U			50 U
1,1-Dichloropropene				50 U			50 U
Benzene	30			20 U			20 U
1,2-Dichloroethane(EDC)				20 U			20 U
Trichloroethene	30			20 U			20 U
1,2-Dichloropropane				50 U			50 U
Dibromomethane				50 U			50 U
Bromodichloromethane				50 U			50 U
cis-1,3-Dichloropropene				50 U			50 U
Toluene	7000			120			50 U

Table 3 - Analytical Results for UST Soil Samples

Sheet 2 of 2

Sample ID	MTCA	UST1-SW-1	UST1-SW-2	UST1-F1	UST2-SW-1	UST2-SW-2	UST2-F1
Sampling Date	Cleanup	6/2/2014	6/2/2014	6/2/2014	6/2/2014	6/2/2014	6/2/2014
Sample Type	Level (a)	Verification	Verification	Characterization	Verification	Verification	Verification
Sample Depth		4	4	6	4	4	5
trans-1,3-Dichloropropene				50 U			50 U
1,1,2-Trichloroethane				50 U			50 U
Tetrachloroethene	50			50 U			50 U
1,3-Dichloropropane				50 U			50 U
Dibromochloromethane				20 U			20 U
1,2-Dibromoethane (EDB)*	5			5 U			5 U
Chlorobenzene				50 U			50 U
1,1,1,2-Tetrachloroethane				50 U			50 U
Ethylbenzene	6000			170			50 U
Xylenes	9000			1,000			98
Styrene				50 U			50 U
Bromoform				50 U			50 U
Isopropylbenzene				100			50 U
1,2,3-Trichloropropane				50 U			50 U
Bromobenzene				50 U			50 U
1,1,2,2-Tetrachloroethane				50 U			50 U
n-Propylbenzene				200			50 U
2-Chlorotoluene				96			50 U
4-Chlorotoluene				50 U			50 U
1,3,5-Trimethylbenzene				290			50 U
tert-Butylbenzene				50 U			50 U
1,2,4-Trimethylbenzene				1,100			100
sec-Butylbenzene				120			50 U
1,3-Dichlorobenzene				50 U			50 U
Isopropyltoluene				190			50 U
1,4-Dichlorobenzene				50 U			50 U
1,2-Dichlorobenzene				50 U			50 U
n-Butylbenzene				260			50 U
1,2-Dibromo-3-Chloropropane				50 U			50 U
1,2,4-Trichlorobenzene				50 U			50 U
Hexachloro-1,3-butadiene				50 U			50 U
Naphthalene	5000			470			110
1,2,3-Trichlorobenzene				50 U			50 U

Notes:

U = Not detected at reporting limit indicated.

J = Estimated value.

Bolding denotes a detected concentration.

Shading denotes a detected concentration exceeding cleanup level

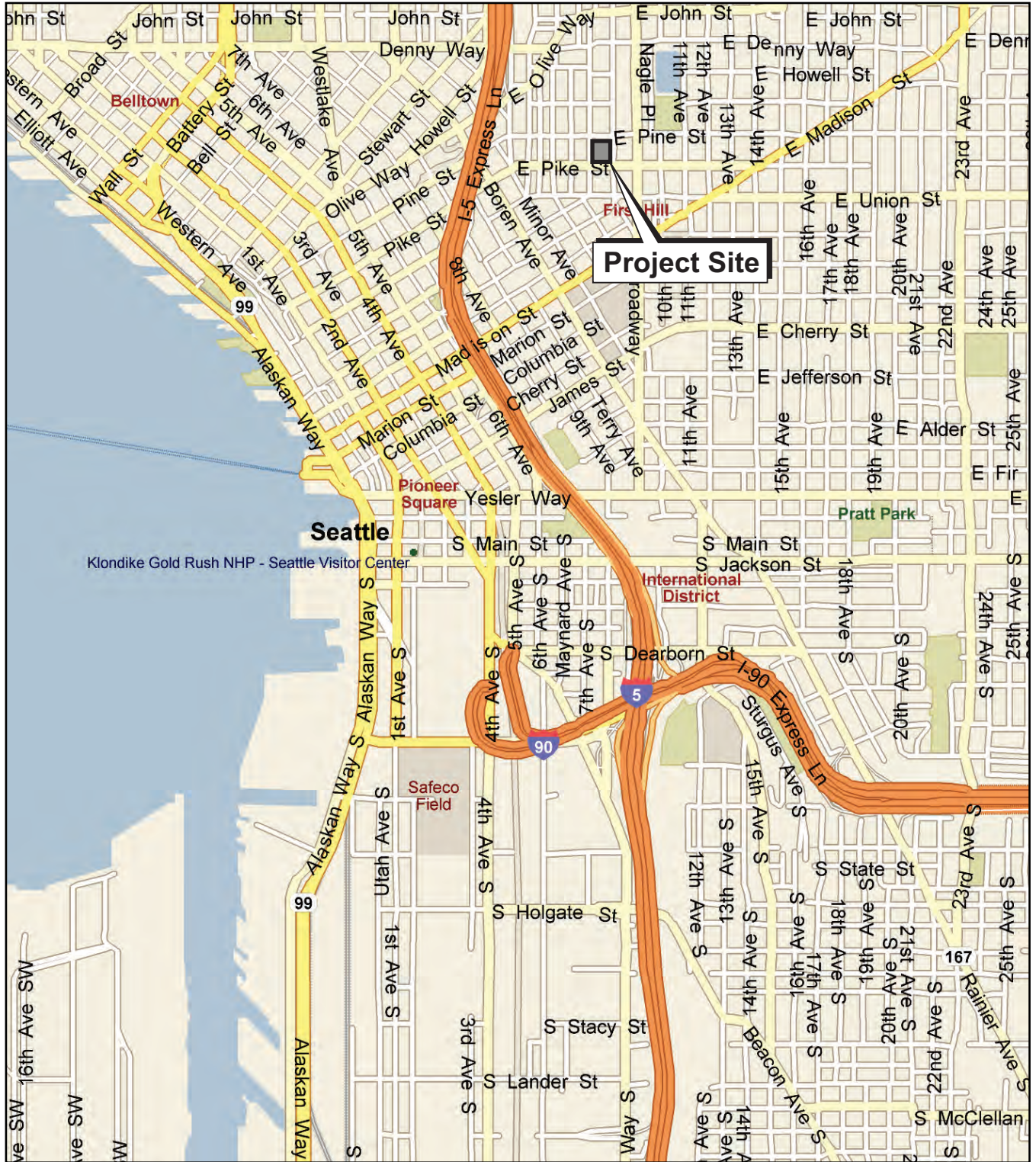
Blank indicates sample not analyzed for specific analyte.

(a) Method A soil cleanup level for unrestricted land uses.

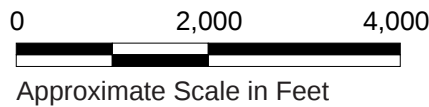
(b) 30 when benzene present/100 without benzene

(c) Dangerous Waste Criteria.

(d) 19 as Chromium VI/2000 as Chromium III.



Note: Base map prepared from Microsoft Streets and Trips 2002.



721 East Pine Street
Seattle, Washington

Vicinity Map

17937-02

7/14



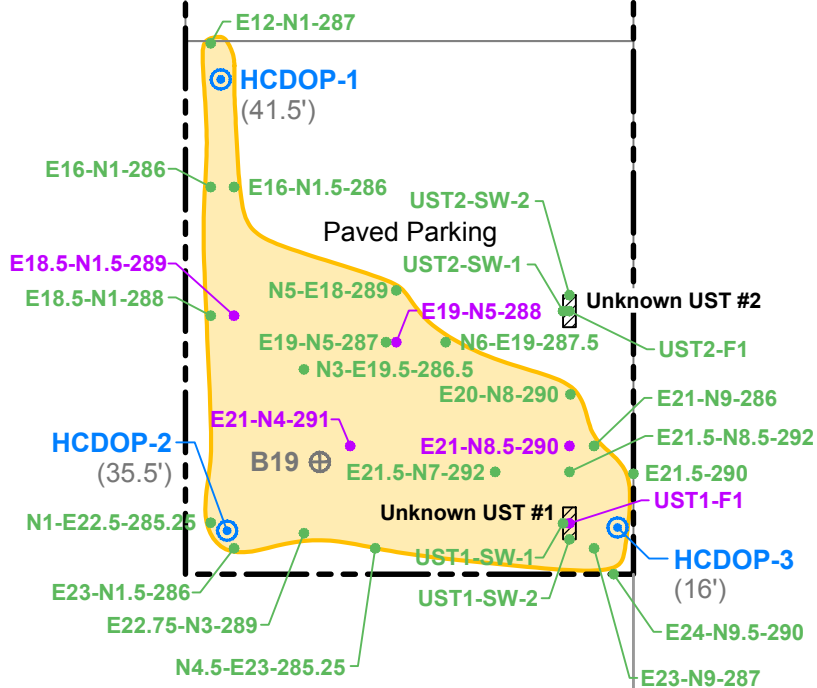
Figure

1

This page is intentionally left blank
for double-sided printing.

E Pine Street

Harvard Avenue



Legend

E16-N1.5-286 • Characterization soil sample by Hart Crowser

E16-N1.5-286 • Verification soil sample by Hart Crowser

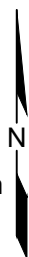
HCDOP-1 • Exploration by Hart Crowser
(15') Depth

B19 • Historical boring by others
(Approximate location)

Approximate area of remedial excavation

Property boundary

0 30 60
Scale in Feet



721 East Pine Street
Seattle, Washington

Soil Sample Location Plan

17937-02

3/15



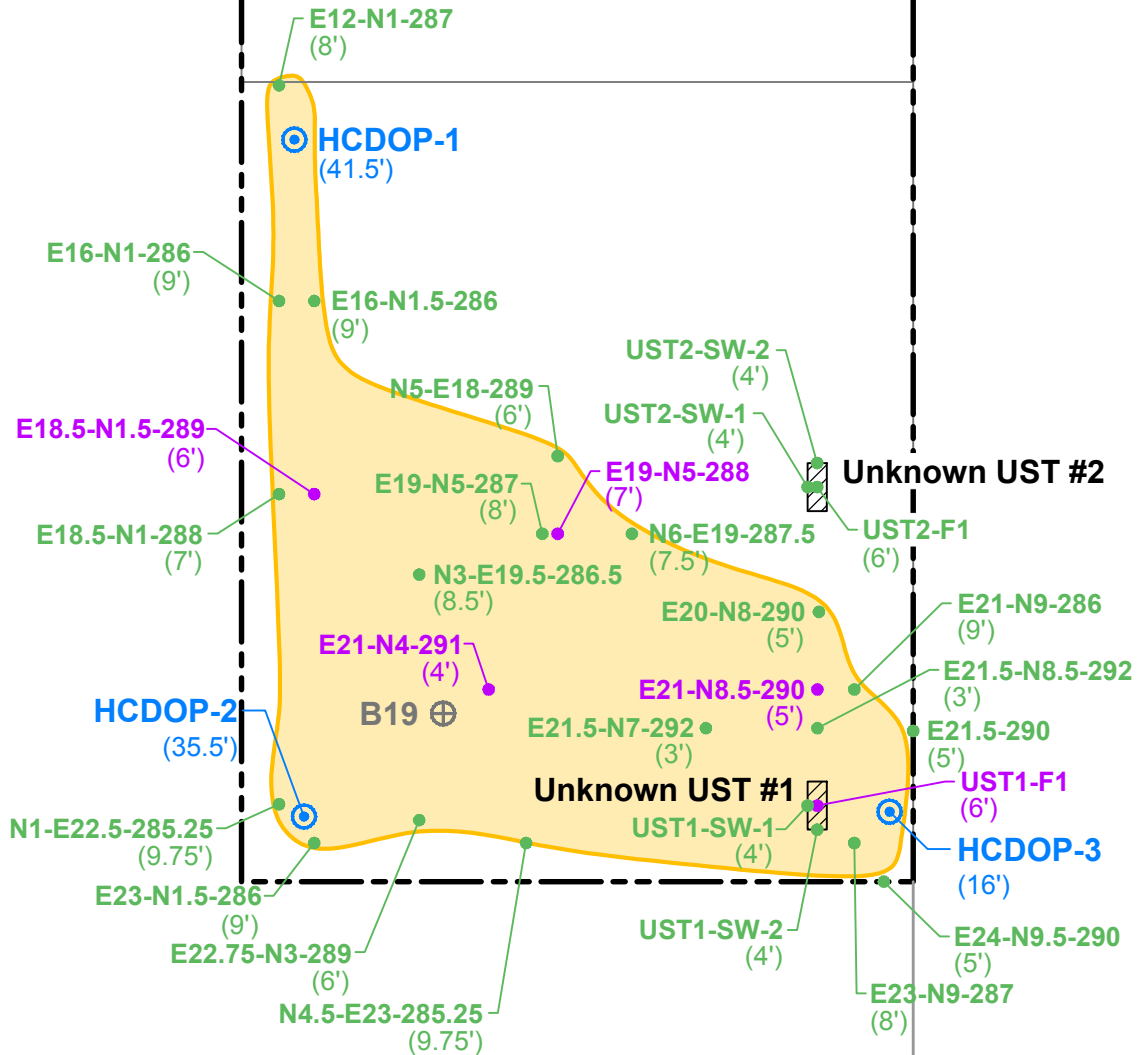
Figure

2a

This page is intentionally left blank
for double-sided printing.

Former Motorcycle Shop
1527 Harvard Avenue

Harvard Avenue



Legend

E18.5-N1.5-289 • Characterization soil sample by Hart Crowser
(6') Sample depth

E16-N1.5-286 • Verification soil sample by Hart Crowser
(9') Sample depth

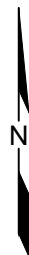
HCDOP-1 • Exploration by Hart Crowser
(15') Depth

B19 • Historical boring by others
(Approximate location)

Approximate area of remedial excavation

Property boundary

0 20 40
Scale in Feet



721 East Pine Street
Seattle, Washington

Soil Sample Location Plan

17937-02

3/15



Figure

2b

This page is intentionally left blank
for double-sided printing.

APPENDIX A
Chemical Data Quality Review and
Laboratory Reports
Advanced Analytical Laboratory, Inc.

This page is intentionally left blank
for double-sided printing.

APPENDIX A

CHEMICAL DATA QUALITY REVIEW AND LABORATORY REPORTS

Chemical Data Quality Review

Thirty-four soil samples were collected between June and July, 2014. The samples were submitted to Advanced Analytical Laboratory, in Redmond, Washington, for chemical analysis. The laboratory reported results as AAL Job Nos. B40603-4, B40612-1, B40612-2, B40617-1, B40625-1, and B40702-1. Selected soil samples were analyzed for one or more of the following:

- Volatile organic compounds (VOCs) by EPA Method 8260B;
- Gasoline by Washington State Department of Ecology (Ecology) method NWTPH-Gx;
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX) compounds by EPA Method 8021B;
- Diesel and heavy oil range organics by Ecology method NWTPH-Dx;
- Total metals (arsenic, cadmium, chromium, copper, lead, nickel, and zinc) by EPA Method 7010;
- Total mercury by EPA Method 7471;
- Leachable (TCLP) lead by EPA Methods 1311/7010; and
- Percent moisture by SM 2540B.

The laboratory performed quality assurance/quality control (QA/QC) reviews on an ongoing basis. Hart Crowser reviewed the data to ensure they met data quality objectives for the project and recorded the results on laboratory quality control summary sheets.

The following criteria were evaluated during the standard data quality review process:

- Holding times;
- Reporting limits;
- Method blanks;
- Surrogate recoveries;
- Laboratory duplicate relative percent differences (RPDs);
- Laboratory control sample (LCS) recoveries; and
- Matrix spike/matrix spike duplicate (MS/MSD) recoveries.

The data were determined to be acceptable for use with minor qualification, and the complete laboratory reports are presented at the end of this appendix. The data review is summarized in the following pages.

Sample Receiving Notes

B40603-4: The samples and Chain of Custody were submitted to the laboratory without analyses marked. The laboratory added the analyses to the Chain of Custody after discussion with the project manager, but did not initial and date the changes to the Chain of Custody. Samples UST1-F1 and

UST2-F1 were marked for gasoline and BTEX by NWTPH-G/BTEX on the Chain of Custody, but only gasoline was reported, as the BTEX compounds were reported from the EPA 8260B analyses.

B40612-1: Additional sample analyses for TCLP lead were added on June 13, 2014.

B40625-1: One sample was placed on hold.

Soil Results

VOCs by EPA 8260B

Holding times and reporting limits were acceptable. No method blank contamination was detected. Surrogate, MS, and LCS recoveries were within laboratory control limits.

Gas/BTEX by NWTPH-Gx/EPA 8021B

Holding times and reporting limits were acceptable. No method blank contamination was detected. Surrogate and LCS recoveries were within laboratory control limits. The laboratory duplicate RPDs were not applicable as the sample and duplicate results were below the reporting limit.

MS recoveries and RPDs were within laboratory control limits with the following exception:

- E16-N1.5-286 MS/MSD: The RPD for toluene exceeded the laboratory control limit. The result for toluene in the source sample was non-detect, and no sample results were qualified.

Diesel and Heavy Oil by NWTPH-Dx

Holding times and reporting limits were acceptable. No method blank contamination was detected. The laboratory duplicate RPDs were not applicable as the sample and duplicate results were below the reporting limit.

Surrogate recoveries were within laboratory control limits with the following exceptions:

- UST1-F1: The recoveries for the surrogates were not reported due to coelution with sample peaks. High levels of diesel were present in the sample, and results were not qualified.
- E21.5-N8.5-292: The recoveries for the surrogates were not reported due to coelution with sample peaks. Heavy oil was present in the sample, and results were not qualified.

Method discrepancies: The NWTPH-Dx method requires the preparation and analysis of one laboratory duplicate for every ten samples. Laboratory Sample Delivery Groups (SDGs) B40612-1 and B40612-2 were batched together. Only one laboratory duplicate was prepared for 15 samples. Sample results were not qualified.

Total Metals by EPA 7010

Holding times and reporting limits were acceptable. No method blank contamination was detected.

LCS recoveries were within laboratory and method control limits with the following exception:

- LCS-060614: The recovery for cadmium exceeded the method control limits. The results for cadmium in the associated samples (UST1-F1 and UST2-F1) were below the reporting limit, and were not qualified.

The laboratory duplicate RPDs were within control limits or not applicable when the sample and duplicate results were below the reporting limit, with the following exceptions:

- E20-N8-290: The RPD between the sample and duplicate for lead fell within the laboratory control limit, but exceeded the method control limit. The result for lead in E20-N8-290 was qualified as estimated (J).
- E19-N5-287: The RPD between the sample and duplicate for lead fell within the laboratory control limit, but exceeded the method control limit. The result for lead in E19-N5-287 was qualified as estimated (J).

MS recoveries were within laboratory and method control limits with the following exceptions:

- UST2-F1 MS: The recoveries for lead and chromium were not reported due to matrix interferences. The recovery for cadmium exceeded the method control limits. As cadmium was below the reporting limit in the source sample, cadmium results were not qualified. The results for lead and chromium in UST2-F1 were qualified as estimated (J).
- E20-N8-290 MS: The recovery for lead was within the laboratory control limits, but fell below the method control limits. The result for lead in E20-N8-290 was qualified as estimated (J).

TCLP Lead by EPA 1311/7010

Holding times and reporting limits were acceptable. No method blank contamination was detected. LCS recoveries were within laboratory and method control limits. The laboratory duplicate RPDs were within control limits.

Total Mercury by EPA 7471

Holding times and reporting limits were acceptable. No method blank contamination was detected. MS and LCS recoveries were within laboratory and method control limits. The laboratory duplicate RPDs were not applicable as the sample and duplicate results were below the reporting limit.

Percent Moisture

Holding times and reporting limits were acceptable.

L:\Jobs\1793702\CCR\O&S CCR.docx

This page is intentionally left blank
for double-sided printing.

Laboratory Reports
Advanced Analytical Laboratory, Inc.

This page is intentionally left blank
for double-sided printing.

June 05, 2014

Julie Wukelic
Hart Crowser, Inc.
1700 Westlake Avenue North, Suite 200
Seattle, WA 98109

Dear Ms. Wukelic:

Please find enclosed the analytical data report for the *Onslow Property, 17937-01 (B40603-4)* Project.

Samples were received on *June 03, 2014*. The results of the analyses are presented in the attached tables. Applicable reporting limits, QA/QC data and data qualifiers are included. A copy of the chain-of-custody and an invoice for the work is also enclosed.

ADVANCED ANALYTICAL LABORATORY appreciates the opportunity to provide analytical services for this project. Should there be any questions regarding this report, please contact me at (425) 497-0110.

It was a pleasure working with you, and we are looking forward to the next opportunity to work together.

Sincerely,



Val G. Ivanov, Ph.D.
Laboratory Manager

Samples Shipped to: AAL

Samples Shipped to: AAL



14

B40603-4

Office: 206.324.9530 • Fax 206.328.5581

[illegible]

White and Yellow Copies to Lab

Pink to Project Manager

Lab to Return White Copy to Hart Crowser

Gold to Sample Custodian

Advanced Analytical Laboratory
(425)497-0110, fax(425)497-8089

AAL Job Number:	B40603-4
Client:	Hart Crowser, Inc.
Project Manager:	Julie Wukelic
Client Project Name:	Onslow Property
Client Project Number:	17937-01
Date received:	06/03/14

AAL Job Number: B40603-4
Client: Hart Crowser, Inc.
Project Manager: Julie Wukelic
Client Project Name: Onslow Property
Client Project Number: 17937-01
Date received: 06/03/14

Analytical Results

8260B, µg/kg		MTH BLK	LCS	UST1-F1	UST2-F1
Matrix	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/05/14	06/05/14	06/05/14	06/05/14
Date analyzed	Limits	06/05/14	06/05/14	06/05/14	06/05/14
MTBE	100	nd		nd	nd
Dichlorodifluoromethane	50	nd		nd	nd
Chloromethane	50	nd		nd	nd
Vinyl chloride	50	nd		nd	nd
Bromomethane	50	nd		nd	nd
Chloroethane	50	nd		nd	nd
Trichlorofluoromethane	50	nd		nd	nd
1,1-Dichloroethene	50	nd		nd	nd
Methylene chloride	20	nd		nd	nd
trans-1,2-Dichloroethene	50	nd		nd	nd
1,1-Dichloroethane	50	nd		nd	nd
2,2-Dichloropropane	50	nd		nd	nd
cis-1,2-Dichloroethene	50	nd		nd	nd
Chloroform	50	nd		nd	nd
1,1,1-Trichloroethane	50	nd		nd	nd
Carbontetrachloride	50	nd		nd	nd
1,1-Dichloropropene	50	nd		nd	nd
Benzene	20	nd	102%	nd	nd
1,2-Dichloroethane(EDC)	20	nd		nd	nd
Trichloroethene	20	nd	99%	nd	nd
1,2-Dichloropropane	50	nd		nd	nd
Dibromomethane	50	nd		nd	nd
Bromodichloromethane	50	nd		nd	nd
cis-1,3-Dichloropropene	50	nd		nd	nd
Toluene	50	nd	95%	120	nd
trans-1,3-Dichloropropene	50	nd		nd	nd
1,1,2-Trichloroethane	50	nd		nd	nd
Tetrachloroethene	50	nd		nd	nd
1,3-Dichloropropane	50	nd		nd	nd
Dibromochloromethane	20	nd		nd	nd
1,2-Dibromoethane (EDB)*	5	nd		nd	nd
Chlorobenzene	50	nd	104%	nd	nd
1,1,1,2-Tetrachloroethane	50	nd		nd	nd
Ethylbenzene	50	nd		170	nd
Xylenes	50	nd		1,000	98
Styrene	50	nd		nd	nd
Bromoform	50	nd		nd	nd
Isopropylbenzene	50	nd		100	nd
1,2,3-Trichloropropane	50	nd		nd	nd
Bromobenzene	50	nd		nd	nd
1,1,2,2-Tetrachloroethane	50	nd		nd	nd
n-Propylbenzene	50	nd		200	nd
2-Chlorotoluene	50	nd		96	nd
4-Chlorotoluene	50	nd		nd	nd
1,3,5-Trimethylbenzene	50	nd		290	nd
tert-Butylbenzene	50	nd		nd	nd

AAL Job Number: B40603-4
Client: Hart Crowser, Inc.
Project Manager: Julie Wukelic
Client Project Name: Onslow Property
Client Project Number: 17937-01
Date received: 06/03/14

Analytical Results

8260B, µg/kg		MTH BLK	LCS	UST1-F1	UST2-F1
Matrix	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/05/14	06/05/14	06/05/14	06/05/14
Date analyzed	Limits	06/05/14	06/05/14	06/05/14	06/05/14
1,2,4-Trimethylbenzene	50	nd		1,100	100
sec-Butylbenzene	50	nd		120	nd
1,3-Dichlorobenzene	50	nd		nd	nd
Isopropyltoluene	50	nd		190	nd
1,4-Dichlorobenzene	50	nd		nd	nd
1,2-Dichlorobenzene	50	nd		nd	nd
n-Butylbenzene	50	nd		260	nd
1,2-Dibromo-3-Chloropropane	50	nd		nd	nd
1,2,4-Trichlorobenzene	50	nd		nd	nd
Hexachloro-1,3-butadiene	50	nd		nd	nd
Naphthalene	50	nd		470	110
1,2,3-Trichlorobenzene	50	nd		nd	nd

*-instrument detection limits

Surrogate recoveries

Dibromofluoromethane	102%	102%	99%	101%
Toluene-d8	103%	97%	96%	105%
1,2-Dichloroethane-d4	89%	85%	90%	91%
4-Bromofluorobenzene	83%	82%	91%	88%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

M-matrix interference

C - coelution with sample peaks

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: B40603-4
Client: Hart Crowser, Inc.
Project Manager: Julie Wukelic
Client Project Name: Onslow Property
Client Project Number: 17937-01
Date received: 06/03/14

Analytical Results		MS	MSD	RPD
8260B, µg/kg		UST2-F1	UST2-F1	UST2-F1
Matrix	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/05/14	06/05/14	06/05/14
Date analyzed	Limits	06/05/14	06/05/14	06/05/14

MTBE	100			
Dichlorodifluoromethane	50			
Chloromethane	50			
Vinyl chloride	50			
Bromomethane	50			
Chloroethane	50			
Trichlorofluoromethane	50			
1,1-Dichloroethene	50			
Methylene chloride	20			
trans-1,2-Dichloroethene	50			
1,1-Dichloroethane	50			
2,2-Dichloropropane	50			
cis-1,2-Dichloroethene	50			
Chloroform	50			
1,1,1-Trichloroethane	50			
Carbontetrachloride	50			
1,1-Dichloropropene	50			
Benzene	20	105%	101%	3%
1,2-Dichloroethane(EDC)	20			
Trichloroethene	20	107%	99%	8%
1,2-Dichloropropane	50			
Dibromomethane	50			
Bromodichloromethane	50			
cis-1,3-Dichloropropene	50			
Toluene	50	105%	101%	3%
trans-1,3-Dichloropropene	50			
1,1,2-Trichloroethane	50			
Tetrachloroethene	50			
1,3-Dichloropropane	50			
Dibromochloromethane	20			
1,2-Dibromoethane (EDB)*	5			
Chlorobenzene	50	106%	103%	3%
1,1,1,2-Tetrachloroethane	50			
Ethylbenzene	50			
Xylenes	50			
Styrene	50			
Bromoform	50			
Isopropylbenzene	50			
1,2,3-Trichloropropane	50			
Bromobenzene	50			
1,1,2,2-Tetrachloroethane	50			
n-Propylbenzene	50			
2-Chlorotoluene	50			
4-Chlorotoluene	50			
1,3,5-Trimethylbenzene	50			
tert-Butylbenzene	50			

AAL Job Number: B40603-4
Client: Hart Crowser, Inc.
Project Manager: Julie Wukelic
Client Project Name: Onslow Property
Client Project Number: 17937-01
Date received: 06/03/14

Analytical Results		MS	MSD	RPD
8260B, µg/kg		UST2-F1	UST2-F1	UST2-F1
Matrix	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/05/14	06/05/14	06/05/14
Date analyzed	Limits	06/05/14	06/05/14	06/05/14

1,2,4-Trimethylbenzene	50
sec-Butylbenzene	50
1,3-Dichlorobenzene	50
Isopropyltoluene	50
1,4-Dichlorobenzene	50
1,2-Dichlorobenzene	50
n-Butylbenzene	50
1,2-Dibromo-3-Chloropropane	50
1,2,4-Trichlorobenzene	50
Hexachloro-1,3-butadiene	50
Naphthalene	50
1,2,3-Trichlorobenzene	50

*-instrument detection limits

Surrogate recoveries

Dibromofluoromethane	98%	104%
Toluene-d8	99%	93%
1,2-Dichloroethane-d4	93%	95%
4-Bromofluorobenzene	89%	106%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

M-matrix interference

C - coelution with sample peaks

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: B40603-4
Client: Hart Crowser, Inc.
Project Manager: Julie Wukelic
Client Project Name: Onslow Property
Client Project Number: 17937-01
Date received: 06/03/14

Analytical Results

NWTPH-Dx, mg/kg		MTH BLK	UST1-SW1	UST1-SW2	UST1-F1	UST2-SW1
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/05/14	06/05/14	06/05/14	06/05/14	06/05/14
Date analyzed	Limits	06/05/14	06/05/14	06/05/14	06/05/14	06/05/14
Kerosene/Jet fuel	20	nd	nd	nd	nd	nd
Diesel/Fuel oil	20	nd	nd	nd	6,200	nd
Heavy oil	50	nd	nd	nd	nd	nd
Surrogate recoveries:						
Fluorobiphenyl		129%	128%	124%	C	124%
o-Terphenyl		120%	120%	123%	C	119%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

C - coelution with sample peaks

Results reported on dry-weight basis

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: B40603-4
Client: Hart Crowser, Inc.
Project Manager: Julie Wukelic
Client Project Name: Onslow Property
Client Project Number: 17937-01
Date received: 06/03/14

Analytical Results		Dupl		
NWTPH-Dx, mg/kg		UST2-SW2	UST2-F1	UST2-F1
Matrix	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/05/14	06/05/14	06/05/14
Date analyzed	Limits	06/05/14	06/05/14	06/05/14
Kerosene/Jet fuel	20	nd	nd	nd
Diesel/Fuel oil	20	nd	nd	nd
Heavy oil	50	nd	nd	nd
Surrogate recoveries:				
Fluorobiphenyl		121%	126%	126%
o-Terphenyl		123%	120%	120%

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
C - coelution with sample peaks
Results reported on dry-weight basis
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

AAL Job Number: B40603-4
Client: Hart Crowser, Inc.
Project Manager: Julie Wukelic
Client Project Name: Onslow Property
Client Project Number: 17937-01
Date received: 06/03/14

Analytical Results

Dupl

NWTPH-Gx/BTEX		MTH BLK	LCS	UST1-SW1	UST1-SW2	UST1-SW2	UST1-F1
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/06/14	06/06/14	06/06/14	06/06/14	06/06/14	06/06/14
Date analyzed	Limits	06/06/14	06/06/14	06/06/14	06/06/14	06/06/14	06/06/14

NWTPH-Gx, mg/kg

Mineral spirits/Stoddard	5.0	nd		nd	nd	nd	nd
Gasoline	5.0	nd		nd	nd	nd	32

BTEX 8021B, µg/kg

Benzene	20	nd	115%	nd	nd	nd	
Toluene	50	nd	114%	nd	nd	nd	
Ethylbenzene	50	nd		nd	nd	nd	
Xylenes	50	nd		nd	nd	nd	

Surrogate recoveries:

Trifluorotoluene	87%	97%	82%	84%	81%	76%
Bromofluorobenzene	105%	105%	102%	107%	103%	105%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

Results reported on dry-weight basis

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: B40603-4
Client: Hart Crowser, Inc.
Project Manager: Julie Wukelic
Client Project Name: Onslow Property
Client Project Number: 17937-01
Date received: 06/03/14

Analytical Results		MS		MSD		RPD	
NWTPH-Gx/BTEX		UST2-SW1	UST2-SW2	UST2-F1	UST2-F1	UST2-F1	UST2-F1
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/06/14	06/06/14	06/06/14	06/06/14	06/06/14	06/06/14
Date analyzed	Limits	06/06/14	06/06/14	06/06/14	06/06/14	06/06/14	06/06/14

NWTPH-Gx, mg/kg

Mineral spirits/Stoddard	5.0	nd	nd	nd			
Gasoline	5.0	nd	nd	nd			

BTEX 8021B, µg/kg

Benzene	20	nd	nd		105%	106%	2%
Toluene	50	nd	nd		102%	105%	2%
Ethylbenzene	50	nd	nd				
Xylenes	50	nd	nd				

Surrogate recoveries:

Trifluorotoluene	80%	78%	82%	93%	93%		
Bromofluorobenzene	94%	99%	96%	101%	102%		

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

Results reported on dry-weight basis

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: B40603-4
Client: Hart Crowser, Inc.
Project Manager: Julie Wukelic
Client Project Name: Onslow Property
Client Project Number: 17937-01
Date received: 06/03/14

Analytical Results		Dupl						RPD	MS
Metals (7010/7471), mg/kg		MTH BLK	LCS	UST1-F1	UST2-F1	UST2-F1	UST2-F1	UST2-F1	
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/06/14	06/06/14	06/06/14	06/06/14	06/06/14	06/06/14	06/06/14	06/06/14
Date analyzed	Limits	06/06/14	06/06/14	06/06/14	06/06/14	06/06/14	06/06/14	06/06/14	06/06/14
Lead (Pb)	1.0	nd	90%	23	55	54	3%		M
Chromium (Cr)	2.0	nd	100%	2.0	19	19	2%		M
Cadmium (Cd)	1.0	nd	124%	nd	nd	nd			130%
Arsenic (As)	1.0	nd	100%	nd	nd	nd			121%
Mercury (Hg) (7471)	0.5	nd	119%	nd	nd	nd			78%
Copper (Cu)	1.0	nd	112%	2.9	11	10	5%		
Nickel (Ni)	1.0	nd	102%	1.0	3.0	2.9	4%		
Zinc (Zn)	1.0	nd	108%	2.6	11	11	2%		

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

M- matrix interference

Results reported on dry-weight basis

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: B40603-4
Client: Hart Crowser, Inc.
Project Manager: Julie Wukelic
Client Project Name: Onslow Property
Client Project Number: 17937-01
Date received: 06/03/14

Analytical Results

Moisture, SM2540B	UST1-SW1	UST1-SW2	UST1-F1	UST2-SW1	UST2-SW2	UST2-F1
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date analyzed	06/06/14	06/06/14	06/06/14	06/06/14	06/06/14	06/06/14
Moisture, %	10%	11%	11%	11%	10%	10%

June 17, 2014

Angie Goodwin
Hart Crowser, Inc.
1700 Westlake Avenue North, Suite 200
Seattle, WA 98109

Dear Ms. Goodwin:

Please find enclosed the analytical data report for the 721 E Pine, 17937-01 (**B40612-1**) Project.

Samples were received on *June 12, 2014*. The results of the analyses are presented in the attached tables. Applicable reporting limits, QA/QC data and data qualifiers are included. A copy of the chain-of-custody and an invoice for the work is also enclosed.

ADVANCED ANALYTICAL LABORATORY appreciates the opportunity to provide analytical services for this project. Should there be any questions regarding this report, please contact me at (425) 497-0110.

It was a pleasure working with you, and we are looking forward to the next opportunity to work together.

Sincerely,



Val G. Ivanov, Ph.D.
Laboratory Manager

Samples Shipped to: KAL



HART CROWSER

BY0612-

Hart Crowser, Inc.
1700 Westlake Avenue North, Suite 200
Seattle, Washington 98109-6212
Office: 206.324.9530 • Fax 206.328.5581

[illegible]

White and Yellow Copies to Lab

Pink to Project Manager

Lab to Return White Copy to Hart Crowser

Gold to Sample Custodian

AAL Job Number:	B40612-1
Client:	Hart Crowser, Inc.
Project Manager:	Angie Goodwin
Client Project Name:	721 E. Pine
Client Project Number:	17937-01
Date received:	06/12/14

AAL Job Number: B40612-1
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-01
Date received: 06/12/14

Analytical Results

NWTPH-Dx, mg/kg		MTH BLK	E21.5-N7-292	E18.5-N1-288	E21-N4-291	E22.75-N3-289
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14
Date analyzed	Limits	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14
Kerosene/Jet fuel	20	nd	nd	nd	nd	nd
Diesel/Fuel oil	20	nd	nd	nd	nd	nd
Heavy oil	50	nd	nd	nd	nd	nd

Surrogate recoveries:

Fluorobiphenyl	120%	128%	120%	123%	119%
o-Terphenyl	106%	127%	129%	121%	129%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

C - coelution with sample peaks

Results reported on dry-weight basis

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: B40612-1
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-01
Date received: 06/12/14

Analytical Results

NWTPH-Dx, mg/kg		E23-N1.5-286	E18.5-N1.5-289
Matrix	Soil	Soil	Soil
Date extracted	Reporting	06/12/14	06/12/14
Date analyzed	Limits	06/12/14	06/12/14
Kerosene/Jet fuel	20	nd	nd
Diesel/Fuel oil	20	nd	nd
Heavy oil	50	nd	nd

Surrogate recoveries:

Fluorobiphenyl	121%	129%
o-Terphenyl	123%	118%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

C - coelution with sample peaks

Results reported on dry-weight basis

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: B40612-1
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-01
Date received: 06/12/14

Analytical Results

NWTPH-Gx/BTEX		MTH BLK	LCS	E21.5-N7-292	E18.5-N1-288	E21-N4-291
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14
Date analyzed	Limits	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14

NWTPH-Gx, mg/kg

Mineral spirits/Stoddard	5.0	nd		nd	nd	nd
Gasoline	5.0	nd		nd	nd	nd

BTEX 8021B, µg/kg

Benzene	20	nd	101%	nd	nd	nd
Toluene	50	nd	100%	nd	nd	nd
Ethylbenzene	50	nd		nd	nd	nd
Xylenes	50	nd		nd	nd	nd

Surrogate recoveries:

Trifluorotoluene	97%	112%	97%	98%	97%
Bromofluorobenzene	111%	113%	109%	110%	108%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

Results reported on dry-weight basis

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: B40612-1
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-01
Date received: 06/12/14

Analytical Results					MS
NWTPH-Gx/BTEX		E22.75-N3-289	E23-N1.5-286	E18.5-N1.5-289	E16-N1.5-286
Matrix	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/13/14	06/13/14	06/13/14	06/13/14
Date analyzed	Limits	06/13/14	06/13/14	06/13/14	06/13/14

NWTPH-Gx, mg/kg

Mineral spirits/Stoddard	5.0	nd	nd	nd	
Gasoline	5.0	nd	nd	nd	

BTEX 8021B, µg/kg

Benzene	20	nd	nd	nd	89%
Toluene	50	nd	nd	nd	89%
Ethylbenzene	50	nd	nd	nd	
Xylenes	50	nd	nd	nd	

Surrogate recoveries:

Trifluorotoluene	101%	100%	104%	101%
Bromofluorobenzene	115%	107%	101%	110%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

Results reported on dry-weight basis

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: B40612-1
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-01
Date received: 06/12/14

Analytical Results		MSD	RPD
NWTPH-Gx/BTEX		E16-N1.5-286	E16-N1.5-286
Matrix	Soil	Soil	Soil
Date extracted	Reporting	06/13/14	06/13/14
Date analyzed	Limits	06/13/14	06/13/14

NWTPH-Gx, mg/kg

Mineral spirits/Stoddard	5.0
Gasoline	5.0

BTEX 8021B, µg/kg

Benzene	20	100%	12%
Toluene	50	125%	34%
Ethylbenzene	50		
Xylenes	50		

Surrogate recoveries:

Trifluorotoluene	95%
Bromofluorobenzene	108%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

Results reported on dry-weight basis

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: B40612-1
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-01
Date received: 06/12/14

Analytical Results

Metals (7010), mg/kg		MTH BLK	LCS	E21.5-N7-292	E18.5-N1-288	E19-N5-288
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14
Date analyzed	Limits	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14
Lead (Pb)	1.0	nd	94%	150	13	1,200

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

M - matrix interference

Results reported on dry-weight basis

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 30%

AAL Job Number: B40612-1
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-01
Date received: 06/12/14

Analytical Results

Metals (7010), mg/kg		E21-N4-291	E22.75-N3-289	E23-N1.5-286	E18.5-N1.5-289
Matrix	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/12/14	06/12/14	06/12/14	06/12/14
Date analyzed	Limits	06/12/14	06/12/14	06/12/14	06/12/14
Lead (Pb)	1.0	580	210	54	860

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

M - matrix interference

Results reported on dry-weight basis

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 30%

AAL Job Number: B40612-1
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-01
Date received: 06/12/14

Analytical Results		MS
Metals (7010), mg/kg		E19-N5-287
Matrix	Soil	Soil
Date extracted	Reporting	06/12/14
Date analyzed	Limits	06/12/14
Lead (Pb)	1.0	98%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

M - matrix interference

Results reported on dry-weight basis

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 30%

AAL Job Number: B40612-1
 Client: Hart Crowser, Inc.
 Project Manager: Angie Goodwin
 Client Project Name: 721 E. Pine
 Client Project Number: 17937-01
 Date received: 06/12/14

Analytical Results

TCLP Metals (7010/1311), mg/l		MTH BLK	LCS	E21.5-N7-292	E19-N5-288	E21-N4-291
Matrix	Soil Extract	Soil Extract	Soil Extract	Soil Extract	Soil Extract	Soil Extract
Date extracted	Reporting	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14
Date analyzed	Limits	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14
TCLP Lead (Pb)	0.002	nd	93%	0.12	1.0	0.69

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 30%

AAL Job Number: B40612-1
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-01
Date received: 06/12/14

Analytical Results		Dupl			RPD
TCLP Metals (7010/1311), mg/l		E22.75-N3-289	E18.5-N1.5-289	E18.5-N1.5-289	E18.5-N1.5-289
Matrix	Soil Extract	Soil Extract	Soil Extract	Soil Extract	Soil Extract
Date extracted	Reporting	06/16/14	06/16/14	06/16/14	06/16/14
Date analyzed	Limits	06/16/14	06/16/14	06/16/14	06/16/14
TCLP Lead (Pb)	0.002	0.18	0.47	0.61	26%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 30%

AAL Job Number: B40612-1
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-01
Date received: 06/12/14

Analytical Results

Moisture, SM2540B	E21.5-N7-292	E18.5-N1-288	E19-N5-288	E21-N4-291
Matrix	Soil	Soil	Soil	Soil
Date analyzed	06/13/14	06/13/14	06/13/14	06/13/14
Moisture, %	10%	11%	11%	11%

AAL Job Number: B40612-1
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-01
Date received: 06/12/14

Analytical Results

Moisture, SM2540B	E22.75-N3-289	E23-N1.5-286	E18.5-N1.5-289
Matrix	Soil	Soil	Soil
Date analyzed	06/13/14	06/13/14	06/13/14
Moisture, %	13%	13%	16%

June 17, 2014

Angie Goodwin
Hart Crowser, Inc.
1700 Westlake Avenue North, Suite 200
Seattle, WA 98109

Dear Ms. Goodwin:

Please find enclosed the analytical data report for the 721 E Pine, 17937-01 (**B40612-2**) Project.

Samples were received on *June 12, 2014*. The results of the analyses are presented in the attached tables. Applicable reporting limits, QA/QC data and data qualifiers are included. A copy of the chain-of-custody and an invoice for the work is also enclosed.

ADVANCED ANALYTICAL LABORATORY appreciates the opportunity to provide analytical services for this project. Should there be any questions regarding this report, please contact me at (425) 497-0110.

It was a pleasure working with you, and we are looking forward to the next opportunity to work together.

Sincerely,



Val G. Ivanov, Ph.D.
Laboratory Manager

Sample Custody Record

Samples Shipped to: AFCL



B40612-2

Hart Crowser, Inc.
1700 Westlake Avenue North, Suite 200
Seattle, Washington 98109-6212
Office: 206.324.9530 • Fax 206.328.5581

JOB <u>17937-01</u> LAB NUMBER _____						REQUESTED ANALYSIS												NO. OF CONTAINERS	OBSERVATIONS/COMMENTS/ COMPOSITING INSTRUCTIONS		
PROJECT NAME <u>721 E Pine</u>																					
HART CROWSER CONTACT <u>Angie Goodman</u>																					
SAMPLED BY: <u>WMD</u>																					
LAB NO.	SAMPLE ID	DESCRIPTION	DATE	TIME	MATRIX																
	E23-N9-281	Soil	6/10/14	1435	Soil	X	X	X										2			
	E21-N9-286			1500		X	X	X										2			
	E21.5-290			1505		X	X	X										2			
	E24-N9S-290			1510		X	X	X										2			
	E21-N8S-290			1515		X	X	X										2			
	E21.5-N8S-292			1512		X	X	X										2			
	E16-N1-286			1615		X	X	X										2			
	E12-N1-281			1617		X	X	X										2			
	E16-N1S-286			1619		X	X	X										2			
	E18.5-N1-288			1621		X	X	X										2	AFCL 6/12/14		
	E19-N5-287		6/11/14	1613		X	X	X										2			
RELINQUISHED BY		DATE	RECEIVED BY		DATE	SPECIAL SHIPMENT HANDLING OR STORAGE REQUIREMENTS:												TOTAL NUMBER OF CONTAINERS			
SIGNATURE <u>Angie Goodman</u>		6/12/14	SIGNATURE <u>Angie Goodman</u>		06/12/14													SAMPLE RECEIPT INFORMATION CUSTODY SEALS: ☐ YES ☐ NO ☐ N/A GOOD CONDITION ☐ YES ☐ NO TEMPERATURE _____ SHIPMENT METHOD: ☐ HAND ☐ COURIER ☐ OVERNIGHT			
PRINT NAME		TIME	PRINT NAME		TIME																
COMPANY		1200	COMPANY		1500																
RELINQUISHED BY		DATE	RECEIVED BY		DATE	COOLER NO.:												STORAGE LOCATION:		TURNAROUND TIME:	
SIGNATURE			SIGNATURE			See Lab Work Order No. _____ for Other Contract Requirements												☐ 24 HOURS ☐ 1 WEEK ☐ 48 HOURS ☒ STANDARD ☐ 72 HOURS OTHER _____			
PRINT NAME		TIME	PRINT NAME		TIME																
COMPANY			COMPANY																		

Advanced Analytical Laboratory
(425)497-0110, fax(425)497-8089

AAL Job Number:	B40612-2
Client:	Hart Crowser, Inc.
Project Manager:	Angie Goodwin
Client Project Name:	721 E. Pine
Client Project Number:	17937-01
Date received:	06/12/14

AAL Job Number: B40612-2
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-01
Date received: 06/12/14

Analytical Results

NWTPH-Dx, mg/kg		MTH BLK	E23-N9-287	E21-N9-286	E21.5-290	E24-N9.5-290
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14
Date analyzed	Limits	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14
Kerosene/Jet fuel	20	nd	nd	nd	nd	nd
Diesel/Fuel oil	20	nd	nd	nd	nd	nd
Heavy oil	50	nd	200	nd	nd	1,400

Surrogate recoveries:

Fluorobiphenyl	120%	123%	123%	124%	122%
o-Terphenyl	106%	114%	123%	124%	120%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

C - coelution with sample peaks

Results reported on dry-weight basis

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: B40612-2
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-01
Date received: 06/12/14

Analytical Results

NWTPH-Dx, mg/kg		E21-N8.5-290	E21.5-N8.5-292	E16-N1-286	E12-N1-287
Matrix	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/12/14	06/12/14	06/12/14	06/12/14
Date analyzed	Limits	06/12/14	06/12/14	06/12/14	06/12/14
Kerosene/Jet fuel	20	nd	nd	nd	nd
Diesel/Fuel oil	20	nd	nd	nd	nd
Heavy oil	50	6,000	nd	nd	nd

Surrogate recoveries:

Fluorobiphenyl	C	120%	122%	120%
o-Terphenyl	C	126%	123%	116%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

C - coelution with sample peaks

Results reported on dry-weight basis

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: B40612-2
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-01
Date received: 06/12/14

Analytical Results		Dupl	
NWTPH-Dx, mg/kg		E16-N1.5-286	E16-N1.5-286
Matrix	Soil	Soil	Soil
Date extracted	Reporting	06/12/14	06/12/14
Date analyzed	Limits	06/12/14	06/12/14
Kerosene/Jet fuel	20	nd	nd
Diesel/Fuel oil	20	nd	nd
Heavy oil	50	nd	nd
Surrogate recoveries:			
Fluorobiphenyl		129%	123%
o-Terphenyl		126%	119%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

C - coelution with sample peaks

Results reported on dry-weight basis

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: B40612-2
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-01
Date received: 06/12/14

Analytical Results

NWTPH-Gx/BTEX		MTH BLK	LCS	E23-N9-287	E21-N9-286	E21.5-290
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14
Date analyzed	Limits	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14

NWTPH-Gx, mg/kg

Mineral spirits/Stoddard	5.0	nd		nd	nd	nd
Gasoline	5.0	nd		nd	nd	nd

BTEX 8021B, µg/kg

Benzene	20	nd	101%	nd	nd	nd
Toluene	50	nd	100%	nd	nd	nd
Ethylbenzene	50	nd		nd	nd	nd
Xylenes	50	nd		nd	nd	nd

Surrogate recoveries:

Trifluorotoluene	97%	112%	95%	95%	94%
Bromofluorobenzene	111%	113%	108%	109%	108%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

Results reported on dry-weight basis

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: B40612-2
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-01
Date received: 06/12/14

Analytical Results

NWTPH-Gx/BTEX		E24-N9.5-290	E21-N8.5-290	E21.5-N8.5-292	E16-N1-286
Matrix	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/13/14	06/13/14	06/13/14	06/13/14
Date analyzed	Limits	06/13/14	06/13/14	06/13/14	06/13/14

NWTPH-Gx, mg/kg

Mineral spirits/Stoddard	5.0	nd	nd	nd	nd
Gasoline	5.0	nd	nd	nd	nd

BTEX 8021B, µg/kg

Benzene	20	nd	nd	nd	nd
Toluene	50	nd	nd	nd	nd
Ethylbenzene	50	nd	nd	nd	nd
Xylenes	50	nd	nd	nd	nd

Surrogate recoveries:

Trifluorotoluene	89%	89%	111%	121%
Bromofluorobenzene	105%	108%	128%	130%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

Results reported on dry-weight basis

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: B40612-2
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-01
Date received: 06/12/14

Analytical Results		Dupl			MS
NWTPH-Gx/BTEX		E12-N1-287	E16-N1.5-286	E16-N1.5-286	E16-N1.5-286
Matrix	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/13/14	06/13/14	06/13/14	06/13/14
Date analyzed	Limits	06/13/14	06/13/14	06/13/14	06/13/14

NWTPH-Gx, mg/kg

Mineral spirits/Stoddard	5.0	nd	nd	nd	
Gasoline	5.0	nd	nd	nd	

BTEX 8021B, µg/kg

Benzene	20	nd	nd	nd	89%
Toluene	50	nd	nd	nd	89%
Ethylbenzene	50	nd	nd	nd	
Xylenes	50	nd	nd	nd	

Surrogate recoveries:

Trifluorotoluene	111%	114%	113%	101%
Bromofluorobenzene	126%	125%	120%	110%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

Results reported on dry-weight basis

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: B40612-2
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-01
Date received: 06/12/14

Analytical Results		MSD	RPD
NWTPH-Gx/BTEX		E16-N1.5-286	E16-N1.5-286
Matrix	Soil	Soil	Soil
Date extracted	Reporting	06/13/14	06/13/14
Date analyzed	Limits	06/13/14	06/13/14

NWTPH-Gx, mg/kg

Mineral spirits/Stoddard 5.0
Gasoline 5.0

BTEX 8021B, µg/kg

Benzene	20	100%	12%
Toluene	50	125%	34%
Ethylbenzene	50		
Xylenes	50		

Surrogate recoveries:

Trifluorotoluene	95%
Bromofluorobenzene	108%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
Results reported on dry-weight basis
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

AAL Job Number: B40612-2
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-01
Date received: 06/12/14

Analytical Results

Metals (7010), mg/kg		MTH BLK	LCS	E23-N9-287	E21-N9-286	E21.5-290
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14
Date analyzed	Limits	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14
Lead (Pb)	1.0	nd	94%	nd	nd	nd

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

M - matrix interference

Results reported on dry-weight basis

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 30%

AAL Job Number: B40612-2
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-01
Date received: 06/12/14

Analytical Results

Metals (7010), mg/kg		E24-N9.5-290	E21-N8.5-290	E21.5-N8.5-292	E16-N1-286
Matrix	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/12/14	06/12/14	06/12/14	06/12/14
Date analyzed	Limits	06/12/14	06/12/14	06/12/14	06/12/14
Lead (Pb)	1.0	16	3.9	nd	1.8

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

M - matrix interference

Results reported on dry-weight basis

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 30%

AAL Job Number: B40612-2
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-01
Date received: 06/12/14

Analytical Results		Dupl				RPD
Metals (7010), mg/kg		E12-N1-287	E16-N1.5-286	E19-N5-287	E19-N5-287	E19-N5-287
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14
Date analyzed	Limits	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14
Lead (Pb)	1.0	nd	8.3	11	14	23%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

M - matrix interference

Results reported on dry-weight basis

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 30%

AAL Job Number: B40612-2
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-01
Date received: 06/12/14

Analytical Results		MS
Metals (7010), mg/kg		E19-N5-287
Matrix	Soil	Soil
Date extracted	Reporting	06/12/14
Date analyzed	Limits	06/12/14
Lead (Pb)	1.0	98%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

M - matrix interference

Results reported on dry-weight basis

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 30%

AAL Job Number: B40612-2
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-01
Date received: 06/12/14

Analytical Results

Moisture, SM2540B	E23-N9-287	E21-N9-286	E21.5-290	E24-N9.5-290	E21-N8.5-290
Matrix	Soil	Soil	Soil	Soil	Soil
Date analyzed	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14
Moisture, %	15%	16%	11%	26%	12%

AAL Job Number: B40612-2
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-01
Date received: 06/12/14

Analytical Results

Moisture, SM2540B	E21.5-N8.5-292	E16-N1-286	E12-N1-287	E16-N1.5-286	E19-N5-287
Matrix	Soil	Soil	Soil	Soil	Soil
Date analyzed	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14
Moisture, %	14%	12%	11%	12%	11%

June 25, 2014

Angie Goodwin
Hart Crowser, Inc.
1700 Westlake Avenue North, Suite 200
Seattle, WA 98109

Dear Ms. Goodwin:

Please find enclosed the analytical data report for the 721 E Pine, 17937-02 (**B40617-1**) Project.

Samples were received on *June 17, 2014*. The results of the analyses are presented in the attached tables. Applicable reporting limits, QA/QC data and data qualifiers are included. A copy of the chain-of-custody and an invoice for the work is also enclosed.

ADVANCED ANALYTICAL LABORATORY appreciates the opportunity to provide analytical services for this project. Should there be any questions regarding this report, please contact me at (425) 497-0110.

It was a pleasure working with you, and we are looking forward to the next opportunity to work together.

Sincerely,



Val G. Ivanov, Ph.D.
Laboratory Manager

Samples Shipped to: PHL

HARTCROWSER

1340617-

Office: 206.324.9530 • Fax 206.328.5581

[illegible]

Gold to Sample Custodian

Advanced Analytical Laboratory
(425)497-0110, fax(425)497-8089

AAL Job Number:	B40617-1
Client:	Hart Crowser, Inc.
Project Manager:	Angie Goodwin
Client Project Name:	721 E. Pine
Client Project Number:	17937-02
Date received:	06/17/14

AAL Job Number: B40617-1
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-02
Date received: 06/17/14

Analytical Results							Dupl
NWTPH-Dx, mg/kg		MTH BLK	SPA-1	SPA-2	SPA-3	SPA-4	SPA-4
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14
Date analyzed	Limits	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14
Kerosene/Jet fuel	20	nd	nd	nd	nd	nd	nd
Diesel/Fuel oil	20	nd	nd	nd	nd	nd	nd
Heavy oil	50	nd	nd	nd	nd	nd	nd
Surrogate recoveries:							
Fluorobiphenyl		125%	110%	117%	104%	107%	108%
o-Terphenyl		118%	101%	97%	95%	96%	94%

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
C - coelution with sample peaks
Results reported on dry-weight basis
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

AAL Job Number: B40617-1
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-02
Date received: 06/17/14

Analytical Results

Dupl

NWTPH-Gx/BTEX		MTH BLK	LCS	SPA-1	SPA-2	SPA-3	SPA-4	SPA-4
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14
Date analyzed	Limits	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14

NWTPH-Gx, mg/kg

Mineral spirits/Stoddard	5.0	nd		nd	nd	nd	nd	nd
Gasoline	5.0	nd		nd	nd	nd	nd	nd

BTEX 8021B, µg/kg

Benzene	20	nd	105%	nd	nd	nd	nd	nd
Toluene	50	nd	103%	nd	nd	nd	nd	nd
Ethylbenzene	50	nd		nd	nd	nd	nd	nd
Xylenes	50	nd		nd	nd	nd	nd	nd

Surrogate recoveries:

Trifluorotoluene	90%	97%	88%	89%	84%	85%	103%
Bromofluorobenzene	114%	112%	114%	114%	108%	103%	126%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

Results reported on dry-weight basis

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: B40617-1
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-02
Date received: 06/17/14

Analytical Results		MS	MSD	RPD
NWTPH-Gx/BTEX		SPA-4	SPA-4	SPA-4
Matrix	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/17/14	06/17/14	06/17/14
Date analyzed	Limits	06/17/14	06/17/14	06/17/14

NWTPH-Gx, mg/kg

Mineral spirits/Stoddard 5.0
Gasoline 5.0

BTEX 8021B, µg/kg

Benzene	20	109%	107%	2%
Toluene	50	108%	106%	2%
Ethylbenzene	50			
Xylenes	50			

Surrogate recoveries:

Trifluorotoluene	101%	96%
Bromofluorobenzene	113%	111%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

Results reported on dry-weight basis

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: B40617-1
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-02
Date received: 06/17/14

Analytical Results

Metals (7010), mg/kg		MTH BLK	LCS	SPA-1	SPA-2	SPA-3	SPA-4
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14
Date analyzed	Limits	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14
Lead (Pb)	1.0	nd	89%	150	300	250	120

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

M - matrix interference

Results reported on dry-weight basis

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 30%

AAL Job Number: B40617-1
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-02
Date received: 06/17/14

Analytical Results

Metals (7010), mg/kg		N1-E22.5-285.25	N4.5-E23-285.25	N3-E19.5-286.5	N6-E19-28725
Matrix	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/18/14	06/18/14	06/18/14	06/18/14
Date analyzed	Limits	06/18/14	06/18/14	06/18/14	06/18/14
Lead (Pb)	1.0	5.7	1.3	2.7	31

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

M - matrix interference

Results reported on dry-weight basis

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 30%

AAL Job Number: B40617-1
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-02
Date received: 06/17/14

Analytical Results		MS
Metals (7010), mg/kg		N6-E19-28725
Matrix	Soil	Soil
Date extracted	Reporting	06/18/14
Date analyzed	Limits	06/18/14
Lead (Pb)	1.0	86%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

M - matrix interference

Results reported on dry-weight basis

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 30%

AAL Job Number: B40617-1
 Client: Hart Crowser, Inc.
 Project Manager: Angie Goodwin
 Client Project Name: 721 E. Pine
 Client Project Number: 17937-02
 Date received: 06/17/14

Analytical Results

Moisture, SM2540B	SPA-1	SPA-2	SPA-3	SPA-4	N1-E22.5-285.25	N4.5-E23-285.25
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date analyzed	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14
Moisture, %	15%	14%	13%	13%	14%	13%

AAL Job Number: B40617-1
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-02
Date received: 06/17/14

Analytical Results

Moisture, SM2540B	N3-E19.5-286.5	N6-E19-287.5
Matrix	Soil	Soil
Date analyzed	06/18/14	06/18/14
Moisture, %	12%	13%

ADVANCED ***ANALYTICAL***

Environmental Testing Laboratory

June 30, 2014

Angie Goodwin
Hart Crowser, Inc.
1700 Westlake Avenue North, Suite 200
Seattle, WA 98109

Dear Ms. Goodwin:

Please find enclosed the analytical data report for the 721 E Pine, 17937-02 (**B40625-1**) Project.

Samples were received on *June 25, 2014*. The results of the analyses are presented in the attached tables. Applicable reporting limits, QA/QC data and data qualifiers are included. A copy of the chain-of-custody and an invoice for the work is also enclosed.

ADVANCED ANALYTICAL LABORATORY appreciates the opportunity to provide analytical services for this project. Should there be any questions regarding this report, please contact me at (425) 497-0110.

It was a pleasure working with you, and we are looking forward to the next opportunity to work together.

Sincerely,



Val G. Ivanov, Ph.D.
Laboratory Manager

Overlake Business Center ■ 2821 152 Avenue NE ■ Redmond, WA 98052
ph 425.497.0110 fax 425.497.8089
E-mail: aachemlab@yahoo.com

*This report is issued solely for the use of the person or company to whom it is addressed.
Any use, copying or disclosure other than by the intended recipient is unauthorized.*

Samples Shipped to: _____



Hart Crowser, Inc.
1700 Westlake Avenue North, Suite 200
Seattle, Washington 98109-6212
Office: 206.324.9530 • Fax 206.328.5581

White and Yellow Copies to Lab Pink to Project Manager Lab to Return White Copy to Hart Crowser Gold to Sample Custodian

Advanced Analytical Laboratory
(425)497-0110, fax(425)497-8089

AAL Job Number:	B40625-1
Client:	Hart Crowser, Inc.
Project Manager:	Angie Goodwin
Client Project Name:	721 E. Pine
Client Project Number:	17937-02
Date received:	06/25/14

AAL Job Number: B40625-1
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-02
Date received: 06/25/14

Analytical Results		Dupl		
NWTPH-Dx, mg/kg		MTH BLK	N5-E18-289	N5-E18-289
Matrix	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/25/14	06/25/14	06/25/14
Date analyzed	Limits	06/25/14	06/25/14	06/25/14
Kerosene/Jet fuel	20	nd	nd	nd
Diesel/Fuel oil	20	nd	nd	nd
Heavy oil	50	nd	nd	nd
Surrogate recoveries:				
Fluorobiphenyl		102%	108%	112%
o-Terphenyl		95%	97%	101%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

C - coelution with sample peaks

Results reported on dry-weight basis

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: B40625-1
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-02
Date received: 06/25/14

Analytical Results				Dupl	
NWTPH-Gx/BTEX		MTH BLK	LCS	N5-E18-289	N5-E18-289
Matrix	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/25/14	06/25/14	06/25/14	06/25/14
Date analyzed	Limits	06/25/14	06/25/14	06/25/14	06/25/14

NWTPH-Gx, mg/kg

Mineral spirits/Stoddard	5.0	nd		nd	nd
Gasoline	5.0	nd		nd	nd

BTEX 8021B, µg/kg

Benzene	20	nd	91%	nd	nd
Toluene	50	nd	89%	nd	nd
Ethylbenzene	50	nd		nd	nd
Xylenes	50	nd		nd	nd

Surrogate recoveries:

Trifluorotoluene	85%	85%	78%	82%
Bromofluorobenzene	103%	103%	116%	120%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

Results reported on dry-weight basis

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: B40625-1
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-02
Date received: 06/25/14

Analytical Results		MS	MSD	RPD
NWTPH-Gx/BTEX		N5-E18-289	N5-E18-289	N5-E18-289
Matrix	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/25/14	06/25/14	06/25/14
Date analyzed	Limits	06/25/14	06/25/14	06/25/14

NWTPH-Gx, mg/kg

Mineral spirits/Stoddard 5.0
Gasoline 5.0

BTEX 8021B, µg/kg

Benzene	20	99%	99%	0%
Toluene	50	97%	96%	1%
Ethylbenzene	50			
Xylenes	50			

Surrogate recoveries:

Trifluorotoluene	93%	89%
Bromofluorobenzene	107%	102%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
Results reported on dry-weight basis
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

AAL Job Number: B40625-1
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-02
Date received: 06/25/14

Analytical Results		Dupl				MS
Metals (7010), mg/kg		MTH BLK	LCS	N5-E18-289	N5-E18-289	N5-E18-289
Matrix	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14
Date analyzed	Limits	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14
Lead (Pb)	1.0	nd	95%	nd	nd	84%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

M - matrix interference

Results reported on dry-weight basis

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 30%

AAL Job Number: B40625-1
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-02
Date received: 06/25/14

Analytical Results

Moisture, SM2540B	N5-E18-289
Matrix	Soil
Date analyzed	06/26/14
Moisture, %	10%

July 03, 2014

Angie Goodwin
Hart Crowser, Inc.
1700 Westlake Avenue North, Suite 200
Seattle, WA 98109

Dear Ms. Goodwin:

Please find enclosed the analytical data report for the 721 E Pine, 17937-02 (**B40702-1**) Project.

Samples were received on *July 02, 2014*. The results of the analyses are presented in the attached tables. Applicable reporting limits, QA/QC data and data qualifiers are included. A copy of the chain-of-custody and an invoice for the work is also enclosed.

ADVANCED ANALYTICAL LABORATORY appreciates the opportunity to provide analytical services for this project. Should there be any questions regarding this report, please contact me at (425) 497-0110.

It was a pleasure working with you, and we are looking forward to the next opportunity to work together.

Sincerely,



Val G. Ivanov, Ph.D.
Laboratory Manager

Samples Shipped to: YMC

HARTCROWSER

B40702-1

Office: 206.324.9530 • Fax 206.328.5581

White and Yellow Copies to Lab Pink to Project Manager Lab to Return White Copy to Hart Crowser Gold to Sample Custodian

Advanced Analytical Laboratory
(425)497-0110, fax(425)497-8089

AAL Job Number:	B40702-1
Client:	Hart Crowser, Inc.
Project Manager:	Angie Goodwin
Client Project Name:	721 E. Pine
Client Project Number:	17937-02
Date received:	07/02/14

AAL Job Number: B40702-1
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-02
Date received: 07/02/14

Analytical Results		Dupl		
NWTPH-Dx, mg/kg		MTH BLK	E20-N8-290	E20-N8-290
Matrix	Soil	Soil	Soil	Soil
Date extracted	Reporting	07/03/14	07/03/14	07/03/14
Date analyzed	Limits	07/03/14	07/03/14	07/03/14
Kerosene/Jet fuel	20	nd	nd	nd
Diesel/Fuel oil	20	nd	nd	nd
Heavy oil	50	nd	nd	nd
Surrogate recoveries:				
Fluorobiphenyl		98%	100%	98%
o-Terphenyl		104%	105%	103%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

C - coelution with sample peaks

Results reported on dry-weight basis

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: B40702-1
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-02
Date received: 07/02/14

Analytical Results				Dupl	
NWTPH-Gx/BTEX		MTH BLK	LCS	E20-N8-290	E20-N8-290
Matrix	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	07/03/14	07/03/14	07/03/14	07/03/14
Date analyzed	Limits	07/03/14	07/03/14	07/03/14	07/03/14

NWTPH-Gx, mg/kg

Mineral spirits/Stoddard	5.0	nd		nd	nd
Gasoline	5.0	nd		nd	nd

BTEX 8021B, µg/kg

Benzene	20	nd	95%	nd	nd
Toluene	50	nd	85%	nd	nd
Ethylbenzene	50	nd		nd	nd
Xylenes	50	nd		nd	nd

Surrogate recoveries:

Trifluorotoluene	81%	95%	75%	80%
Bromofluorobenzene	101%	105%	110%	115%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

Results reported on dry-weight basis

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: B40702-1
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-02
Date received: 07/02/14

Analytical Results		MS	MSD	RPD
NWTPH-Gx/BTEX		E20-N8-290	E20-N8-290	E20-N8-290
Matrix	Soil	Soil	Soil	Soil
Date extracted	Reporting	07/03/14	07/03/14	07/03/14
Date analyzed	Limits	07/03/14	07/03/14	07/03/14

NWTPH-Gx, mg/kg

Mineral spirits/Stoddard 5.0
Gasoline 5.0

BTEX 8021B, µg/kg

Benzene	20	103%	103%	0%
Toluene	50	101%	100%	1%
Ethylbenzene	50			
Xylenes	50			

Surrogate recoveries:

Trifluorotoluene	100%	109%
Bromofluorobenzene	98%	96%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

C - coelution with sample peaks

Results reported on dry-weight basis

Acceptable Recovery limits: 70% TO 130%

Acceptable RPD limit: 30%

AAL Job Number: B40702-1
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-02
Date received: 07/02/14

Analytical Results		Dupl		RPD		MS	
Metals (7010), mg/kg		MTH BLK	LCS	E20-N8-290	E20-N8-290	E20-N8-290	E20-N8-290
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	07/02/14	07/02/14	07/02/14	07/02/14	07/02/14	07/02/14
Date analyzed	Limits	07/02/14	07/02/14	07/02/14	07/02/14	07/02/14	07/02/14
Lead (Pb)	1.0	nd	94%	15	11	30%	72%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits

na - not analyzed

M - matrix interference

Results reported on dry-weight basis

Acceptable Recovery limits: 65% TO 135%

Acceptable RPD limit: 30%

AAL Job Number: B40702-1
Client: Hart Crowser, Inc.
Project Manager: Angie Goodwin
Client Project Name: 721 E. Pine
Client Project Number: 17937-02
Date received: 07/02/14

Analytical Results

Moisture, SM2540B	E20-N8-290
Matrix	Soil
Date analyzed	07/03/14
Moisture, %	8.6%

This page is intentionally left blank
for double-sided printing.

APPENDIX B

UST Decommissioning Documents

This page is intentionally left blank
for double-sided printing.

Kleen Environmental Technologies, Inc

Certification of Cleaning and Rinsing

Site Location/ Description: 045 Partners
Physical Address: 721 E. Pine St.
City / State / Zip Code: Seattle WA
Tank Identification / Number: 2EA X 500 GAL
Product: Heating Oil (Diesel)
KET Certifying individual: Peter Hogan

Mark all that apply:

☒ Triple Rinsed as required

☐ Inerted by _____

☐ Ready for transport

Kleen Environmental Technologies, Inc warrants that this tank/vessel has been cleaned and rinsed in accordance with general acceptable industry practices. KET further warrants that product and rinsates generated during activities associated with the vehicle have been adequately and appropriately managed through permitted facilities.

Peter Hogan Peter Hogan 5/29/14
Signed Name/ Title Date
Decommissioner

**Your
Seattle
Fire Department**

mon. 6/2/14 - 9:00



APPLICATION FOR TEMPORARY PERMIT

Code 7908

Commercial Tank Removal/Decommissioning

Date Issued: 6/2/14

Tank(s) must be removed from site on the same day as permit is issued!

TO BE COMPLETED BY PERMIT APPLICANT

FIRM NAME Kleen Environmental Technologies Inc.		
MAILING ADDRESS 5955 W. Marginal Way SW	SUITE	
CITY Seattle	STATE WA	ZIP 98106
JOBSITE ADDRESS 721 E. Pine St.		
CONTACT PERSON Peter Hogan	PHONE NUMBER (206) 910-8559	
Number of Tank(s): _____ Tank Size(s): _____ ☐ Aboveground tank		
Product(s) Previously Contained: _____ ☒ Underground tank		
☒ Removal (Marine Chemist inspection and certificate required for all tanks regardless of size or contents)		
☐ Abandonment-in-Place (Marine Chemist certificate required for tanks previously containing Class I flammable liquids and/or unknowns)		
Hot work being conducted: ☒ No ☐ Yes (If yes, a separate hot work permit is required)		

Permit applications may be submitted in person weekdays from 8:00 a.m. to 5:00 p.m., or mailed to:

Seattle Fire Department
Fire Marshal's Office – Permits
220 Third Ave S, 2nd Floor
Seattle, WA 98104-2608

To pay with a Visa or Master Card: Fax or email this application
THEN CALL US TO CONFIRM RECEIPT AND MAKE PAYMENT
Tel: (206) 386-1450 / Fax: (206) 386-1348
E-mail: permits@seattle.gov

Call 386-1450, at least 24 hours prior to needed inspection time to arrange for an appointment.

TANKS MAY BE REMOVED/DECOMMISSIONED ONLY AFTER FIRE DEPARTMENT INSPECTION

NO HOT WORK IS ALLOWED ON A TANK SYSTEM PRIOR TO ISSUANCE OF THIS FIRE DEPARTMENT PERMIT!

Permission is hereby granted to remove or decommission the tank(s) identified in this permit in accordance with the attached conditions, all noted special conditions, and all applicable provisions of the Seattle Fire Code, federal, state and local regulations. **THIS PERMIT IS NULL AND VOID IF PERMIT CONDITIONS ARE NOT ATTACHED**

Special permit conditions: Tank removal/decommissioning must be performed, or directly supervised, by an ICC certified individual (WAC 173-360-600)

FMO USE:

Check No.: 1021052914
Receipt No.: 5-231825
Application ID#: 97180

APPROVED BY:

Inspector: J. WILLIAMS SFD ID# 1481
Name of Marine Chemist M. SCHMITT Certificate # 711-46319
Date: 6/2/14

Kleen Environmental Technologies, Inc

Certification of Cleaning and Rinsing

Site Location/ Description: O#5 Parcel/ures
Physical Address: 721 E. Pine St.
City / State / Zip Code: Seattle WA
Tank Identification / Number: 2EA X 500 GAL
Product: Heating Oil (Diesel)
KET Certifying individual: Peter Hogan

Mark all that apply:

☒ Triple Rinsed as required

☐ Inerted by _____

☐ Ready for transport

Kleen Environmental Technologies, Inc warrants that this tank/vessel has been cleaned and rinsed in accordance with general acceptable industry practices. KET further warrants that product and rinsates generated during activities associated with the vehicle have been adequately and appropriately managed through permitted facilities.

Peter Hogan Peter Hogan 5/29/14
Signed Name/ Title Date
Decommission

MARINE CHEMIST CERTIFICATE

SERIAL No 46319

Survey Requested by Kleen Environmental Vessel Owner or Agent Kleen Environmental Date 6/2/2014
Vessel UST's Type of Vessel 0's - 721 E. Pine St. Specific Location of Vessel
Last Three (3) Loadings Heating Oil/Diesel Tests Performed O₂, LEL, H₂S, VOCs, Visual Time Survey Completed 08:30 a.m.
(Tanks Prev. Drained & Rinsed)

[20.8% O₂, 0% LEL, <1ppm H₂S, 60ppm VOCs]

Tank No. 1
(SE)

Tank No. 2
(NE)

Tanks may be safely
excavated & transported.
(Not Safe for Hot Work - no burning...)

WIS

In the event of any physical or atmospheric changes adversely affecting the gas-free condition of the above spaces, or if in any doubt, immediately stop all work and contact the undersigned Marine Chemist.

QUALIFICATIONS: Transfer of ballast or manipulation of valves or closure equipment tending to alter conditions in pipe lines, tanks or compartments subject to gas accumulation, unless specifically approved in this Certificate, requires inspection and endorsement or reissue of Certificate for the spaces so affected. All lines, vents, heating coils, valves, and similarly enclosed appurtenances shall be considered "not safe" unless otherwise specifically designated.

STANDARD SAFETY DESIGNATIONS

SAFE FOR WORKERS. Means that in the compartment or space so designated (a) the oxygen content of the atmosphere is at least 19.5 percent by volume, and that, (b) toxic materials in the atmosphere are within permissible concentrations, and that, (c) the residues are not capable of producing toxic materials under existing atmospheric conditions while maintained as directed on the Marine Chemist's Certificate

NOT SAFE FOR WORKERS. Means that in the compartment or space so designated, the requirements of Safe for Workers has not been met.

SAFE FOR HOT WORK. Means that in the compartment so designated: (a) oxygen content of the atmosphere is at least 19.5 percent by volume, with the exception of inerted spaces or where external hot work is to be performed; and that, (b) the concentration of flammable materials in the atmosphere is below 10 percent of the lower flammable limit; and that, (c) the residues are not capable of producing a higher concentration than permitted by (b) above under existing atmospheric conditions in the presence of fire, and while maintained as directed on the Marine Chemist's Certificate; and further, that, (d) all adjacent spaces have been cleaned sufficiently to prevent the spread of fire, or are satisfactorily inerted, or, in the case of fuel tanks, or lube oil tanks, or engine room or fire room bilges, have been treated in accordance with the Marine Chemist's requirements.

NOT SAFE FOR HOT WORK. Means that in the compartment so designated, the requirements of Safe for Hot Work have not been met

CHEMIST'S ENDORSEMENT. This is to certify that I have personally determined that all spaces in the foregoing list are in accordance with NFPA 306 Control of Gas Hazards on Vessels and have found the condition of each to be in accordance with its assigned designation.

"The undersigned acknowledges receipt of this Certificate under Section 2-6 of NFPA 306 and understands conditions and limitations under which it was issued."

This Certificate is based on conditions existing at the time the inspection herein set forth was completed and is issued subject to compliance with all qualifications and instructions.

Signed [Signature] Name KleenEnv. Company 6/2/14 Date
Signed [Signature] Marine Chemist 711 Certificate No.

This page is intentionally left blank
for double-sided printing.