Exhibit E

ENVIRONMENTAL COVENANT GROUNDWATER MONITORING PLAN

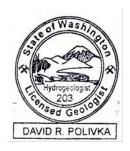
Markey Machinery

7266 8th Avenue South Seattle, Washington 98108 Facility/Site Identification #: 52231 Cleanup Site Identification #: 14476 VCP Identification #: NW3187

March 1, 2024

Prepared for:

Southmark Properties, LLC/Markey Machinery 7266 8th Avenue South Seattle, WA 98108



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File: Draft Markey Machine Groundwater Monitoring $\mathsf{Plan}-03012024$

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File: Draft Markey Machine Groundwater Monitoring Plan – 03012024

1.0 INTRODUCTION

EcoCon, Inc (ECI) has prepared this Groundwater Monitoring Plan (GWMP) to accompany an Environmental Covenant for the property located at 7266 8th Avenue South in Seattle, Washington (Property/ Subject Property) (Figure 1, Appendix A). This GWMP was developed in accordance with the Washington State Model Toxics Control Act (MTCA) (Washington Administrative Code [WAC] 173-340-410) to monitor groundwater beneath the Property following previously conducted Site Investigations and Remediation activities at the Site.

As established in Chapter 173-340-200 WAC, the "Site" means the same as "Facility" and is defined as:

"...any area where a hazardous substance, other than a consumer product in consumer use, has been deposited, stored, disposed of, or placed or otherwise come to be located..."

For this GWMP, the "Site" is defined by the full lateral and vertical extent of contamination that has resulted from former heating oil underground storage tanks (USTs), a former hydraulic press, and a drywell. Based on the findings of the previous environmental investigations, the Site has been defined as the nature and extent of the following contaminants in the soil and groundwater:

- Diesel-range Organics (DRO), and
- Heavy oil-range Organics (ORO).

1.1 Purpose of the Groundwater Monitoring Plan

Groundwater monitoring that has taken place at the Site and has shown that groundwater contamination above the MTCA Method A Cleanup Levels is located under the southern building on the Property and under a former drywell located in a paved area adjacent to the north side of the building. The groundwater monitoring has also shown that the contaminated groundwater has not migrated off of the Property. The purpose of this GWMP is to monitor the performance of the remedial actions taken on the soil and groundwater at the Site and make sure that the groundwater contamination at the Site does not migrate off of the Property.

1.2 Property Description and Physical Setting

According to the King County Assessor, the Property consists of a single rectangular shaped parcel (2136200210) located in an industrial area of south Seattle that is zoned General Industrial 1 with a height limitation of 85 feet (IG1 U/85). It is bounded:

• To the north: by a railroad right-of-way with DTG Seattle beyond,

- To the south: by South Othello Street with Waste Management Duwamish Reload Facility beyond,
- To the east: by Waste Management Duwamish Reload Facility with East Marginal Way beyond, and
- To the west: by 8th Avenue South with Provisioners Warehouse and Transportation Services beyond.

The Property is located approximately 700 feet northeast of the Duwamish Waterway and approximately 500 feet northwest of Slip number 4 of the Duwamish Waterway at an elevation of approximately 16 feet (WGS84) (Figure 2, Appendix A).

According to the King County Assessor, the Property is currently owned by Southmark Properties, LLC and is doing business as Markey Machinery.

1.3 "Site" Description

The "Site" as defined under MTCA is located in the southern portion of the Property in the vicinity of the southernmost building on the Property where former heating oil USTs, a drywell, and a former hydraulic press were located (Figures 3 and 4, Appendix A).

2.0 **REGULATORY COMPLIANCE**

Regulatory compliance for this project is based on the Washington Administrative code (WAC), Chapter 173-340 (the Model Toxic Control Act (MTCA) regulations) and the Revised Code of Washington (RCW) Chapter 70A.305, implemented by the Washington State Department of Ecology (Ecology) and the Pollution Liability Insurance Agency (PLIA). Pursuant to Chapter 70A.305 RCW, Ecology has established procedures for developing cleanup levels and requirements for cleanup actions. The rules establishing these standards and requirements were developed by Ecology in consultation with a Science Advisory Board (established under the Act) and with representatives from local government, citizen, environmental, and business groups. The rules were first published in April 1990, with amendments in 1991, 1996, 2001, and August 2023, effective January 1, 2024.

Regulatory compliance for this project is also based on Chapter 64.70 RCW, Uniform Environmental Covenants Act, which establishes the process and procedures that must be followed for restrictions on future uses or activities at cleanup sites, so that the restrictions will be valid and enforceable over the long term.

3.0 BACKGROUND

3.1 Phase I Environmental Site Assessment – Environmental Associates, Inc., July 2002

In July of 2002, Environmental Associates, Inc. (EAI) completed a Phase I Environmental Site Assessment (ESA) for the Property which identified concerns relating to the current and past land use practices on the Property. Based on the findings EAI recommended a Phase II ESA. As of the date of this report, ECI has not been able to obtain a copy of this Phase I ESA for review.

3.2 Phase II Environmental Site Assessment – Environmental Associates, Inc., March 2003

In March 2003, EAI conducted a Phase II Environmental Site Assessment. This ESA consisted of advancing ten (10) borings (B1 through B10) in the areas of potential concern. The analytical results of soil and groundwater samples collected revealed the presence of diesel-range organics (DRO) above the Ecology Model Toxics Control Act (MTCA) Method A Cleanup Levels in two (2) of the borings (B2 and B10) at a depth of seven (7) to 7.5 feet bgs. However, the extent of the contamination was not identified. As of the date of this report, ECI has not been able to obtain a copy of this Phase II ESA for review.

3.3 Limited Phase II Environmental Site Assessment–Geotech Consultants Inc., March 2010

In March of 2010, Geotech Consultants, Inc. (GCI) completed a Limited Phase II ESA at the Property to further evaluate the contamination identified by EAI in 2003. GCI advanced eight (8) borings on the Property, identified as B1E through B8E (Figure 3, Appendix A).

The results of the investigation revealed DRO and oil-range organics (ORO) at concentrations greater than their respective MTCA Method A Cleanup Levels in soil and groundwater beneath the Property. The maximum concentrations of DRO and ORO in soil were 20,000 mg/kg and 8,700 mg/kg, respectively; while the maximum concentrations of DRO and ORO in groundwater were 560 μ g/L and 2,400 μ g/L, respectively. Table 2 in Appendix B summarizes the analytical results of soil samples collected. Table 3 in Appendix B summarizes the analytical results of scilected.

The results of this investigation indicated the lateral extent of contamination remained undefined and further investigation appeared warranted to define the full nature and extent of contamination associated with the release(s).

3.4 Focused Subsurface Investigation – EcoCon Inc., April/May 2016

On April 13, 2016, EcoCon Inc. (ECI) oversaw the advancement of six (6) borings (B11 through B16) on the Property (Figure 3, Appendix A). The borings were advanced in strategic locations, in an attempt to delineate the extent of the contaminant plume. A total of eight (8) soil samples were collected from

borings B11, B12, B13, and B16 at depths between eight (8) and twelve (12) feet bgs. Soil samples were not collected from borings B14 and B15, as there were no olfactory signs of contamination, and they were advanced adjacent to previous borings where soil had been characterized.

Based on field screening, four (4) of the eight (8) soil samples were analyzed for DRO and ORO and two (2) samples were also analyzed for metals, carcinogenic polycyclic aromatic hydrocarbons (cPAHs), and/or polychlorinated biphenyls (PCBs). The analytical results revealed that DRO and ORO were present in the soil above the MTCA Method A Cleanup Levels at approximately eight (8) feet bgs in three (3) of the four (4) boring samples analyzed (borings B12, B13, and B16). PCBs and cPAHs were not detected above the laboratory practical quantitation limits (PQLs) or were below the respective MTCA cleanup levels. The metals were either below the laboratory PQLs or below the respective MTCA Cleanup Levels (Table 2, Appendix B).

Six (6) of the borings were completed as groundwater-monitoring wells in order to monitor groundwater quality at the Site (Figure 4, Appendix A). Groundwater was encountered at a depth of approximately eight (8) feet bgs. Groundwater samples collected from the wells and analyzed revealed that there were Light Non-Aqueous Phase Liquids (LNAPL) (free-phase hydrocarbons) in well MW2. It was also revealed that DRO and/or ORO were present above the MTCA Method A Cleanup Levels in the groundwater of all wells except MW5. Table 4 in Appendix B summarizes the analytical results of the monitoring well samples collected.

3.5 Supplemental Focused Subsurface Investigation–ECI Environmental Services, July 2016

On July 1, 2016, ECI oversaw the advancement of four (4) additional borings/monitoring wells (B17 through B20/MW7 through MW10) at the Site. The borings/wells were placed in strategic locations, in an attempt to further delineate the extent of the soil and groundwater contaminant plume. A total of eight (8) soil samples were collected from all four (4) borings at depths between eight (8) and twelve (12) feet bgs. In addition, groundwater samples were collected from each well.

The analytical results revealed that DRO and ORO were not present above the laboratory PQLs in the soil samples analyzed from a depth of approximately eight (8) feet bgs at these locations (Table 2, Appendix B). The groundwater samples revealed the presence of DRO below the MTCA Method A Cleanup Level in wells MW9 and MW10. ORO was not detected above the laboratory PQLs. The analytical results of the groundwater from the other two (2) wells, MW7 and MW8, did not detected DRO or ORO above the laboratory PQLs. ECI concluded that the extent of the contamination had been effectively characterized. Table 4 in Appendix B summarizes the analytical results of the monitoring well samples collected.

The soil and groundwater contamination appeared to be limited to the area near the vault beneath a former hydraulic press inside the southernmost building at on the property. A second area of contamination within the delineated area was identified as a drywell adjacent to an air compressor immediately north of the building (Figure 3, Appendix A). This drywell had free-phase hydrocarbons observed in it. It was not known how deep the drywell extended as it had large railroad ballast rock in the base at approximately eight (8) feet bgs.

3.6 Remediation Work Plan – ECI Environmental Services, April 2017

On April 17, 2017, ECI prepared a Remediation Work Plan for remediating the contaminated soils on the Property. ECI proposed excavation of as much of the contaminated soils at the Site as possible. The work plan was prepared for submittal to the City of Seattle in order to obtain the necessary permits to conduct the excavation. This was required by the City because the proposed excavation was inside the structure on the Property and the City wanted to assure that the integrity of the building was not compromised by the excavation.

3.7 Interim Remedial Excavation – ECI Environmental Services, October/November 2017

From October 17 through November 2, 2017, ECI oversaw the interim cleanup actions at the Site which consisted of the excavation of 349.02 tons of petroleum contaminated soils from an area adjacent to and beneath the vault of a former hydraulic press located near the north central area of the southern building (Figure 3, Appendix A). In addition, approximately five (5) cubic yards of contaminated soil was removed adjacent to a drywell located north on the exterior of the same building.

Because of concerns regarding the structural integrity of the buildings, not all of the contaminated soil was removed and remained in place beneath the northern portion of the former hydraulic press vault and adjacent to the drywell underlying the building foundation. Soil samples collected following the remedial excavation activities documented the areas where contaminants of concern (COCs) were removed and where areas of the Site remain impacted exceeding applicable cleanup levels (Table 5, Appendix B).

Following remedial excavation activities three (3) groundwater monitoring wells (Wells MW-11 through MW13) were installed in additional to the existing seven (7) monitoring wells located on the Subject Site to replace those wells destroyed during the remedial excavation (Figure 4, Appendix A).

3.8 Groundwater Monitoring – ECI Environmental Services, February 2018

On February 6 and 7, 2018, ECI collected groundwater samples from nine monitoring wells (MW1, MW5 and MW7 through MW13) installed on the Property. However, the groundwater within MW6 was measured and was found to be containing LNAPL, which measured approximately one (1) inch in thickness

on top of the groundwater. Due to the presence of LNAPL, a groundwater sample was not collected from MW6.

The collected groundwater samples were delivered to the analytical laboratory, Friedman and Bruya, of Seattle, Washington, to be analyzed for the identified COCs of DRO and ORO. The analytical results indicated that the groundwater sample collected from MW12 contained concentrations of COCs greater than the MTCA Method A Cleanup Levels for both DRO and ORO. The remaining groundwater samples COCs were either below their respective laboratory PQLs or below their respective MTCA Method A Cleanup Levels. A summary of the laboratory analytical results, is provided in Table 4 in Appendix B.

3.9 Groundwater Monitoring – ECI Environmental Services, May 2018

On May 10, 2018, ECI collected groundwater samples from eight monitoring wells (MW1, MW5 and MW8 through MW13) installed on the Property. However, the groundwater within MW6 was measured and was found to be containing LNAPL, which measured approximately one inch in thickness on top of the groundwater within the well. Due to the presence of LNAPL, a groundwater sample was not collected from MW6. During The sampling event, ECI discovered that the groundwater-monitoring well MW7 was destroyed at some point between the previous groundwater monitoring event (February 6 and 7, 2018) and ECI's arrival on the property on May 10, 2018.

The collected groundwater samples were delivered to the analytical laboratory, Friedman and Bruya, of Seattle, Washington, to be analyzed for the identified COCs of DRO and ORO. The analytical results indicated that the groundwater samples collected from MW12 and MW13 contained concentrations of COCs in excess of the MTCA Method A Cleanup Levels for both DRO and ORO, while the groundwater sample collected from MW9 only contained concentrations of COCs in excess of the MTCA Method A Cleanup Levels for COCs in excess of the MTCA Method A Cleanup Levels for DRO. The remaining groundwater samples COCs were either below their respective laboratory PQLs or below their respective MTCA Method A Cleanup Levels. A summary of the laboratory analytical results, is provided in Table 4 in Appendix B.

3.10 Groundwater Monitoring – ECI Environmental Services, August 2018

Due to ECI's discovery of the groundwater-monitoring well MW7 having been destroyed at some point between the groundwater monitoring event on February 6 and 7, 2018 and ECI's arrival on the property on May 10, 2018, ECI decommissioned MW7 and installed a new groundwater-monitoring well (MW14) on the Property on August 3, 2018.

On August 8, 2018, ECI collected groundwater samples from nine (9) monitoring wells (MW1, MW5 and MW8 through MW14) installed on the Property. However, the groundwater within MW6 was measured

and was found to be containing LNAPL, which measured approximately one inch in thickness on top of the groundwater within the well. Due to the presence of LNAPL, a groundwater sample was not collected from MW6. The collected groundwater samples were delivered to the analytical laboratory, Friedman and Bruya, of Seattle, Washington, to be analyzed for the identified COCs of DRO and ORO.

The analytical results indicated that the groundwater samples collected from monitoring wells MW11 and MW12 contained concentrations of COCs in excess of the MTCA Method A Cleanup Levels for both DRO and ORO. The remaining groundwater samples were either below their respective laboratory PQLs or below their respective MTCA Method A Cleanup Levels for the identified COCs.

According to Friedman and Bruya, the analytical results for four monitoring wells (MW9, MW11 through MW13) were marked with the 'x' qualifier ("sample chromatographic patterns not resembling the fuel stand used for quantification."). This is likely because of high concentrations of ORO in the samples.

Because there is an overlap in the lower carbon range of ORO and the upper carbon range of DRO (C13 to C23, in the case of DRO and ORO), high concentrations of either ORO or DRO will interfere with the chromatographic patterns of the respective sample such that it does not match the DRO, or ORO standard used by the laboratory. As a result, the laboratory will estimate the sample concentrations based on the various carbons that do not overlap or are not present.

Also, the ORO analytical results for groundwater monitoring well MW12, was marked with the 've' qualifier by the laboratory due to the analyte response exceeding the valid instrument calibration range. Therefore, the reported value is considered an estimate. A summary of the laboratory analytical results, is provided in Table 4 in Appendix B.

3.11 Second Supplemental Focused Subsurface Investigation, October 2018

On October 9, 2018, ECI conducted a Second Supplemental Focused Subsurface Investigation (SFSI) at the Site. This SFSI was conducted to further evaluate the environmental quality of soil and groundwater in the vicinity of a drywell and in the area between the drywell and a former hydraulic press at the Site and to attempt to delineate the extent of contamination found.

A total of eight (8) borings (B21 through B28) were advanced in strategic locations south of a reported former heating oil UST and both east and west of the drywell previously observed at the Site. A total of seven (7) soil samples were collected from the soil to groundwater interface in the borings and two (2) additional samples were collected at shallower depths between six (6) and ten (10) feet bgs to determine

if the shallow soils contained contamination. Groundwater samples were also collected from six (6) of the borings.

The analytical results of this second SFSI indicated that there was contaminated groundwater outside of the building to the north and northeast of the former hydraulic press and east of the drywell at the Site. It is not known if this contamination is related to the hydraulic press and the drywell or from former USTs that were reportedly located to the north of the building near the current "shipping/assembly" building in the eastern portion of the Site. Table 2 in Appendix B summarizes the analytical results of soil samples collected. Table 3 in Appendix B summarizes the analytical results of groundwater samples collected.

The second SFSI report recommended that additional investigation be conducted in the area near the borings, that additional groundwater monitoring wells be installed to monitor the groundwater in the area, and that the drywell and the contaminated soil surrounding it be removed.

3.12 Groundwater Monitoring – ECI Environmental Services, November 2018

On November 21, 2018, ECI collected groundwater samples from eight monitoring wells (MW1, MW5 and MW8 through MW14) installed on the Property. During this sampling event, LNAPL was found on top of the groundwater in wells MW6 and MW12. As a result, the groundwater from these two wells was not sampled. However, samples of the NAPL in the two wells were collected to determine the NAPL density to be used in calculating the water levels within the two wells corrected for the effect of the NAPL.

The analytical results of the samples analyzed revealed that the groundwater sample collected from well MW11 contained concentrations of DRO and ORO in excess of the MTCA Method A Cleanup Levels. The remaining groundwater samples were either below their respective laboratory PQLs or below their respective MTCA Method A Cleanup Levels for the identified COCs. A summary of the laboratory analytical results, is provided in Table 4 in Appendix B.

ECI recommended that the groundwater continued to be monitored on a quarterly basis and that the free product in groundwater monitoring wells MW6 and MW12 be addressed after characterization of the soil and groundwater contamination observed in the October 2018 Second SFSI and when the contaminated soil in, and adjacent to, the drywell north of the building was addressed.

3.13 Third Supplemental Focused Subsurface Investigation - ECI Environmental Services, December 2018

On December 28, 2018, ECI conducted a Third Supplemental Focused Subsurface Investigation (SFSI) at the Site and oversaw the advancement of six additional soil borings at borings at the Site (B29 through

B34) The borings were advanced in strategic locations, in an attempt to further delineate the extent of the previously identified contaminant plume. They were located to the west, southwest, and northwest of the "Assembly Building" where a reportedly decommissioned former diesel UST and annealing shed area were reportedly located.

At total of six soil and six groundwater samples were collected from the boring for chemical analysis. The samples were analyzed for DRO and ORO by Method NWTPH-Dx. The analytical results for the soil samples collected and analyzed revealed that both DRO and ORO was not present in the samples above the laboratory PQLs.

The results of the groundwater samples revealed that:

- DRO was present above the laboratory PQLs in five of the six samples, with three of those five samples having results above the MTCA Method A Cleanup Level (borings B32, B33, and B34). DRO was not reported above the laboratory PQLs in the sample from boring B29.
- ORO was discovered in three (3) of the six (6) borings at levels below the MTCA Method A Cleanup Level (borings B32, B33, and B34). ORO was not reported above the laboratory reporting limit in the samples from borings B29, B30 and B31.

The locations of the borings are shown in Figure 3, Appendix A. The soil analytical results are summarized in Table 2, Appendix B. Table 3 in Appendix B summarizes the analytical results of groundwater samples collected.

Based on the results of the results of the Third Supplemental Focused Subsurface Investigation, it was ECI's opinion that the DRO observed during the investigation was not related to the releases from the hydraulic press vault and was a result of releases in the vicinity of the former USTs. However, the DRO may have co-mingled with the ORO from the hydraulic press vault.

3.14 Groundwater Monitoring Well and Sump Installation, February/March 2019

During discussions with Markey Machine, it was decided to install three additional groundwater monitoring wells at the Site and to dewater portions of the Site in an attempt to draw the residual contamination toward the dewatering locations for removal and disposal. On February 21, 2019, ECI excavated the drywell north of the fabrication building and installed a second recovery sump (sump 2). The drywell was excavated as much as possible without jeopardizing the integrity of the adjacent structure and Sump 2 was installed within the drywell excavation.

On March 5, 2019, ECI installed three additional monitoring wells at the Site (MW15 through MW17). The wells were located along the eastern boundary of the Property (MW15), west of well MW1 along the southern boundary of the Property (MW16), and west of MW5 north of the fabrication building (MW17).

3.15 Groundwater Monitoring – ECI Environmental Services, March 2019

On March 14, 2019, ECI collected groundwater samples from nine monitoring wells (MW1, MW5, MW8, MW9, MW11, MW13, and MW15 through MW17) installed on the Property. However, the groundwater within MW6 and MW12 was measured and was found to be containing LNAPL. Due to the presence of LNAPL, groundwater samples were not collected from MW6 and MW12.

The analytical results reported concentrations of DRO and/or ORO below their respective MTCA Method A Cleanup Levels for all nine groundwater monitoring wells accessed during this monitoring event (MW1, MW5, MW8, MW9, MW11, MW13, and MW14 through MW17). Field screening indicated the existence of LNAPL on top of the groundwater column within wells MW6 and MW12. A summary of the laboratory analytical results, is provided in Table 4 in Appendix B.

ECI recommended that the groundwater continue to be monitored on a quarterly basis. In addition, the free product in groundwater monitoring wells MW6 and MW12 and the sumps should be periodically evacuated.

3.16 Groundwater Monitoring – ECI Environmental Services, June 2019

On June 26, 2019, ECI collected groundwater samples from nine monitoring wells (MW1, MW5, MW8, MW9, MW11, MW13, and MW15 through MW17) installed on the Property. However, the groundwater within MW6 and MW12 was measured and was found to be containing LNAPL. Due to the presence of LNAPL, groundwater samples were not collected from MW6 and MW12.

The analytical results reported concentrations of DRO and/or ORO below their respective MTCA Method A Cleanup Levels for seven of the nine groundwater monitoring wells accessed during this monitoring event (MW1, MW5, MW8, MW11, and MW14 through MW17). The DRO and ORO for well MW9 and MW13 were added together following Ecology and laboratory guidance that Ecology recently started to follow.

The analytical results for the total DRO and ORO were above the MTCA Method A cleanup levels. Field screening indicated the existence of LNAPL on top of the groundwater column within wells MW6 and MW12. A summary of the laboratory analytical results, is provided in Table 4 in Appendix B.

ECI recommended that the groundwater continue to be monitored on a quarterly basis. In addition, the free product in groundwater monitoring wells MW6 and MW12 and the sumps should be periodically evacuated.

3.17 Groundwater Monitoring – ECI Environmental Services, October 2019

On October 1, 2019, ECI collected groundwater samples from eleven monitoring wells (MW1, MW5, MW6, MW8, MW9, MW11 through MW 13, MW15 through MW17) and two sumps installed on the Property.

The analytical results for the collected groundwater samples from MW6, MW12, Sump 1 and Sump 2, were reported above their respective MTCA Method A Cleanup Levels for DRO and ORO. However, field screening reported the absence of detectable LNAPL on top of the water column within the respective wells. A summary of the laboratory analytical results, is provided in Table 4 in Appendix B.

ECI recommended that the groundwater continue to be monitored on a quarterly basis. In addition, the groundwater in monitoring well MW6 and MW12 and the sumps should be periodically evacuated for possible free product.

3.18 Groundwater Monitoring – ECI Environmental Services, December 2019

On December 19, 2019, ECI collected groundwater samples from ten monitoring wells (MW1, MW5, MW8, MW9, MW11 through MW13, and MW15 through MW17) and one sump (Sump1) installed on the Property.

The analytical results for the groundwater samples from MW11 (total DRO and ORO), MW12 (total DRO and ORO), MW13 (total DRO and ORO) and Sump 1, were reported above their respective MTCA Method A Cleanup Levels for DRO and ORO. Field screening additionally showed free product within MW6, and Sump 2. It should be noted that the results for wells MW 11 and MW 13 were reported as being below the MTCA Method A cleanup levels for the individual DRO and ORO results. A summary of the laboratory analytical results, is provided in Table 4 in Appendix B.

As requested by Ecology, the DRO and ORO results were added together following Ecology and laboratory guidance.

ECI recommended that the groundwater continue to be monitored on a quarterly basis. In addition, the groundwater in monitoring well MW6 and MW12 and the sumps should be periodically evacuated for possible free product.

3.19 Groundwater Monitoring – ECI Environmental Services, April 2020

On April 9, 2020, ECI collected groundwater samples from five monitoring wells (MW1, MW5, MW11, MW12, and MW13) and one sump (Sump 1) installed on the Property.

The analytical results for the groundwater samples from MW12 and Sump 1, were reported above their respective MTCA Method A Cleanup Levels for DRO and ORO. Field screening additionally showed free product within MW6, and Sump 2. A summary of the laboratory analytical results, is provided in Table 4 in Appendix B.

ECI recommended that additional options regarding product recovery should be explored, such as the installation of an automated product recovery system. In addition, groundwater should continue to be monitored on a quarterly basis to monitor the effectiveness of the product recovery and to ensure that LNAPL migration does not occur.

3.20 Groundwater Dewatering – ECI Environmental Services – February 2019 to May 2020

From February 2019 to May 2020, ECI performed eight dewatering events on the Subject Property. The purpose of the dewatering was to draw the residual contamination remaining in the groundwater toward Wells MW6 and MW12 and the dewatering sumps where it could be removed for off-site treatment and disposal. During the dewatering events, ECI personnel evacuated the groundwater in Sumps 1 and 2 until each sump was considered "purged dry" and groundwater was unable to be extracted from the sump due to the lack of volume within the sump. During certain events, MW6 and MW12 were also dewatered.

As of the June 11, 2020, sampling event, a total of approximately 2,205 gallons of contaminated water had been removed from the property via dewatering methods.

3.21 Groundwater Monitoring – ECI Environmental Services, June 2020

On June 11, 2020, the tenth post-remedial excavation groundwater samples were collected from four groundwater monitoring wells (MW5, and MW11 through MW13) and two recovery wells (Sump 1 and Sump 2) installed at the Site. The samples were collected to evaluate groundwater quality and the effectiveness of the remedial activities previously undertaken at the Site.

Monitoring well MW1 was inaccessible at the time of sampling and not able to be sampled. Additionally, wells MW10 and MW14 were not sampled due to samples from the wells upgradient from these two wells were previously reported as not containing the COCs above the laboratory PQLs. Wells MW8, MW9, and MW15 through MW17 were also not sampled due to samples from these wells have consistently shown concentrations of DRO and ORO below the MTCA Method A Cleanup level.

The groundwater within monitoring well MW6 was measured and was found to be containing LNAPL. Due to the presence of LNAPL, groundwater samples were not collected from MW6. Monitoring well MW6 is in the source area associated with a former drywell at the Site.

The analytical results for the collected groundwater samples from Wells MW11 (total DRO and ORO) and MW12 along with the samples from the recovery wells Sump 1 and Sump 2 were reported above their respective MTCA Method A Cleanup Levels for DRO and ORO. However, the concentrations for Sump 1 reported had decreased significantly since the April 2020 sampling event.

The analytical results for the collected groundwater samples from MW5, and MW13 were below their respective laboratory PQLs for the identified primary COCs. A summary of the laboratory analytical results, is provided in Table 4 in Appendix B.

Based on the analytical results from the groundwater sampling, it appeared that the product recovery events were assisting in the remediation of the contaminants in the groundwater. However, product recovery events have diminishing return as the concentration of the LNAPL diminishes. Therefore, ECI recommended that additional options regarding product recovery be explored, such as the installation of an automated product recovery system. ECI also recommended that the groundwater continued to be monitored on a quarterly basis to monitor the effectiveness of the product recovery and to ensure that LNAPL migration was not occurring.

3.22 Automated Groundwater Recovery System – ECI Environmental Services – February 2021 to December 2021

From February 2021 to December 2021, ECI installed and oversaw the operation of an automated groundwater recovery system on the Subject Property. The purpose of the dewatering was to draw contamination in the groundwater toward Sump 2 where it could be removed to an onsite weir tank and then discharged into the sanitary sewer. In September of 2021, groundwater monitoring well MW6 was decommissioned, and Sump 3 was installed in its place. The recovery system was redesigned to purge water from Sump 3 due to the levels of NAPL detected on top of the water column.

During the operation, the removed water was pumped into one end of a weir tank and allowed to settle with absorbent pads placed in strategic areas to remove floating hydrocarbons prior to being discharged from the opposite end into the sanitary sewer under a discharge permit issued by the King County Industrial Waste Program. As required by the permit, the discharged groundwater was assessed twice a month during its operational period for fats, oil, and grease (FOG) in addition to meeting King County

Wastewater Treatment Division discharge limitations for pH, settleable solids, benzene, toluene, ethylbenzene, and xylenes.

During its operation, the recovery system evacuated 41,810 gallons of groundwater from Sump 2 and an additional 12,880 gallons from Sump 3. A total of 54,690 gallons of groundwater from both sumps was removed and discharged into the sanitary sewer.

At the conclusion of the operation of the recovery system, groundwater was measured on the Site and detectable amounts of NAPL were not identified on the water column.

3.23 Groundwater Monitoring – ECI Environmental Services, February/ March 2022

Groundwater samples were collected from nine monitoring wells (MW1, MW5, MW8, MW9, MW11 through 13, MW16, and MW17) and three recovery wells (Sump 1, Sump 2, and Sump 3) on February 16, 2022, and March 1, 2022.

Monitoring wells MW1 and MW8 were sampled separately on March 1, 2022, because they were inaccessible on February 16, 2022. Additionally, wells MW10 and MW14 were not sampled due to samples from the wells upgradient from these two wells were previously reported as not containing the COCs above the laboratory PQLs. Well, MW15 was accessed to measure the groundwater level but was not sampled due to samples from this well having shown concentrations of DRO and ORO below the MTCA Method A Cleanup level.

The analytical results for the collected groundwater samples from monitoring wells MW11 and MW12 along with the sample from the recovery well Sump 2 were reported above their respective individual MTCA Method A Cleanup Levels for DRO and ORO. However, while the individual concentration of DRO and ORO were below the MTCA Method A Cleanup Levels, the total sum of DRO and ORO were above the Method A Cleanup Levels in the samples from Sumps 1 and 3.

The analytical results for the collected groundwater samples from monitoring wells MW1, MW5, MW8, MW9, MW13, and MW17 were all below their respective laboratory PQLs for the identified COCs. Additionally, monitoring well MW16 reported concentrations of ORO above its respective laboratory PQL but below the MTCA Method A Cleanup level. LNAPL was not reported observed in any of the wells. A summary of the laboratory analytical results is provided in Table 4 in Appendix B.

According to Friedman and Bruya, the analytical results for the monitoring wells MW11 & MW12, and recovery wells Sump 1, Sump 2, and Sump 3, were marked with the 'x' qualifier ("sample chromatographic

patterns not resembling the fuel stand used for quantification"). This is likely because of high concentrations of ORO in the samples or that the DRO and ORO are weathered.

Based on the analytical results, ECI recommended that groundwater continue to be monitored on a quarterly basis for a minimum of another three quarters to monitor the effectiveness of the Recovery System. Following that, ECI would submit our findings to Ecology for review and an opinion on the work performed.

3.24 Groundwater Monitoring – ECI Environmental Services, June 2022

On May 17, 2022, the second post-recovery system groundwater samples were collected from nine (9) groundwater monitoring wells and three (3) recovery wells (Sump 1, Sump 2, and Sump 3) installed at the Site. The samples were collected to evaluate groundwater quality and the effectiveness of the remedial activities previously undertaken at the Site including the automated groundwater recovery system which operated from February of 2021 through December of 2021 discharging a total of 54,690 gallons into the sanitary sewer from Sump 2 and Sump 3 which was installed in the former location of MW6.

The groundwater levels on the Site were measured and LNAPL was not observed in the wells or sumps at the time of measurement.

The analytical results for the collected groundwater samples from monitoring wells MW11 and MW12 along with the sample from the recovery well Sump 2 were reported above their respective individual MTCA Method A Cleanup Levels for DRO and ORO.

The analytical results for the samples from wells MW1, MW8, and MW16 were reported as being above the laboratory PQL but significantly below the MTCA Method A Cleanup Level for DRO. The analytical results for the samples from wells MW5, MW9, MW13, and MW17 were reported as being below the laboratory PQLs for DRO and ORO. A summary of the laboratory analytical results, is provided in Table 4 in Appendix B.

Based on the results of the May 17, 2022, groundwater monitoring event, ECI recommended that groundwater continue to be monitored on a quarterly basis for a minimum of another two quarters to monitor the effectiveness of the remedial activities at the Site. ECI recommended that following additional groundwater monitoring that the findings at the Site be submitted to Ecology for review and an opinion on the work performed with the goal of obtaining an issuance of a "No Further Action" (NFA) determination with an Environmental Covenant.

3.25 Groundwater Monitoring – ECI Environmental Services, September 2022

On September 12 & 24, 2022, groundwater samples were collected from twelve (12) groundwater monitoring wells and three (3) recovery wells (Sump 1, Sump 2, and Sump 3) installed at the Site. The samples were collected to evaluate groundwater quality and the effectiveness of the remedial activities previously undertaken at the Site including the automated groundwater recovery system which operated from February of 2021 through December of 2021 discharging a total of 54,690 gallons into the sanitary sewer from Sump 2 and Sump 3 which was installed in the former location of MW6.

The groundwater levels on the Site were measured and LNAPL was not observed in the wells or sumps at the time of measurement.

The analytical results for the collected groundwater samples from recovery wells Sump 1 and Sump 2 were reported above their respective individual MTCA Method A Cleanup Levels for DRO and ORO. Additionally, DRO was detected above its MTCA Method A Cleanup Level in monitoring well MW11, as well as ORO being detected above its MTCA Method A Cleanup Levels in monitoring well MW12, and recovery well Sump 3. The analytical results for the remaining monitoring wells were reported as being below their respective MTCA Method A Cleanup Levels or below their respective laboratory PQLs. A summary of the laboratory analytical results, is provided in Table 4 in Appendix B.

Based on the results of the September 12 and 24, 2022, groundwater monitoring event, ECI recommended that the groundwater continue to be monitored on a quarterly basis for a minimum of one additional quarter to monitor the effectiveness of the remedial activities at the Site. Following that, ECI would submit the findings to Ecology for review and an opinion on the work performed with the goal of obtaining an issuance of a "No Further Action" (NFA) determination with an Environmental Covenant.

3.26 Groundwater Monitoring – ECI Environmental Services, December 2022

On December 6, 2022 and December 10, 2022, groundwater samples were collected from twelve (12) groundwater monitoring wells and three (3) recovery wells (Sump 1, Sump 2, and Sump 3) installed at the Site. The samples were collected to evaluate groundwater quality and the effectiveness of the remedial activities previously undertaken at the Site including the automated groundwater recovery system which operated from February of 2021 through December of 2021 discharging a total of 54,690 gallons into the sanitary sewer from Sump 2 and Sump 3 which was installed in the former location of MW6.

Well MW8 was sampled separately on December 10 2022, due to being inaccessible by supplies of one of the Subject Properties occupants during the December 6, 2022, sampling event.

Environmental Covenant Groundwater Monitoring Plan 7266 8th Avenue South Seattle, WA 98108

March 1, 2024

The analytical results for the collected groundwater samples were below their respective MTCA Method A Cleanup Levels for DRO and ORO, with the exception of samples collected from monitoring well MW12 and recovery wells, Sumps 1 and 2. MW12, Sump 1, and Sump 2 were reported as having analytical results above Cleanup Levels for both DRO and ORO. A summary of the laboratory analytical results, is provided in Table 4 in Appendix B.

In preparing the report for the December 2022 sampling event, ECI responded to each of Ecology's concerns presented in a January 8, 2019 Further Action Letter. Many of the concerns identified by Ecology were addressed during investigations and Interim remedial actions that took place after the submittal of ECI's January 22, 2018 Interim Cleanup Action Report which was the basis for Ecology's comments in their letter. It was ECI's opinion that Ecology's concerns had been addressed or would be addressed in an environmental covenant for the Site. ECI recommended that ECI's findings be submitted to Ecology for review and an opinion on the work performed with the goal of obtaining an issuance of a "No Further Action (NFA)-Likely" determination pending the submittal of an environmental covenant.

4.0 PHYSICAL SETTING

The Site is located in Duwamish Valley of the Puget Lowland geologic region. The Puget Sound Lowland is an elongated topographic and structural depression filled with complex sequences of glacial and nonglacial sediments that overlie bedrock. Continental ice sheets up to 3,000 feet thick covered portions of the Puget Lowland several times during the Quaternary period. Retreating ice carved new landscapes, rechanneled rivers, drained or formed lakes, and deposited glacial drift including till and outwash (WA DNR, 2002).

The Duwamish Valley is located between Beacon Hill in Seattle and the north end of the Des Moines Drift Plain. According to the Washington State Department of Natural Resources (DNR) Geologic Portal the area is mapped as Quaternary Alluvium which includes unconsolidated or semi-consolidated alluvial clay, silt, sand, gravel, and (or) cobble deposits, peat, modified land, and artificial fill.

4.1 Regional Hydrogeology

The primary aquifers in the Puget Sound region are typically in glacial sands and gravels overlain by relatively impermeable glacial till deposits that are present at or near the ground surface. Within these till deposits are localized areas or lenses of water-bearing sands and gravels that may result in a shallow, perched water table.

Lateral and vertical migration of shallow groundwater may be impeded by the relatively impermeable nature of the till and by the sometimes-discontinuous nature of the perched water-bearing sands and gravel. In some areas the hydrogeology is controlled by large gravel deposits that are the result of advance and recessional glacial outwash or non-glacial alluvium deposited by rivers in the region.

Perched and discontinuous zones of shallow groundwater may be seasonally or perennially present, depending on site-specific conditions. Shallow groundwater flow directions fluctuate and tend to follow topographic gradient but are also affected by seasonal high-water tables and variable soil characteristics.

4.2 Site Geology

The soil on the Property was generally characterized by Environmental Associates, Inc. (EAI) during a 2003 Phase II Environmental Site Assessment as silty sand fill underlain by native silty sand and non-plastic silt to a maximum depth of twelve (12) feet below ground surface (bgs). ECI encountered similar soil types during its investigations at the Site and observed the primary classifications as fine to medium grained sand to a depth of approximately eight (8) to ten (10) feet, underlain by silt with some fine-grained sand and organics to a maximum depth of 16 feet bgs. It is believed that the sands above the silts are fill material and that the silt is the native material in the area.

4.3 Site Hydrogeology

According to Washington State Department of Ecology (Ecology) well logs, and observations during this groundwater sampling event at the Property, shallow groundwater in the vicinity of the Subject Property is located at approximately four (4) to eleven (11) feet bgs with a groundwater flow direction to the south and southwest toward the Duwamish Waterway and Slip Number 4 of the Waterway.

5.0 GROUNDWATER MONITORING PROGRAM

The groundwater monitoring program in this plan will be implemented at the Site beginning the first quarter after the final recording of the Environmental Covenant with King County and will include:

- Inspection of each of the wells for damage since the previous sampling event and repair or replacement of the wells as needed. Following the initial sampling event, the wells will be inspected every 18 months;
- Sampling the wells, the first quarter after the recording of the Environmental Covenant with King County and then every 18 months thereafter.
- Report the results of the groundwater sampling to Ecology within 30 to 60 days of receipt of the analytical data from the sampling event. This report will include:

- The analytical results for the contaminants of concern compared to the previous results and to the MTCA Cleanup Levels,
- Groundwater contour maps showing groundwater flow direction and any changes to the flow direction,
- > Document any repairs made to the groundwater monitoring wells, and
- Any recommendation for changes to the monitoring program well repair or redevelopment, if needed.

The monitoring program will use the existing wells installed on the site (Figure 4, Appendix A). The wells are:

- **MW1:** Installed to the southwest downgradient of the known contaminated source area.
- **MW5:** Installed to the north upgradient of the known contaminated source area.
- **MW8:** Installed to the west-southwest cross-gradient and periodically downgradient of the known contaminated source area.
- **MW9:** Installed to the east cross-gradient of the known contaminated source area.
- **MW11:** Installed to the southwest downgradient of the known contaminated source area.
- **MW13:** Installed to the southeast down- and cross-gradient of the known contaminated source area.
- **MW15:** Installed to the east upgradient of the known contaminated area.
- **MW16:** Installed to the southwest cross-gradient and periodically downgradient of the known contaminated area.

5.1 Sampling and Analysis

5.1.1 <u>Contaminants of Concern and Cleanup Levels</u>

Based on the results of previous investigations the remaining contaminants of concern (COCs) at the Site are identified as DRO and ORO associated with the former heating oil underground storage tanks (USTs), a former hydraulic press, and a drywell. The cleanup levels for these COCs are presented below:

Table 1: Primary Contaminants of Concern

MTCA Method-A Cleanup Levels for Groundwater										
(MTCA Cleanup Regulation 173-340-900: Table 720-1)										
Contaminant of Concern (COCs)	Groundwater Cleanup Levels - μg/l									
Diesel Range Organics (DRO)	500									
Oil Range Organics (ORO)	500									

5.1.2 <u>Sampling Procedure and Laboratory Analysis</u>

For this Plan, eight (8) groundwater-monitoring wells will be sampled as described below. The wells are wells MW1, MW5, MW8, MW9, MW11, MW13, MW15, and MW16 as described in Section 5.0 above and shown on Figure 4 in Appendix A. The groundwater sampling will follow the general procedure as outlined by EPA for low-flow groundwater sampling. The following procedures described below are to be conducted when collecting groundwater samples:

- The cap from each monitoring well at the Site will be removed and the groundwater level allowed to equilibrate to atmospheric pressure for a minimum of 20 minutes.
- The depth to groundwater and the total depth in each monitoring well at the Site will be measured relative to the top of the well casing using an electronic water-level meter or interface probe. The total depth will be compared to previous measurements to determine if the well has "silted in" and needs to be redeveloped.
- Each monitoring well that is sampled will then be purged at a low-flow rate (100 to 300 milliliters per minute) using a peristaltic pump and dedicated polyethylene tubing. Field parameters of temperature, pH, turbidity, dissolved oxygen (DO) and specific conductivity will be monitored during purging using a water quality meter and a flow-through cell to determine when these parameters stabilize. These parameters will be documented on a "Monitoring Well Sampling Log". A sample of a typical "Monitoring Well Sampling Log" is presented in Appendix C. In addition, the oxidation-reduction potential (ORP) may be measured if the field instrument is capable of measuring ORP.
- Samples will be collected in new laboratory-provided analyte-specific sample containers and assigned a unique sample ID. The samples will be placed in a climate-controlled container and maintained at or below 4° Celsius until they were delivered to an Ecology-accredited laboratory under industry standard chain of custody protocols.

5.1.3 <u>Frequency of Sampling</u>

After an initial sampling event, samples are to be collected every 6 months for the first three (3) years and every 12-months afterwards until the Ecology reviews the Site in their required five-year review of sites with Environmental Covenants. At that time, the need for continued sampling will be reevaluated.

5.1.4 <u>Contingency Plan</u>

Historical groundwater monitoring has shown that the contaminants of concern have not been detected above the MTCA Method A Cleanup Levels in the groundwater off the Property at the Site. In the event that a monitoring event shows contamination present above the MTCA Method A Cleanup Levels or increasing in one or more of the monitoring wells along the southern downgradient Property boundary, the well or wells that had the contaminants detected above the cleanup levels or increasing in concentration will be resampled as soon a feasible within 30 days to determine if the contaminant was actually present above the cleanup levels or if there may be another reason for the detection.

If it is determined that the concentration found was an error or a one-time anomaly, the monitoring frequency in the well/wells will remain at the pre-described interval and a report will be submitted within 90 days of receipt of the analytical results. If the concentrations of contaminants are shown not to be in error or a one-time anomaly after resampling, then

- The results will be reported to and discussed with Ecology within 30 days of receipt of the analytical results,
- The monitoring frequency may be temporarily increased following Ecology's determination, and
- An investigation into the cause of the detections will be initiated.

If the concentration of the contaminants detected decreases, the contaminants are no longer detected above cleanup levels, or detected but the concentrations are not increasing, then the monitoring frequency will return to the pre-described interval. If the contaminants are still detected above cleanup levels and/or are increasing then additional investigation, additional monitoring wells, and/or additional remedial actions may be needed and will be discussed with Ecology.

5.1.5 <u>Reporting</u>

As mentioned above, the results of the groundwater sampling event will be documented in a written report for submittal to the owner of the Site and to Ecology. The groundwater monitoring reports will be prepared in accordance with Ecology reporting requirements (WAC 173-340-840) and submitted to the client and Ecology within 30 days of receipt of final laboratory analytical results. The reports will provide a description of sampling methodologies and activities, analytical data, and analytical laboratory data

reports with chains of custody, field measurements of groundwater quality parameters and groundwater levels, and a comparison of analytical results to MTCA cleanup levels.

As required by WAC 173-340-840(5) and Ecology Policy 840: "*Data Submittal Requirements*" the analytical data from the groundwater monitoring program will be entered into the Ecology Environmental Information Management System (EIM) prior to submittal of the groundwater monitoring reports to Ecology. Deviations from this GWMP, if applicable, will be described and discussed.

6.0 SCHEDULE

Groundwater monitoring activities as defined in this GWMP will commence no later than the end of the first quarter following recording or the Environmental Covenant with King County and then every 6 months thereafter until three (3) years has passed and the sampling interval is reduced to every 12-months unless contamination concentrations increase whereby the sampling interval will change as described above in the Contingency Plan section of this plan. This GWMP is an attachment to the Environmental Covent being recorded with King County and will remain in effect until the covenant is modified or terminated.

7.0 SUMMARY

Groundwater monitoring at the Site has shown that groundwater contaminated with diesels- and oil range hydrocarbons above the MTCA Method A Cleanup Levels is located under the southern building on the Property and under a former drywell located in a paved area adjacent to the north side of the building. The monitoring has also shown that the contamination has not migrated beyond the southern downgradient Property boundary at concentrations above the MTCA Method A Cleanup Levels. As a result, an Environmental Covenant is being recorded with the King County Clerk. That Covenant specifies that groundwater monitoring be performed to confirm that the contamination has not and will not migrate beyond the Property boundary.

The Groundwater Monitoring Plan described in this document is an attachment to that Environmental Covenant and describes that groundwater will be sampled upon recording of the Environmental Covenant and then follow the sampling interval as outlined in Section 5.1.3 as long as the Environmental Covenant is in place unless otherwise modified.

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> Appendix C: Field Forms Typical Monitoring Well Sampling Log



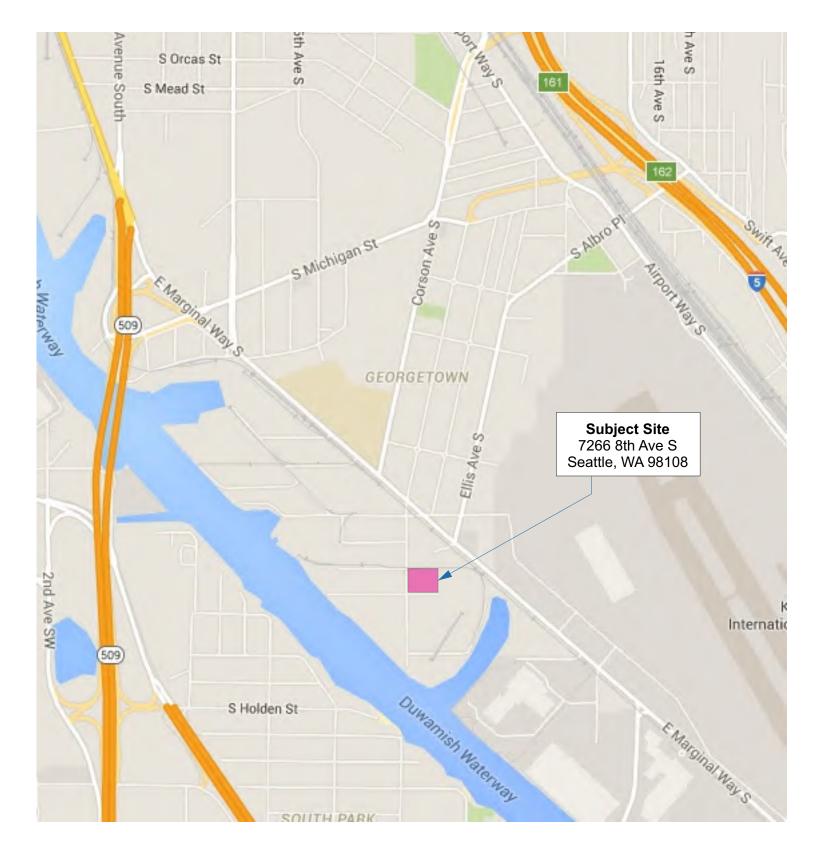
Appendix A

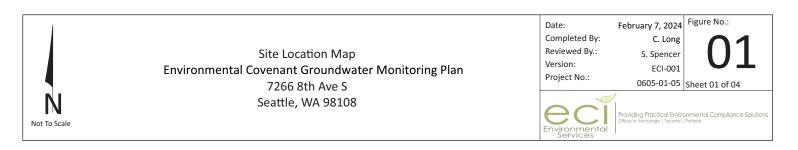
Appendix A: Project Figures

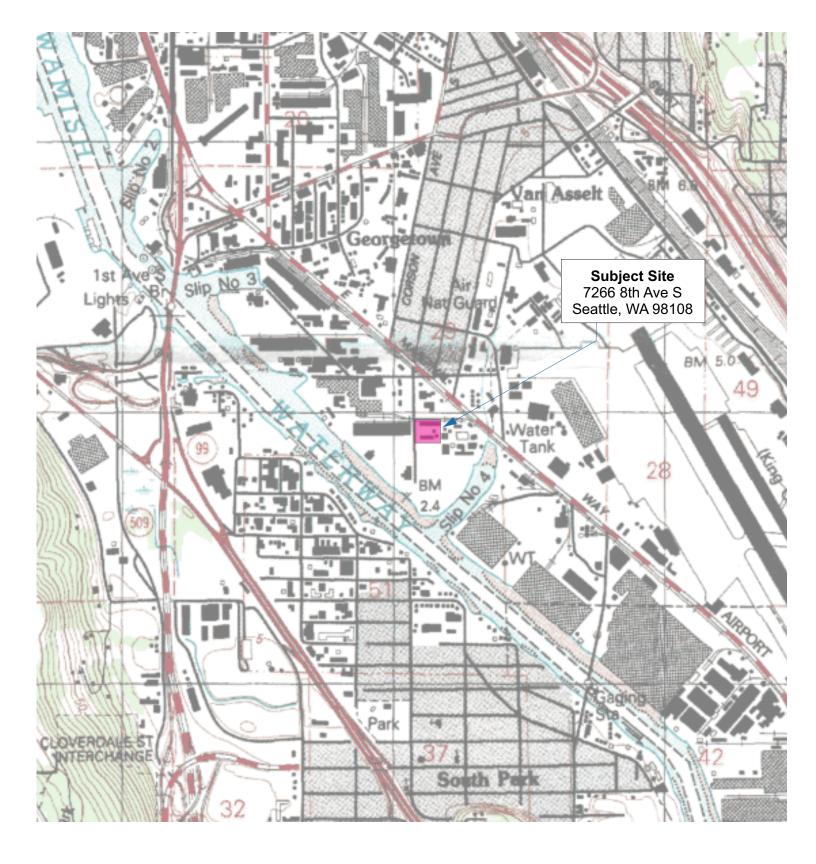
Figure 1 – Site Location Map Figure 2 – Site Topographic Map Figure 3 – Historical Soil Boring Locations Map Figure 4 – Groundwater Monitoring Well Locations Map

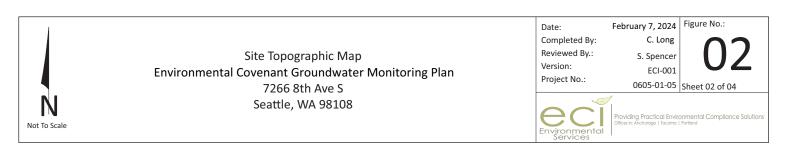
viding Practical Environmental Compliance Solutions

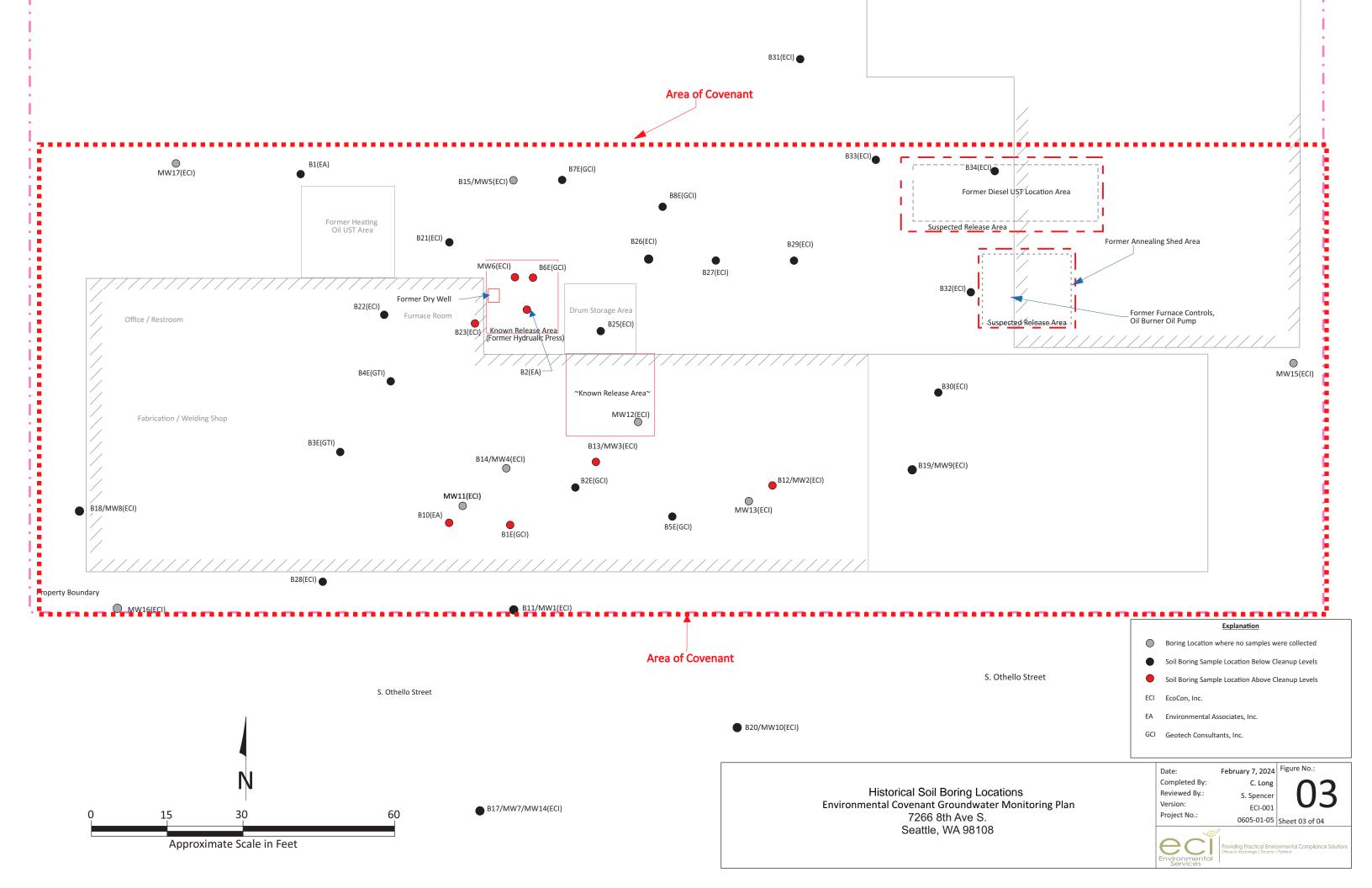


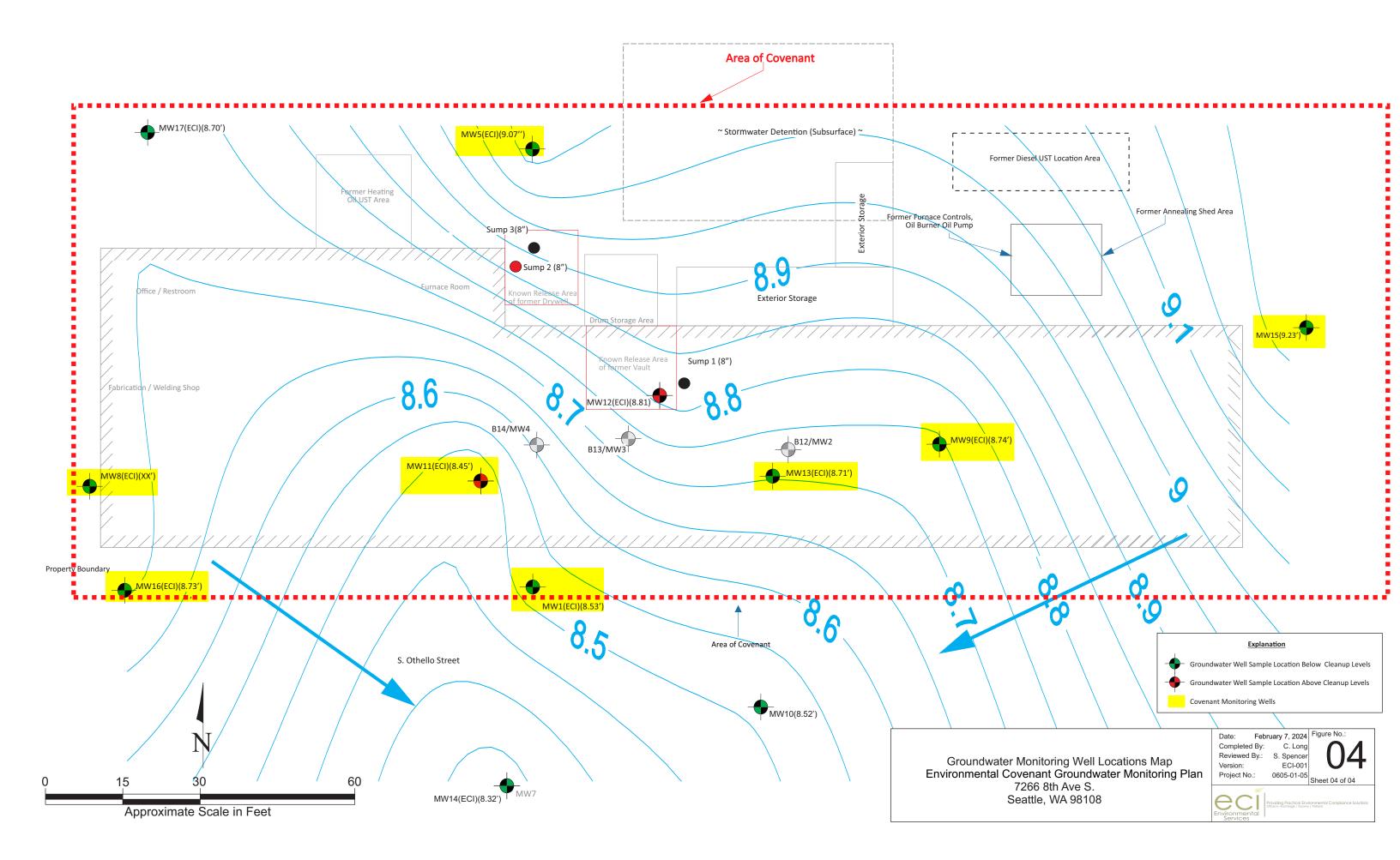












Appendix B

Appendix B: Project Tables

Table 2 – Summary of Investigation Soil Analytical Results Table 3 – Summary of Investigation Groundwater Analytical Results Table 4 – Summary of Monitoring Well Analytical Results Table 5 – Summary of Soil Excavation Analytical Results





	Sample Depth			U.S	Total DRO and	Is total DRO,	Arsenic	Cadmium	Chromium	Lood	Moroury				PAHs (EPA 8270D SIM	l) (mg/kg)			cPAHs TEQ	
Sample ID	(ft)	Date Sampled	Diesel ² (mg/kg)	Heavy Oil ² (mg/kg)	ORO	ORO, or O or both	(mg/kg)	(mg/kg)	(mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Benzo (a) anthracene	Chrysene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (k) fluoranthene	Indeno (1,2,3- cd) pyrene	Dibenz (a,h) anthracene	as Benzo (a) Pyrene	PCBs
		<u> </u>													GeoTech Consu	Itants Limited Phase	II ESA			<u> </u>
B1E S1	4.5 - 5'	2/5/2010	15,000	<100	15,000	D														
B1E S1 -Dup	4.5 - 5'	2/5/2010	19,000	<100	19,000	D														
B1E S2	8 - 8.5'	2/5/2010	20,000	<100	20,000	D														
B1E S3	10.5 - 11'	2/5/2010	<50	<100																
B2E S1	6 - 6.5'	2/5/2010	<50	<100																
B2E S2	10.5 - 11'	2/5/2010	<50	<100																
B3E S1	9.5 - 10'	2/5/2010	<50	<100																
B3ES2	11.5 - 12'	2/5/2010	<50	<100																
B4E S1	7.5 - 8'	2/5/2010	<50	<100																
B4E S2	9.5 - 10'	2/5/2010	<50	<100																
B5E S1	7.5 - 8'	2/5/2010	<50	<100																
B5E S2	9 - 9.5'	2/5/2010	<50	<100																
B6E S1	6 - 6.5'	2/5/2010	<50	6,200	6,200	0														
B6E S2	9 - 9.5'	2/5/2010	<50	8,700	8,700	0														
B6E S3	11.5 - 12'	2/5/2010	<50	<100																
B7E S1	5.5 - 6'	2/5/2010	<50	<100																
B7E S2	9 - 9.5'	2/5/2010	<50	<100																
B8E S1	6.5 - 7'	2/5/2010	<50	<100																
B8E S1-Dup	6.5 - 7'	2/5/2010	<50	<100																
B8E S2	11.5 - 12'	2/5/2010	<50	<100																
B8E S3	11.5 - 12'	2/5/2010	<50	<100																
-	1	1			1			1	T		ESI FSI		T		r				1	
B11-09	9	4/13/2016	<50	<250																
B11-14	14	4/13/2016														-				
B12-8	8	4/13/2016	980x	8,400	8,400	0	3.23	<1	8.38	2.96	<1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
B12-12	12	4/13/2016																		
B13-08	8	4/13/2016	4,400	790x	4,400	D														
B13-12	12	4/13/2016																		
B16-08	8	4/13/2016	2,700	8,800	11,500	В	1.71	<1	5.49	1.63	<1	0.013 J	0.034 J	<0.01 J	<0.01 J	<0.01 J	<0.01 J	<0.01 J	0.00164	<0.02
B16-12	12	4/13/2016																		
									•		ECI SFSI				•					<u>.</u>
B17-8	8	7/1/2016	<50	<250																
B17-12	12	7/1/2016																		
B18-8	8	7/1/2016	<50	<250																
B18-12	12	7/1/2016																		
B19-8	8	7/1/2016	<50	<250																
B19-12	12	7/1/2016																		
B20-8	8	7/1/2016	<50	<250																
B20-12	12	7/1/2016																		
										ECI	Second SFSI									

Table 2: Summary of Investigation Soil Analytical Results

Markey Machinery

7266 8th Avenue South Seattle, Washington 98188



	Sample Depth		Diesel ²	Heavy Oil ²	Total DRO and	Is total DRO,	Arsenic	Cadmium	Chromium	Lead	Mercury				PAHs (EPA 8270D SIM) (mg/kg)			cPAHs TEQ	
Sample ID	(ft)	Date Sampled	(mg/kg)	(mg/kg)	ORO	ORO, or O or both	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	Benzo (a) anthracene	Chrysene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (k) fluoranthene	Indeno (1,2,3- cd) pyrene	Dibenz (a,h) anthracene	as Benzo (a) Pyrene	PCBs
B21-10	10	10/9/2018	<50	<250																
B22-6	6	10/9/2018	<50	<250																
B22-10	10	10/9/2018	<50	<250																
B23-10	10	10/9/2018	3,300	<250	3,300	D			-											
B25-10	10	10/9/2018	1,500	<250	1,500	D														
B25-12	12	10/9/2018	<50	<250					-											
B26-10	10	10/9/2018	1,700	<250	1,700	D														
B27-10	10	10/9/2018	160	<250	160	D														
B28-10	10	10/9/2018	<50	<250																
										Additi	onal Samplin	ıg								
B29-11	11	12/28/2018	<50	<250																
B30-8.5	8.5	12/28/2018	<50	<250																
B31-10	10	12/28/2018	<50	<250																
B32-10	10	12/28/2018	<50	<250																
B33-4	4	12/28/2018	<50	<250																
B34-8	8	12/28/2018	<50	<250																
Ecology MTCA Me	thod A/ B Cleanup) Levels	2,000	2,000	2,000		20	2	19/2,000 ⁴	250	2	1.37	137	0.1	1.37	14	1.37	0.137	0.1	NE

Notes:

²Analyzed by Northwest Method NWTPH-D/Dx Extended

³Cleanup level with presence of benzene

⁴Cleanup level for hexavalent chromium/ Cleanup level for total Chromium Values

mg/kg = Milligrams per kilogram

MTCA = Model Toxics Control Act

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

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation. (**The diesel reported is overlap from the heavey oil range**) < = not detected above laboratory detection limits

NE = Ecology has not designated a MTCA cleanup level for this constituent

Bold indicates a detected concentration that is below Ecology MTCA Method A Cleanup Levels

Bold Red indicates the detected concentration exceeds Ecology MTCA Method A Cleanup Levels

Table 2: Summary of Investigation Soil Analytical Results

Markey Machinery

7266 8th Avenue South Seattle, Washington 98188

Table 3: Summary of Investigation Groundwater Analytical Results



Practical Environmental Compliance Solutions

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Markey Machinery

7266 8th Avenue South Seattle, Washington 98108

Sample ID	Date Sampled	Diesel ² (µg/l)	Heavy Oil ² (µg/l)	Select Volatile Organic Constituents (mg/kg) Benzene
		Environmental Asso		
B1 H ₂ O	Jan-03	ND	ND	ND
B2 H ₂ O	Jan-03	2,500	ND	ND
B10 H ₂ O	Jan-03	21,000	ND	ND
		GeoTech Consultants		
B1E - H ₂ O	2/5/2010	<250	<500	
B2E - H ₂ O	2/5/2010	560	<500	
B3E - H ₂ O	2/5/2010	<250	<500	
B4E - H ₂ O	2/5/2010	<250	<500	
B5E - H ₂ O	2/5/2010	<250	<500	
B6E - H ₂ O	2/5/2010	<250	2,400	
В7Е - Н ₂ О	2/5/2010	<250	<500	
B8E - H ₂ O	2/5/2010	<250	<500	
		ECI Seco	nd SFSI	
B21-W	10/9/2018	410x	<250	
B22-W	10/9/2018	4,200x	1,800x	
B23-W	10/9/2018	3,100x	1,000x	
B25-W	10/9/2018	4,800x	850x	
B27-W	10/9/2018	17,000	<14,000	
B28-W	10/9/2018	230x	<350	
		Additional	Sampling	
B29-GW	12/28/2018	<50	<250	
B30-GW	12/28/2018	210x	<250	
B31-GW	12/28/2018	86x	<250	
B32-GW	12/28/2018	600x	260x	
B33-GW	12/28/2018	890x	400x	
B34-GW	12/28/2018	1100x	290x	
Ecology MTCA Met	hod A/ B Cleanup Levels	500	500	0.03

Notes:

²Analyzed by Northwest Method NWTPH-D/Dx Extended

³Cleanup level with presence of benzene

⁴Cleanup level for hexavalent chromium/ Cleanup level for total Chromium Values

mg/kg = Milligrams per kilogram

MTCA = Model Toxics Control Act

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



Markey Machinery

7266 8th Avenue South

		Diesel Range	Motor Oil Range	Total DRO and	Is total DRO,			Volatile Organic C	ompounds	
Well Number	Date Sampled	Organics (DRO)	Organics (ORO)	ORO	ORO, or both	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene
	4/18/2016	180x	1400	1,400	0					
	2/7/2018	<50	<250							
	5/10/2018	<50	<250							
	8/8/2018	<50	<250							
	11/21/2018	89x	<250	89	D					
	3/14/2019	<50	<250							
	6/26/2019	66x	<300	66	D		-			
MW1	10/1/2019	<60	<300			<0.35	<1	<1	<2	<1
	12/19/2019	<50	<250							
	4/9/2020	<50	<250				-			
	6/11/2020									
	3/1/2022	<50	<250							
	5/17/2022	90x	<250	90	D					
	9/13/2022	<50	<250							
	12/6/2022	110x	<250	110	D					
101/2	4/18/2016	130,000x	1,100,000	1,100,000	0					
MW2		·	Well destroy	ed during remedia	al excavaton 10/20	018 and repla	aced by MW1	2		
MW3	4/18/2016	24,000x	6,200x	30,200	В					
101005				Well Destroyed du	ring remedial exca	avaton 10/20	18			
	4/18/2016	550x	570	570	0					
MW4		1	Well destroy	ed during remedia	al excavaton 10/20	018 and repla	aced by MW1	1		1
	4/18/2016	<50	<250							
	2/6/2018	<50	<250							
	5/10/2018	<50	<250							
	8/8/2018	<60	<300							
	11/21/2018	84x	<250	84	D					
	3/14/2019	<50	<250							
N 414/5	6/26/2019	64x	<300	64	D					
MW5	10/1/2019	94x	<300	94	D	<0.35	<1	<1	<2	<1
	12/19/2019	170x	<250	170	D					
	4/9/2020	62x	<250	62	D					
	6/11/2020	<60	<300							
	2/16/2022	<50	<250							
	5/17/2022	<50	<250							
	9/13/2022	76x	<300	76	D					
	12/6/2022	76x	<250	76	D					



Markey Machinery

7266 8th Avenue South

		Diesel Range	Motor Oil Range	Total DRO and	Is total DRO,			Volatile Organic C	ompounds	
Well Number	Date Sampled	Organics (DRO)	Organics (ORO)	ORO	ORO, or both	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene
	4/18/2016	3,900x	2,200x	6,100	В					
	2/7/2018*									
	5/10/2018*									
	8/8/2018*									
	11/21/2018*									
MW6	3/14/2019*									
101006	6/26/2019*									
	10/1/2019	1,900	5,700	7,600	В	<0.35	<1	<1	<2	<1
	12/19/2019*									
	4/9/2020*									
	6/11/2020*									
			Well D	ecommissioned Se	ptember 2021 and	d Replaced b	y Sump 3			
	7/7/2016	<50	<250							
MW7	2/7/2018	<50	<250							
	5/10/2018			We	ll destroyed and a	bandoned 5,	/10/2018			
	7/7/2016	<50	<250							
	2/6/2018	<50	<250							
	5/10/2018	<50	<250							
	8/8/2018	<60	<300							
	11/21/2018	72x	<250	72	D					
	3/14/2019	<50	<250							
	6/26/2019	56x	<250	56	D					
MW8	10/1/2019	<50	<250			<0.35	<1	<1	<2	<1
	12/19/2019	62x	<250	62	D					
	4/9/2020									
	6/11/2020									
	3/1/2022	<50	<250							
	5/17/2022	99x	<250	99	D					
	9/23/2022	170x	<300	170	D					
	12/8/2022	54x	<250	54	D					



Markey Machinery

7266 8th Avenue South

		Diesel Range	Motor Oil Range	Total DRO and	Is total DRO,			Volatile Organic C	ompounds	
Well Number	Date Sampled	Organics (DRO)	Organics (ORO)	ORO	ORO, or both	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene
	7/7/2016	75x	<250	75	D					
	2/6/2018	150	<250	150	D					
	5/10/2018	730x	300x	1,030	В					
	8/8/2018	<60	<300							
	11/21/2018	210x	<250	210	D					
	3/14/2019	130x	<250	130	D					
	6/26/2019	270x	280x	550	В					
MW9	10/1/2019	230x	260x	490	В	<0.35	<1	<1	<2	<1
	12/19/2019	220x	270x	490	В					
	4/9/2020									
	6/11/2020									
	2/16/2022	<50	<250							
	5/17/2022	<50	<250							
	9/13/2022	<50	<250							
	12/6/2022	72x	<250	72	D					
	7/7/2016	66x	<250							
	2/7/2018	120x	370	370	0					
	5/10/2018	76x	<250	76	D					
	8/8/2018	<70	<350							
	11/21/2018	<50	<250							
	3/14/2019									
	6/26/2019									
MW10	10/1/2019									
1010010	12/19/2019									
	4/9/2020									
	6/11/2020									
	2/16/2022									
	5/17/2022									
	9/13/2022	<60	<300							
	12/6/2022	85x	<250	85	D					



Markey Machinery

7266 8th Avenue South

		Diesel Range	Motor Oil Range	Total DRO and	ls total DRO,			Volatile Organic C	ompounds	
Well Number	Date Sampled	Organics (DRO)	Organics (ORO)	ORO	ORO, or both	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene
	2/6/2018	<60	<300							
	5/10/2018	110x	<250	110	D					
	8/8/2018	3,400x	5,800	5,800	0					
	11/21/2018	580x	650x	1,230	В					
	3/14/2019	<50	<250							
	6/26/2019	330x	<350	330	D					
	10/1/2019	150x	<300	150	D	<0.35	<1	<1	<2	<1
MW11	12/19/2019	230x	280x	510	В					
	4/9/2020	<50	<250							
	6/11/2020	340x	690x	1,030	В					
	2/16/2022	1,800x	1,300x	3,100	В					
	5/17/2022	2,100x	800x	2,900	В					
	9/13/2022	1,200x	700x	1,900	В					
	12/6/2022	310x	<250	310	D					
	2/6/2018	7,100	1800x	7100	D					
	5/10/2018	4,300x	2,800x	7100	В					
	8/8/2018	260,000x	2,700,000ve	2960000	0					
	11/21/2018*									
	3/14/2019*									
	6/26/2019*									
	10/1/2019	9,000x	39,000ve	39000	В	<0.35	<1	<1	<2	<1
MW12	12/19/2019	5,600x	8,300x	13900	В					
	4/9/2020	4,200x	13,000	13000	0					
	6/11/2020	5,600x	4,600x	10200	В					
	2/16/2022	500x	1,600x	2100	В					
	5/17/2022	450x	1,100x	1550	В					
	9/13/2022	260x	8,000	8000	0					
	12/6/2022	1,000x	2,600	2600	0					



Markey Machinery

7266 8th Avenue South

		Diesel Range	Motor Oil Range	Total DRO and	ls total DRO,			Volatile Organic C	ompounds	
Well Number	Date Sampled	Organics (DRO)	Organics (ORO)	ORO	ORO, or both	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene
	2/6/2018	180	<270	180	D					
	5/10/2018	920x	500x	1,420	В					
	8/8/2018	<60	440	440	0					
	11/21/2018	85x	<300	85	D					
	3/14/2019	<50	<250							
	6/26/2019	260x	270x	530	В		-			
	10/1/2019	150x	<300	150	D	<0.35	<1	<1	<2	<1
MW13	12/19/2019	220x	300x	520	В		-			
	4/9/2020	56x	<250	56	D					
	6/11/2020	<65	<320							
	2/16/2022	<50	<250				-			
	5/17/2022	<50	<250		-		-			
	9/13/2022	<75	<380							
	12/6/2022	72x	<250	72	D					
	8/8/2018	<60	<300							
	11/21/2018	87x	<250	87	D					
	3/14/2019									
	6/26/2019									
	10/1/2019									
MW14	12/19/2019									
1111114	4/9/2020									
	6/11/2020									
	2/16/2022									
	5/17/2022									
	12/6/2022	110x	<250	110	D					



Markey Machinery

7266 8th Avenue South

		Diesel Range Organics (DRO)	Motor Oil Range Organics (ORO)	Total DRO and ORO		Volatile Organic Compounds					
Well Number	Date Sampled				Is total DRO, ORO, or both	Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene	
	3/14/2019	<50	<250								
	6/26/2019	77x	<250	77	D						
	10/1/2019	<70	<330			<0.35	<1	<1	<2	<1	
	12/19/2019	<50	<250								
	4/9/2020										
MW15	6/11/2020										
	2/16/2022										
	5/17/2022										
	9/13/2022	<60	<300								
	12/6/2022	140x	<250	140	D						
	3/14/2019	<50	<250								
	6/26/2019	120x	310x	430	D						
	10/1/2019	68x	<300	68	D	<0.35	<1	<1	<2	<1	
	12/19/2019	<50	<250								
	4/9/2020										
MW16	6/11/2020										
	2/16/2022	<50	490	490	0						
	5/17/2022	83x	<250	83	D						
	9/13/2022	100x	490	490	0						
	12/6/2022	140x	360	360	0						
	3/14/2019	170x	<250	170	D						
	6/26/2019	100x	460x	560	В						
	10/1/2019	<70	<330			<0.35	<1	<1	<2	<1	
	12/19/2019	66x	<250	66	D						
	4/9/2020										
MW17	6/11/2020										
	2/16/2022	<50	<250								
	5/17/2022	<60	<300								
	9/13/2022	67x	<300	67	D						
	12/6/2022	110x	<250	110	D						
	10/1/2019	19,000x	190,000	190,000	0	<0.35	<1	<1	<2	<1	
	12/19/2019	5,200x	5,100x	10,300	В						
	4/9/2020	13,000x	29,000	29,000	0						
	6/11/2020	6,300x	2,000	2,000	0						
Sump 1	2/16/2022	330x	420x	750	В						
	5/17/2022	210x	280x	490	В						
	9/13/2022	2,400x	6,900	6,900	0						
	12/6/2022	930x	1,800	1,800	0						
					В						



Markey Machinery

7266 8th Avenue South

Seattle, Washington 98108

Well Number		Diesel Range Organics (DRO)	Motor Oil Range Organics (ORO)	Total DRO and ORO	Is total DRO, ORO, or both	Volatile Organic Compounds					
	Date Sampled					Benzene	Toluene	Ethylbenzene	Total Xylenes	Naphthalene	
	10/1/2019	3,200x	9,100x	12,300	В	< 0.35	<1	<1	<2	<1	
	12/19/2019*										
Sump 2	4/9/2020										
	6/11/2020	15,000x	4,500x	19,500	В						
	2/16/2022	1,800x	2,800x	4,600	В						
	5/17/2022	930x	880x	1,810	В						
	9/13/2022	3,000x	10,000	10,000	0						
	12/6/2022	1,700x	2,900	2,900	0						
Sump 3	2/16/2022	230x	360x	590	В						
	5/17/2022	230x	<250	230	D						
	9/13/2022	310x	690	690	0						
	12/6/2022	170x	300	300	0						
MTCA Method A Clean Up Levels		500	500	500		5	1,000	700	1,000	160	

Notes:

(µg/l) = micrograms per liter

< Not detected above the specified laboratory reporting limit

Bold indicates a detected concentration below Ecology MTCA Method A cleanup levels

Bold indicates a detected concentration above Ecology MTCA Method A cleanup levels

* indicates that Non-Aqueous Phase Liquids were detected within the groundwater column and a groundwater sample was not collected

-- indicates the well was not sampled during this event or not analyzed for the constituent

x indicates that the laboratory has flagged the analytical value due to the sample chromatographic pattern not resembling the relevant fuel standard

ve indicates that the laboratory has flagged the analytical value due to the analyte response exceeded the valid instrument calibration range. The value is reported as an estimate.



7266 8th Avenue South Seattle, Washington 98188

		a	Seat Sample Type	tle, Washi	-					
		Depth	Diesel Extended							
Sample Number	Sample Date	Feet below ground	Performance = P	Diesel Range	Oil Range					
		surface (bgs)	Confirmation = C	(mg/kg)	(mg/kg)					
		Vault Excavation Sa	amples							
Performance Sample										
F10-7-WSW**	10/26/2017	7	Р	21,000	1,600					
F10-7-NSW*	10/26/2017	7	Р	2,100	<250					
F12-7-NSW*	10/26/2017	7	Р	12,000	38,000ve					
F12-8-B**	10/24/2017	8	Р	1,200x	9,700					
F13-7-B**	10/16/2017	7	Р	6,900	44,000ve					
G9-7-SSW**	10/31/2017	7	Р	9,900	1,100					
Confirmation Samples										
		Bottom Sampl		400						
F9-8-B	10/31/2017	8	C	130	<250					
F10-8-B	10/26/2017	8	C	<50	<250					
F11-8-B	10/26/2017	8	C	<50	<250					
F12-9-B	10/26/2017	9	C	<50	<250					
F13-10-B	10/17/2017	10	C	<50	<250					
F14-10-B	10/17/2017	10	C	<50	<250					
F15-10-B	10/17/2017	10	С	<50	<250					
G9-8-B	10/31/2017	8	C	<50	<250					
G10-8-B	10/26/2017	8	C	<50	<250					
G13-8-B	10/18/2017	8	C	<50	<250					
G14-8-B	10/18/2017	8	C	<50	<250					
G15-10-B	10/17/2017	10	С	<50	<250					
		Sidewall samp	05							
	10/16/2017			07	<250					
E12-2-WSW (SP)	10/16/2017	2	С	87	<250 <250					
F9-7-NSW F9-7-WSW	10/31/2017	7	C C	<50						
	10/31/2017	7	С	<50 <50	<250					
F11-7-NSW	10/26/2017		c		<250					
F14-7-NSW	10/20/2017	7		<50	<250					
F15-4-ESW	10/17/2017	4	C	<50	<250					
F15-8-ESW	10/17/2017	8	C	<50	<250					
F15-7-NSW	10/20/2017	7	C C	<50	<250					
G9-7-WSW	10/31/2017	7		<50	<250					
G9-7-SSW2	11/1/20017	7	C	<50	<250					
G10-7-SSW	10/26/2017	7	С	330	<250					
G10-7-WSW G11-7-SSW	10/26/2017	7	С	<50	<250					
	10/26/2017		C	<50	<250					
G12-7-SSW G13-7-SSW	10/24/2017	7	С	<50	<250					
	10/20/2017	7	С	<50	<250					
G14-7-SSW	10/20/2017	7	С	<50	<250					
G15-4-SSW	10/17/2017	4	С	<50	<250					
G15-8-SSW	10/17/2017	8	C	<50	<250					
G15-4-ESW	10/17/2017	4	C	<50	<250					
G15-8-ESW	10/17/2017	8	С	<50	<250					
Drywell Samples										
AC-2	10/17/2017	2	C	<50	<250					
DW-4-ESW	10/23/2017	4	P	3,600x	30,000					
DW-4-ESW DW-7-ESW	10/23/2017	7	P	5,200x	29,000					
D VV-7-L3VV	10/23/201/	1	r	3,2008	25,000					
Model Toxic Co	ntrol Act - Meth	od A Cleanup Level for S	ioil	2,000	2,000					
		p		_,	_,					

Appendix C

Appendix C: Field Forms

Typical Monitoring Well Sampling Log

Appendix C Field Forms

> Providing Practical Environmental Compliance Solutions Offices In: Anchorage | Tacoma | Portland





Offices In: Anchorage | Tacoma | Portland

Date:												
Project Name:				Project No.:				Well No.:				
Field Personnel:				Static Water Level:								
Water Level Measurement Method:												
Time Start P	Purge:			Tim	Time End Purge:			Sampled:				
Measuring Point Description:												
Purge Meth	od:			Purge Depth:								
Well Volume Calculation	ר (f	•	Depth to W (ft)	'ater Water Column (ft)		Multiplier for C		s ing Diameter (i ; 2inch=0.1632g/ft, (Casing Volume (gal)			
(Fill in befor purging)	re											
	Notes	:	[1	1					
		Time										
Depth to Water (ft)												
VOI	ume Purge	d (ML) H (0.1)										
Ten	nperature (
	tivity uS/cr											
Turbidity (10%)												
Dissolved Oxygen (0.3)												
ORP												
Color												
Odor/Sheen												
Comments:												
Percent Rec					Sampling (ft):	Note	(s):					
					el / Last Calibratio		/		_/			
Sampling / F	ield Equipr	ment (M	lanufacture /	Mode	el / Last Calibratio	on):	/		_/			
Sampling / F		ment (M			el / Last Calibratio	on):	/		_/			
Sample No.	Sample Contai Quantity 40 mL VOA/500 mL Am					Preservative / Field Filtered (FF)				isual Observation lear, Cloudy, Silty, Etc.)		
Total Discharge (gal):Disposal Method:Drum Designation(s)/Volume:												
WELL HEAD CONDITIONS CHECKLIST (Circle YES or NO if NO, add comments)												
Well Security Devices OK (Bollards, Christy Lid, Casing Lid and Lock): YES / NO Well Casing: YES / NO												
Inside of Well Head and Outer Casing Dry: YES / NO												
Comments:												