Appendix F

Transformer Spill Performance Based Disposal Report

1011 SW Klickitat Way, Suite 107
Seattle, WA 98134

May 30, 2024

Mr. Brett Feldhahn
PCB Coordinator
US EPA Region 10
1200 Sixth Avenue
Seattle, WA 98101
206-553-2899

Via email to:
feldhahn.brett@epa.gov
bejo461@ecy.wa.gov

Re: Former Jorgensen Forge Property, Tukwila, Washington
Transformer Spill, Performance-Based Disposal Documentation

Dear Mr. Feldhahn,

This letter has been prepared on behalf of Star Forge, LLC, to document the cleanup of a transformer spill at the former Jorgensen Forge property (Property), located at 8531 E. Marginal Way, in Tukwila, Washington. A vicinity map is included in Figure 1.

The spill and subsequent cleanup of polychlorinated biphenyls (PCBs) described in this report, including the initial spill response, agency notifications, final cleanup and confirmation sampling, and disposal of PCB remediation waste under 40 CFR § 761.61(b), was conducted prior to the recent rule changes affecting 40 CFR § 761.61(b), which went into effect on February 26, 2024.

Initial Spill Discovery

On September 16, 2020, personnel from DH Environmental discovered evidence of vandalism and theft from the Property, including damage to two large transformers in the former Powerhouse structure (apparently resulting from an attempt by thieves to scavenge metal). The damage to one of the transformers, designated TC-24, resulted in a small spill of transformer oil. Transformer TC-24 was located on the east half of the second floor of the former Powerhouse structure. The location of the former Powerhouse structure is shown in Figure 2. Additional location information is included in Attachment 1.

It was estimated that approximately 3- to 5-gallons of transformer oil were spilled from transformer TC-24. PCBs were reported in a sample of the transformer oil at a concentration of 1,400 milligrams per kilogram (mg/kg). Assuming the maximum volume of 5-gallons was released, the total mass of PCBs from the spill was 0.05 pounds.

The spill occurred indoors inside the TC-24 transformer room. Some of the transformer oil dripped down through a hatch on the second floor and onto the first floor slab directly beneath the TC-24 transformer room. No storm drains, sanitary sewers, or soil were impacted by the release. The spill only impacted the east half of the central powerhouse structure, on the first and second floors.

The second transformer, designated as TC-23, was located on the west half of the second floor of the former Powerhouse structure. Transformer TC-23 appeared to be empty and no evidence of a release was visible. Residual oil from transformer TC-23 was later sampled and PCBs were reported at a concentration of 14.3 mg/kg.

A field report documenting the original spill discovery is included in Attachment 1.

Initial Spill Response

DH Environmental personnel responded to the spill the day after discovery, on September 17, 2020. All recoverable transformer oil was removed using spill absorbent. All spent absorbent and cleanup debris were containerized in Department of Transportation (DOT) approved 55-gallon drums for offsite disposal. Plastic sheeting was laid over all surfaces that had been impacted by the transformer oil, and M_L PCB marking stickers were placed on the plastic and on all doorways leading into the rooms affected by the transformer spill. Spill absorbent was placed inside transformer TC-24 to absorb any remaining residual oil, and the drain valve was covered with an oil absorbent pad and secured in place with tape.

Post cleanup samples were collected from the concrete slabs that transformer oil had been spilled on. Concrete samples were collected from both the first and second floors by drilling into the concrete floor and collecting the cuttings into a laboratory supplied sampling jar. A wipe sample was also collected from the concrete surface on the second floor, closest to the transformer that had spilled. PCBs were reported in the concrete samples at a concentration of 200 mg/kg and 30 mg/kg, from the first and second floors, respectively. PCBs were reported in the wipe sample from the second floor at a concentration of 24,000 micrograms per 100 square centimeters (µg/100 cm^2). A copy of the initial laboratory analytical reports is included in Attachment 1.

Agency Notifications

The spill was reported to the Washington State Department of Ecology (Ecology) Environmental Report Tracking System (ERTS) on September 17, 2020 (ERTS # 700704). A follow-up letter was also provided to Ms. Katy Harvey in Ecology's Hazardous Waste & Toxics Reduction Program on September 25th, 2020.

In addition, a letter was sent to Ms. Michelle Pirzadeh, the EPA Region 10 Administrator, on March 17, 2022, requesting clarification on the storage limitations outlined in 40 CFR § 761.65(a)(1). At that time, final cleanup of the transformer spill was not possible due to long-delayed negotiations with Ecology surrounding an interim action workplan for the facility. Those delays in turn held up issuance of a demolition permit by the City of Tukwila, which was necessary to remove the transformers and conduct the final cleanup. To date, no response to the March 2022 letter has been received from EPA.

A copy of the March 2022 letter to Ms. Pirzadeh is included as Attachment 1. Attachment 1 also includes a copy of the ERTS notification confirmation email and field report, a copy of the letter provided to Ms. Harvey, and copies of the disposal records for the initial cleanup waste.

Final Cleanup Activities

Due to the physical location of the transformers and the condition of the building in which they were located, the final cleanup actions required demolition of the building. The transformer carcasses were too big to be removed using the former staircase, and the crane rails used to install the transformers were not structurally sound. Due to PCB contamination of the concrete slabs on the first and second floors, the concrete slabs themselves also required removal. Because the concrete slabs were structural members of the building, they had to be removed concurrent with building demolition.

Once Ecology and Star Forge, LLC entered into an Agreed Order for implementation of an interim action work plan unrelated to the transformer spill (including removal of existing underground storage tanks and completion of "clean closure" under Ecology's dangerous waste regulations), the City of Tukwila issued a demolition permit for the removal of all buildings on the property. Demolition permit D19-0311 was issued on August 8, 2023. Due to structural considerations and construction sequencing, demolition of the former Powerhouse structure did not begin until the week of December 11, 2023.

To remove the empty transformer carcasses, the south wall of the Powerhouse structure was removed from the second floor using heavy equipment. Care was taken to pull the wall outwards, away from the exterior of the building, to minimize demolition debris from contacting the PCB impacted concrete. The PCB impacted concrete slabs had been covered with plastic sheeting as an added measure of protection. Once the south wall was removed, the transformer carcasses were pulled through the wall and lowered to the ground using a crane. The transformer carcasses were then wrapped with plastic and placed on plastic sheeting pending off-site disposal.

Once the transformer carcasses had been removed, the roof and the walls above the second floor of the building were removed. Care was taken to remove sections of the building in a manner to minimize them from falling inwards and onto the PCB impacted concrete floor.

Once the walls and roof had been removed above the second floor, the concrete slab in the eastern half of the second floor (the TC-24 transformer room) was removed and allowed to fall onto the first floor directly beneath it. The PCB impacted concrete was then carefully removed using an excavator and placed on plastic sheeting pending off-site disposal. The eastern half of the first floor was then covered with a new layer of plastic sheeting before continuing with removal of the remaining structure. The remaining structure was then removed, again being careful to direct debris outwards and away from the first floor slab.

Any debris that came into contact with the PCB impacted concrete slabs was assumed to also be PCB impacted, and was segregated and managed as PCB remediation waste. Debris from the walls, roof, and western portions of the building was managed as standard construction debris. Once the general construction debris was cleared from the surrounding area, the PCB impacted slab on the east half of the first floor was removed and placed on plastic sheeting. The stockpile of PCB impacted concrete was then covered with plastic sheeting until off-site transportation could be arranged.

Confirmation Soil Sampling

Once the first floor PCB impacted concrete slab from the eastern half of the former Powerhouse structure had been removed, confirmation soil samples were collected beneath the former slab. The final extent of slab removal was approximately 11-feet wide (east-west) by 22-feet long (north-south) by 1.5-feet deep. Soil samples were collected by dividing the excavation area into quadrants and collecting a soil sample from the center of each quadrant. The samples were collected by scooping the soil from the base of the excavation directly into a laboratory supplied sampling jar. Dedicated nitrile gloves were worn for the collection of each sample. The samples were labeled with the prefix "powerhouse-SS" to indicate a soil sample from beneath the powerhouse, followed by a directional indicator to indicate which quadrant the sample was collected from (northeast [NE], northwest [NW], southeast [SE], or southwest [SW]), followed by the depth in feet below grade. For example, the soil sample from the southwest quadrant of the excavation was labeled as 'powerhouse-SS-SW-1.5'. One duplicate soil sample 'Powerhouse-dup-1' was also collected from the same location as sample 'Powerhouse-SS-SE-1.5'.

Following sample collection, the soil samples were placed in an iced cooler for delivery to the lab following chain of custody protocols. The samples were delivered to Onsite Environmental, Inc., in Redmond, Washington for analysis of PCBs by EPA Method 8082A.

PCBs were not reported in any of the soil samples at a concentration greater than or equal to the laboratory practical quantitation limit (PQL). The post-excavation PCB analytical results are summarized in Table 1. The laboratory analytical report is included in Attachment 2.

Waste Disposal

All cleanup debris was disposed of as Toxic Substances Control Act (TSCA) regulated PCB remediation waste to Chemical Waste Management, a permitted TSCA/Subtitle C Landfill in Arlington, Oregon.

The original spill response cleanup waste consisted of two, 55-gallon drums with a total weight of 220-pounds. The drums were disposed of on September 25, 2020, under profile number OR345688. The cleanup waste was shipped for disposal on hazardous waste manifest number 021751122JJK.

A total of 101.49-tons of PCB impacted concrete and debris were direct-hauled via dump truck on December 27, 2023 under profile OR357799. The concrete and debris was shipped on hazardous waste manifests 018614506FLE through 018614509FLE (4 loads).

Transformer TC-24, from the original spill, was loaded onto a container for shipment under profile OR357800 (PCBs greater than 500 parts per million [ppm]). The 2,240-pound transformer carcass was shipped on manifest 025895525JJK on January 24, 2024.

Transformer TC-23, which never leaked, was loaded into a separate container for shipment under profile OR358045 (PCBs less than 500 ppm). Transformer TC-23 was packaged for shipment with a third transformer from elsewhere on the property. The third transformer was designated as TC-26,

and was originally located on the roof, approximately 200-feet east of the former powerhouse. Historical records indicate transformer TC-26 was non-detect for PCBs in 1997. Residual oil from transformer TC-26 was sampled in January 2024 and PCBs were reported at a concentration of 0.79 mg/kg. The TC-23 and TC-26 transformer carcasses were both filled with oil absorbent as a precautionary measure prior to shipment, and both were shipped out on manifest 025895526JJK on January 24, 2024. The combined shipping weight of both transformer carcasses was 16,560-pounds.

A copy of the disposal records is included in Attachment 3.

Equipment Decontamination

All equipment potentially in contact with PCB remediation waste was kept segregated from other areas of the site. When not in active use, the excavator buckets and breaker bar were temporarily wrapped with plastic sheeting. Before being used on other areas of the site, the equipment was decontaminated following the procedures in 40 CFR § 761 subpart S, by manually wiping all surfaces with diesel-soaked rags. Following the solvent wipe procedure, the equipment was wiped again with rags and an Alconox detergent solution, followed by a final wipe with rags and distilled water. The decontamination was verified by collecting standard wipe tests, as defined in 40 CFR § 761.123, from each piece of equipment. Decontamination was conducted on two separate dates, December 20 and 27, 2023. The results of each wipe sample confirmed PCBs were less than the decontamination standards in 40 CFR § 761.79(b)(3)(i) of 10 micrograms per 100 square centimeters ($\mu g/100\ cm^2$). A copy of the wipe testing analytical reports are included in Attachment 4.

All rags, plastic sheeting, personal protective equipment (PPE), and other miscellaneous decontamination supplies were bagged and disposed of with the transformers.

Sincerely,

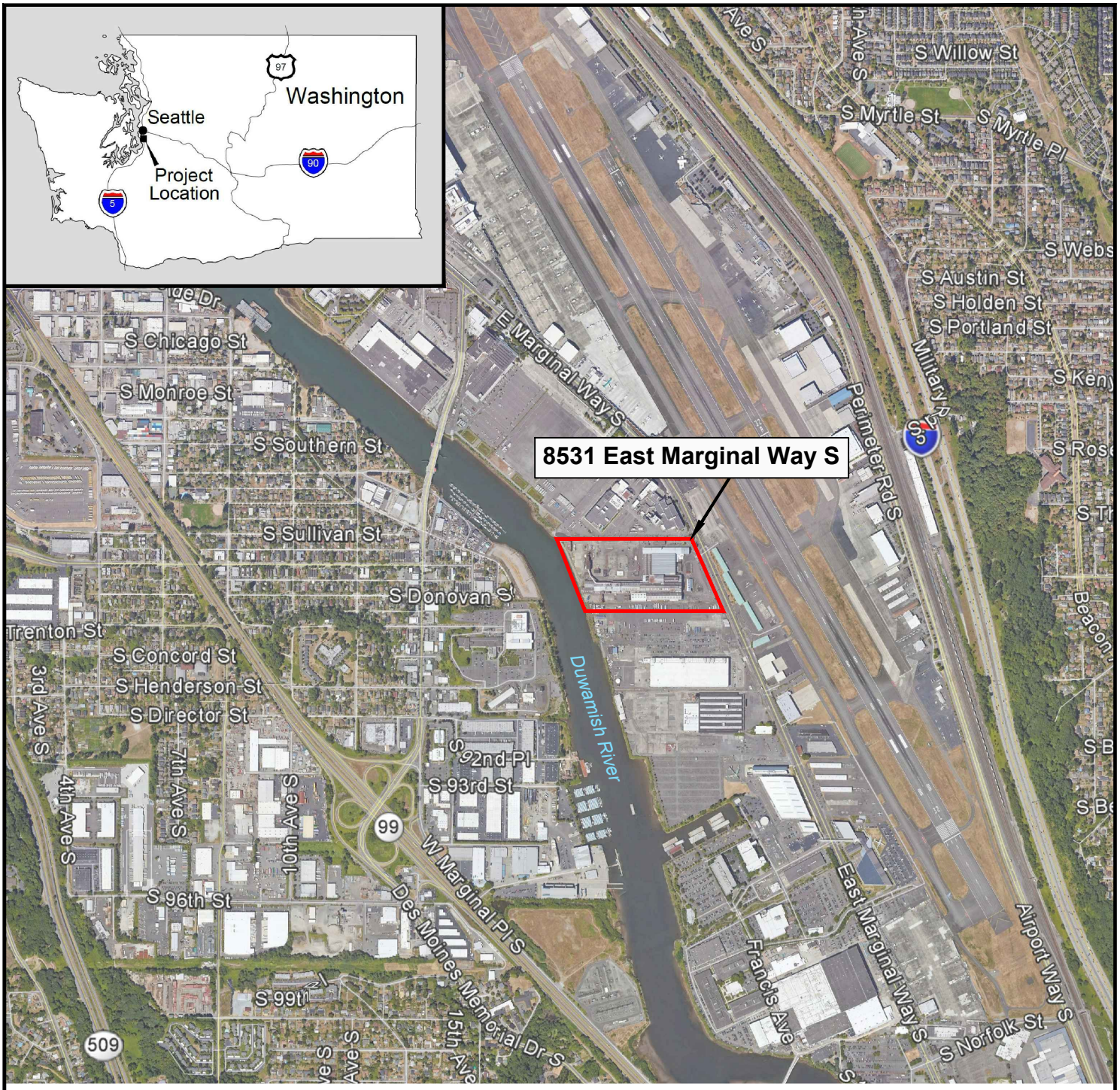
Nathan Moxley, LHG
Principal Geologist
DH Environmental, Inc.
nathan.moxley@dhenviro.com

Cc: Mr. Beau Johnson, LG, Cleanup Site Manager, Toxics Cleanup Program, NWRO, Washington State Dept. of Ecology.

Enclosures

Figure 1	Vicinity Map
Figure 2	Former Powerhouse Structure Location Map

Table 1	Post-Excavation Confirmation Soil Sample Analytical Results Summary
Attachment 1	Letter to Ms. Michelle Pirzadeh, Regional Administrator, US EPA Region 10, March 17, 2022
Attachment 2	Post-excavation Soil Sample Laboratory Analytical Report (2312-241)
Attachment 3	PCB Disposal Documents
Attachment 4	PCB Wipe Sample Laboratory Analytical Results (2312-252 and 2312-300)



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Background Images Source: Google Earth Pro 5/26/2018

DH Environmental Inc

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DH Environmental Inc.

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Former Jorgensen Forge Facility 8531 E. Marginal Way S. Tukwila, WA, 98108	01/12/2024	Figure □

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Note:

1. Aerial Photography Source: Google Earth Pro, 08/14/2020.

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LEGEND

- Approximate Location of Proposed Soil Vapor Extraction Well

Approximate Perimeter of Proposed Soil Vapor Extraction System

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DH Environmental Inc

Proposed Soil Vapor Extraction System Well Locations

Former Jorgensen Forge Facility 8531 East Marginal Way S Tukwila, WA, 98108	01-26-2024	Figure 3

Table 1
PCB Analytical Results Summary
Confirmation Soil Samples, Powerhouse Slab Removal
December 19, 2023
Former Jorgensen Forge Site, Tukwila, Washington

Sample ID	PCBs (mg/kg)								
	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Total PCBs
Powerhouse-SS-NW-1.5	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	0.053 U	**0.053 U**
Powerhouse-SS-NE-1.5	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	0.054 U	**0.054 U**
Powerhouse-SS-SW-1.5	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	0.055 U	**0.055 U**
Powerhouse-SS-SE-1.5	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	**0.056 U**
Powerhouse-Dup-1	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	0.056 U	**0.056 U**

Notes
1. "U" denotes analyte not detected at a concentration greater than or equal to the given laboratory practical quantitation limit (PQL).

Abbreviations
PCB = polychlorinated biphenyl
mg/kg = milligrams per kilogram

Analytical Methods
PCBs by EPA Method 8082A
Analyzed by Onsite Environmental, of Redmond, Washington (Lab report 2312-241)

1011 SW Klickitat Way, Suite 107
Seattle, WA 98134

March 17, 2022

Ms. Michelle Pirzadeh
Regional Administrator
US EPA Region 10
1200 Sixth Avenue
Seattle, WA 98101
206-553-1272

Via email to:
pirzadeh.michelle@epa.gov
mullin.michelle@epa.gov

Re: Former Jorgensen Forge Property, Tukwila, Washington
Extension Request for PCB Storage Limitation Under 40 CFR § 761.65

Dear Ms. Pirzadeh,

Based on a recent meeting with Ms. Michelle Mullin, we agreed to send this request for an extension to the polychlorinated biphenyls (PCB) storage limitations outlined in 40 CFR § 761.65(a)(1), for the disposal of PCB waste at the former Jorgensen Forge property, located at 8531 E. Marginal Way S., in Tukwila, Washington (Property).

As described below, there is also some question as to whether the storage limitations apply in this case. Therefore, we also request clarification on the issue for our future reference.

Background

On September 16, 2020, personnel from DH Environmental discovered evidence of vandalism and theft from the Property, including damage to two large transformers (apparently resulting from an attempt by thieves to scavenge metal) that resulted in the spill of transformer oil from one of the transformers. The spill was reported to the Washington State Department of Ecology (Ecology) Environmental Report Tracking System (ERTS) on September 17, 2020 (ERTS # 700704). A follow-up letter was also provided to Ms. Katy Harvey in Ecology's Hazardous Waste & Toxics Reduction Program on September 25th, 2020. A copy of the ERTS notification confirmation email and attached field report, including initial lab data from the transformer oil, are included in Attachments 1 and 2, respectively. A copy of the letter provided to Ms. Harvey is included as Attachment 3.

It was estimated that approximately 3- to 5-gallons of transformer oil were spilled. PCBs were reported in a sample of the transformer oil at a concentration of 1,400 milligrams per kilogram (mg/kg). Assuming the maximum volume of 5-gallons was released, the total quantity of PCBs from the spill was 0.05 pounds. A copy of the spill volume calculations were provided in the field report attached to the ERTS notification included in Attachment 2.

The spill occurred indoors on the second floor of the building, and some of the transformer oil dripped down to the first floor. No storm drains, sanitary sewers, or soil were impacted by the release. DH Environmental personnel responded to the spill the next day on September 17, 2020.

All recoverable transformer oil was removed using spill absorbent. All spent absorbent and cleanup debris were containerized in Department of Transportation (DOT) approved 55-gallon drums for offsite disposal. Plastic sheeting was laid over all surfaces that had been impacted by the transformer oil, and M_L PCB marking stickers were placed on the plastic and on all doorways leading into the rooms affected by the transformer spill. All cleanup debris was disposed of as Toxic Substances Control Act (TSCA) regulated PCB waste to Chemical Waste Management, a permitted Subtitle C Landfill in Arlington, Oregon. The cleanup waste was disposed of on September 25, 2020, under profile number OR345688. The cleanup waste was shipped for disposal on hazardous waste manifest number 021751122JJK.

Post cleanup samples were collected from the concrete slabs that transformer oil had been spilled on. Concrete samples were collected from both the first and second floors by drilling into the concrete floor and collecting the cuttings into a laboratory supplied sampling jar. A wipe sample was also collected from the concrete surface on the second floor, closest to the transformer that had spilled. PCBs were reported in the concrete samples at a concentration of 200 milligrams per kilogram (mg/kg) and 30 mg/kg, from the first and second floors, respectively. PCBs were reported in the wipe sample from the second floor at a concentration of 24,000 micrograms per 100 square centimeters (µg/100 cm^2).

Planned Cleanup Activities

Due to the physical location of the transformers and the current condition of the building in which they are located, the final cleanup of the transformer spill will require portions of the building to be removed. The transformer carcasses are too big to be removed using the existing staircase, and the crane rails believed to have been used to install the transformers are not structurally sound. In addition, the concrete slabs themselves also require removal. Because the concrete slab on the second floor is a structural member of the building, it cannot be removed without demolition of the structure itself.

The owner of the Property, Star Forge, LLC, plans to demolish all of the buildings on the Property and has applied to the City of Tukwila (City) for a demolition permit. We have recommended the PCB cleanup of these transformers and concrete slabs be conducted as part of those demolition activities. The City has indicated that Star Forge cannot proceed with any demolition on the Property – even for removal of the transformers – until they have approved and issued the demolition permit. The demolition work plan submitted to the City as part of the demolition permit application includes a section describing the removal of the transformers and a performance-based cleanup to be performed under 40 CFR 761.61(b). Essentially, the transformers will be removed through the roof using a crane, and the concrete slabs will be segregated during demolition and disposed of as TSCA waste to a subtitle C landfill. No attempt will be made to scarify or otherwise remove the PCBs from the concrete. We estimate approximately 20 cubic yards of concrete will require removal and disposal as PCB waste, plus the two transformer carcasses. The location of these transformers is shown on PDF pages 3 and 4 of the September 25, 2020 letter to Ms. Harvey, included in Attachment 3.

Final Cleanup Schedule

We do not yet know when the demolition permit will be approved, but all indications are that it will be approved this year. The City has indicated their review and approval of the demolition permit is contingent upon final Ecology approval of the Interim Action Work Plan (IAWP) for the Property, because certain activities described in the IAWP require demolition of overlying superstructures.

Ecology has recently approved the public review draft of the IAWP for the property, and the IAWP is currently out for public comment as of March 14, 2022. A copy of the public review draft of the IAWP was provided to Ms. Michelle Mullin, EPA Region 10 PCB Coordinator, via email on March 14, 2022. We expect the City of Tukwila to take action on the demolition permit application after the IAWP is finalized.

Regulatory Interpretation

In accordance with 40 CFR 761.60(b)(6)(ii)(B), the transformer carcasses are not regulated under subpart D of this chapter, because they have both been drained of free-flowing liquids. This includes the storage time limitations in Subpart D (40 CFR 761.65), which is supported by the 2014 PCB Q&A Manual (EPA, 2014), which states:

> *Q: If I store a drained PCB-Contaminated transformer for disposal for more than nine months, must I file an exception report?*
>
> *A: Storage for disposal of drained PCB-contaminated articles, including transformers, is not regulated (see §761.60(b)(6)(ii)(B)). Therefore, neither the one-year disposal requirement nor the one-year exception reporting requirement apply to the waste.*

The concrete which has been contaminated by oil spilled from the transformer is a spill of 10-pounds or less (estimated mass of 0.05-pounds), and notification to EPA is not required for a spill of this size per the requirements of 40 CFR § 761.125(a)(1)(iv). In addition, the spill is still considered an active cleanup due to the current lack of access to the site. As noted in 40 CFR § 761.125(b)(2),

> *Completion of cleanup may be delayed beyond 48 hours in case of circumstances including but not limited to, civil emergency, adverse weather conditions, lack of access to the site, and emergency operating conditions.*

Request for Clarification and Extension of PCB Storage Limitations

When the vandalism to the transformers and the resulting spill were discovered, we believed the demolition permit from the City of Tukwila would be issued shortly. As indicated above, however, the City has delayed processing of the demolition permit application while the owner of the Property has negotiated an Agreed Order and IAWP with Ecology. The IAWP addresses removal of 18 underground storage tanks and the permanent closure of dangerous waste management units on the Property, which is already the subject of a remedial investigation being conducted by the prior owner under a separate Agreed Order with Ecology. In the interim, we have been very involved with preparing the required work plans and related tasks necessary to support the demolition permit and approval of the IAWP. Because the demolition permit application is still

pending review by the City of Tukwila, and we cannot perform the demolition work required for removal of the transformers and contaminated concrete until that application is approved, we respectfully request an extension to the PCB storage limitations outlined in 40 CFR § 761.65(a)(1), if your office interprets those storage limitations to apply in this case.

As communicated with Ms. Mullin in our call on March 14, 2022, we will keep her office informed as work progresses on this Property related to any tasks involving PCBs, including activities that may not be considered "TSCA regulated". We appreciate the open line of communication and collaboration as we work towards demolition of these buildings and the final cleanup of the PCB spill.

Please let us know if you need any more information as you consider this request. We are happy to show you or your staff the affected areas of the property if that will be helpful in your decision making, as some of these details are hard to convey on figures and photographs alone.

Sincerely,



Nathan Moxley, LHG
Principal Geologist
DH Environmental, Inc.
nathan.moxley@dhenviro.com

Cc: Ms. Michelle Mullin, USEPA Region 10 PCB Coordinator

Enclosures

Attachment 1	ERTS Notification Email Confirmation, 9/17/2020
Attachment 2	Transformer Spill Discovery Field Report and Initial Sample Data (email attachment with ERTS report)
Attachment 3	Letter to Ms. Katy Harvey, Ecology Dangerous Waste Program, 9/25/2020

References:

EPA, 2014. June 2014 Version, Revisions to the PCB Q and A Manual. June.

Nathan Moxley

From: David Hill
Sent: Thursday, September 17, 2020 1:37 PM
To: ECY RE NWRO ERTS
Cc: Harvey, Katy (ECY); Sanchez, Maureen (ECY); Billick, Ben (ECY); Lynn Miranda; Richard H. Allan; Bradley M. Marten; James Robertson; Stephen Busby; Adler, David (ECY); Musa, Donna K. (ECY)
Subject: RE: Transformer Oil Spill at 8531 E Marginal Way S, Tukwila, WA 98108 (Former Jorgensen Forge Facility)

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Thank you Katelyn. If there is any way to do so, can you please have the spill group contact me if they intent to make a site visit? I understand our folks are wrapping up on-site now and I want to be sure they have someone to escort them.

Thanks,

David J. Hill, PE, CHMM, CPEA
President / Principal Engineer
DH Environmental, Inc.
Phone: 206.293.3126
email: davehill@dhenviro.com
www.dhenviro.com

From: ECY RE NWRO ERTS <nwroerts@ECY.WA.GOV>
Sent: Thursday, September 17, 2020 1:11 PM
To: David Hill <davehill@dhenviro.com>
Cc: Harvey, Katy (ECY) <KGIB461@ECY.WA.GOV>; Sanchez, Maureen (ECY) <MASA461@ECY.WA.GOV>; Billick, Ben (ECY) <BBIL461@ECY.WA.GOV>; Lynn Miranda <Lynn.Miranda@TukwilaWA.gov>; Richard H. Allan <rallan@martenlaw.com>; Bradley M. Marten <bmarten@martenlaw.com>; James Robertson <jrobertson@JorgensenForge.com>; Stephen Busby <sbusby@ce-starllc.com>; Adler, David (ECY) <DADL461@ECY.WA.GOV>; Musa, Donna K. (ECY) <DMUS461@ECY.WA.GOV>
Subject: RE: Transformer Oil Spill at 8531 E Marginal Way S, Tukwila, WA 98108 (Former Jorgensen Forge Facility)

Thank you David,

This report has been documented in Ecology's Environmental Report Tracking System (ERTS) as report # 700704.

Katelynn Piazza (she/her)
ERTS & SEPA Coordinator
Washington State Department of Ecology
Northwest Regional Office
3190 160th Ave SE | Bellevue, WA 98008-5452
(425) 649-7229 | katelynn.piazza@ecy.wa.gov

NOTICE: This communication is a public record and may be subject to disclosure pursuant to the Public Records Act (RCW 42.56).

From: David Hill <davehill@dhenviro.com>
Sent: Thursday, September 17, 2020 1:02 PM
To: ECY RE NWRO ERTS <nwroerts@ECY.WA.GOV>
Cc: Harvey, Katy (ECY) <KGIB461@ECY.WA.GOV>; Sanchez, Maureen (ECY) <MASA461@ECY.WA.GOV>; Billick, Ben (ECY) <BBIL461@ECY.WA.GOV>; Lynn Miranda <Lynn.Miranda@TukwilaWA.gov>; Richard H. Allan <rallan@martenlaw.com>; Bradley M. Marten <bmarten@martenlaw.com>; James Robertson <jrobertson@JorgensenForge.com>; Stephen Busby <sbusby@ce-starllc.com>
Subject: Transformer Oil Spill at 8531 E Marginal Way S, Tukwila, WA 98108 (Former Jorgensen Forge Facility)

THIS EMAIL ORIGINATED FROM OUTSIDE THE WASHINGTON STATE EMAIL SYSTEM - Take caution not to open attachments or links unless you know the sender AND were expecting the attachment or the link

Good afternoon,

Please see the attached report regarding a transformer oil spill at 8531 E Marginal Way S, Tukwila, WA 98108. The spill was a result of vandalism/attempted theft at the site and it is unknown exactly when the spill occurred. An estimated 3-5 gallons was spilled from the transformer and all oil was contained on-site and indoors. No storm drains, sanitary sewers, or soil have been impacted. DH Environmental, Inc. is currently onsite conducting cleanup.

This incident is related to ongoing break-ins and trespass at the site. We will follow up with applicable police reports. I may be reached at the email and phone number below.

Thank you,

David J. Hill, PE, CHMM, CPEA
President / Principal Engineer
DH Environmental, Inc.
Phone: 206.293.3126
email: davehill@dhenviro.com
www.dhenviro.com

DH Environmental Inc 1011 SW Klickitat Way Suite 107 Seattle, Washington 98134	**FIELD REPORT**		File Name: FR_SF break-in discovery_09162020
	Project: Star Forge		Date: 9/16/2020
	Owner: Star Forge	Time of Arrival: 0900	Report Number: 1
Prepared by: Nathan Moxley	Location: 8531 East Marginal Way	Time of Departure: 1230	Page: Page 1 of 1
Purpose of Site Visit: Slag pH Sampling	Weather: Indoors	Travel/Prep. Time: 3 hr	Project/Contract Number: Work Order 03 – Clean Closure

Upon arrival to the site I assessed personal safety hazards: ☒ Yes or ☒ Referred to Site Safety Plan and Safety Tailgate if applicable
Safety Hazards Were Addressed by : ☒ Performing tool box safety meeting ☒ Donning PPE, and observing safety standards

Site Visit Purpose and Details:

A site visit was conducted to collect samples of metal slag-like material from subsurface process pits. Upon arrival to the Facility, evidence of a break-in was observed in the former Melt Shop Area and other areas throughout the property.

Summary of Field Activities:

Nathan Moxley and Brian Johnson of DH Environmental arrived onsite at approximately 0900. Upon arrival we unloaded confined space entry gear and sampling equipment.

While preparing to conduct sampling it was evident that people had been in the building. There was debris in various places throughout the former Melt Shop that was not present the last time we were on site. Many electrical equipment panels had been smashed, and debris had been piled in various places. It appeared someone had been collecting copper wire and/or components and breaking open equipment to retrieve copper inside of them. Some debris appeared to have fallen or had been dropped from the overhead gantry cranes. We walked around the facility to make sure no one was present. We observed similar conditions in other areas throughout the facility (smashed electrical panels/equipment, evidence of people stealing scrap metal). We also found evidence of human waste and used hypodermic needles.

During our inspection we checked the second-floor transformers upstairs and south of the former Arc Furnace Pit. Both transformers had been broken open, and oil was covering the floor around transformer TC-24. No oil was observed around the second transformer (unknown number/label), even though the top had been pried off, and a winch had been hung from an overhead beam to lift the top, and possibly internal components, out. At least two hypodermic needles were visible on the floor near the TC-24 transformer. Food and cigarette butts were also visible, and it appeared someone had spent a significant amount of time working to open the transformers. Ceramic bushings had been smashed and broken on the floor surrounding both transformers, and a sledge hammer was visible next to Transformer TC-24. The floor had visible holes in it, and oil was visible on the first floor beneath the TC-24 transformer room. In addition, what appeared to be footprints were visible near the oil on the first floor, indicating minor amounts of oil may have been tracked around. Less than 5-gallons of oil were estimated to have been spilled from the TC-24 transformer

A sample of the transformer oil was collected from a puddle on the floor using a new, dedicated, oil absorbent pad. The absorbent pad was soaked in oil and wrung out into a laboratory supplied sampling jar. The sample was identified as "SF-transformer oil-09162020", and it was submitted to Onsite Environmental on a rush turnaround for analysis of PCBs by EPA Method 8082.

A calculation sheet is attached documenting the quantity of PCBs estimated to have been released from the Transformer.

☒ **THIS FIELD REPORT IS FINAL**	**FIELD REPRESENTATIVE:** Nathan Moxley, LG, LHG	**DATE:** 9/17/2020
☒**THIS FIELD REPORT IS FINAL**	**REVIEWED BY:** David Hill, PE, CHMM, CPEA	**DATE:** 9/17/2020

This report presents observations and a record of field activities relating to our services only. Other work may have been performed on this project that was not under the direction or guidance of DH Environmental, Inc. Our work did not include supervision or direction of the work of others. DH Environmental, Inc. is not responsible for job or site safety of others on this project. Disclaimer: Any electronic form, facsimile or hard copy of the original document (email, text, table, and/or figure), if provided, and any attachments are only a copy of the original document. The original document is stored by DH Environmental, Inc. and will serve as the official document of record.

ATTACHMENTS:

☒ Site Photos ☐ Sketch ☐ Chain of Custody ☒Other: PCB Release Quantity Calculation; Onsite Lab Report # 2009-155
☐ Sample Log ☐ Drawing(s) ☐ Calibration Records

Attachment 1 – Photo Log
Star Forge Break-In and Transformer Spill
9/16/2020

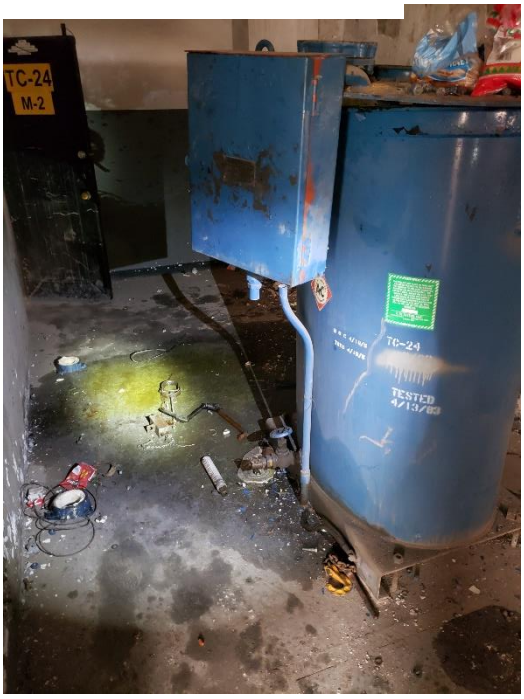

Photo 1: Transformer TC-24. Spilled oil visible on the floor. Taken from the 2nd floor TC-24 Transformer room.



Photo 2: Area behind transformer TC-24. Sledge hammer visible that was used to smash ceramic insulators/bushings from transformer and adjacent connections. Taken from the 2nd floor TC-24 Transformer room.



Photo 3: PCB oil on the floor behind transformer TC-24. Broken ceramic insulators and debris also visible. A hypodermic needle is visible in the background. Taken from the 2nd floor TC-24 Transformer room.



Photo 4: Hypodermic needle next to the TC-24 transformer. Taken from the 2nd floor TC-24 Transformer room.



Photo 5: Spilled oil on the first floor beneath the TC-24 transformer room. Oil had dripped through the ceiling due to holes in the upstairs floor. Footprints are visible in the oil in the foreground.

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Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: DH Environmental
Project Number:
Project Name: Star Forge
Project Manager: David Hill
Sampled by: Nathan Moxley

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☐ Standard (7 Days)
☒ Best available
(other)

Laboratory Number: 09-155

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A					% Moisture
1	SF-Transformer Oil-09162020	9-16-20	1155	liquid	1										X											

	Signature	Company	Date	Time
Relinquished		DH Env.	9-16-20	1250
Received	Celia Stennett	SPEEDY	9/16/20	12:50
Relinquished	Celia Stennett	SPEEDY	9/16/20	1:19
Received		ORE	9/16/20	1319
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Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Send results to davehill@dhenviro.com

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Star Forge

Transformer Spill 9/17/2020

PCB Release Quantity Calculation

Specific gravity of transformer oils	= ~ 0.9 [1]
Density of Water	= ~ 1 g/cm^3 [2]
	= 3.79 kg/gal
Estimated spill volume	= less than 5-gallons
PCB concentration of spilled oil	= 1,400 mg/kg [3]

Mass of Spilled PCBs:

Mass of oil: 5-gallons oil x 3.79 kg/gal x 0.9	= 17.1 kg oil
Mass PCBs: 17.1 kg oil x 1,400 mg/kg PCBs	= 23,940 mg PCBs
	= 0.05 pounds

Reportable Quantity (RQ) Calculations:

Federal RQ for PCBs	= 1 lb [4]
	= 453,592 mg

Volume oil required to reach RQ: $\frac{(X)(3.79\frac{kg}{gal})(0.9)(1{,}400\frac{mg}{kg}\ PCBs)}{453{,}592\ mg\ PCBs}$

Where X = volume of oil required to reach RQ

$$X = \frac{453{,}592\ mg\ PCBs}{(3.79\frac{kg}{gal})(0.9)(1{,}400\frac{mg}{kg}PCBs)} = 95 \text{ gallons}$$

[1] Transformer Oil Chemical Data Sheet, density at 59-deg F (15-deg C); https://cameochemicals.noaa.gov/chemical/12205

[2] https://pubchem.ncbi.nlm.nih.gov/compound/Water#section=Density

[3] Onsite Environmental Lab Report # 2009-155

[4] 40 CFR § 302.4 - Designation of hazardous substances

1011SW Klickitat Way, Suite 107
Seattle, WA 98134

Via Email

25 September 2020

Katy Harvey
Hazardous Waste & Toxics Reduction Program
Washington Department of Ecology
3190 160th Ave SE
Bellevue, WA 98008
kgib461@ecy.wa.gov

Re: Response to Vandalism/transformer fluid spill at former Jorgensen Forge facility

Dear Ms. Harvey:

I'm writing in response to your email of September 17 to provide information on our initial cleanup.

As you know, the spill of transformer fluid resulted from vandalism and attempted theft by one or more trespassers on the property. The spill occurred indoors on the second floor above ground level. Initial figures showing the approximate location of the spill are attached.

The attached photo log includes photos of the transformer from which the release occurred. The green label on the transformer indicates it has been tested and found to contain less than 50 ppm PCBs. The transformer previously had been drained of PCBs, possibly by a prior owner, and in any event was not in use. The release occurred because someone, presumably to get at copper that could be stripped from the unit and sold, smashed the transformer with a sledgehammer, and released residual oil still contained in the unit.

We don't know exactly when that illegal activity occurred. The area in which the vandalism took place is fenced. There have recently been a number of break-ins to the site, including an arrest made by the Tukwila Police Department this month, but the damage to transformer TC-24, and the consequent spill, was not discovered until last week during a sampling event. We have conservatively assumed that the spill occurred more than 72 hours before the cleanup began. Therefore, the cleanup will be conducted under the performance based cleanup requirements of 40 CFR 761.61(b). Proceeding in this manner is in accordance with the June 2014 Version of the PCB Q&A Manual.

The waste generated has been and will continue to be managed as TSCA waste and will be disposed of at Chemical Waste Management in Arlington, Oregon, a TSCA-approved facility. The initial cleanup waste (absorbent and loose impacted debris) has been shipped off-site for disposal in less than 30 days in

accordance with 40CFR § 761.65(c). The waste was shipped on 9/25/2020. A photo of the manifest and approved profile is attached.

We are evaluating the approach to completing cleanup. Final disposal records and confirmation samples from the cleanup will be provided in our final report when the cleanup is complete.

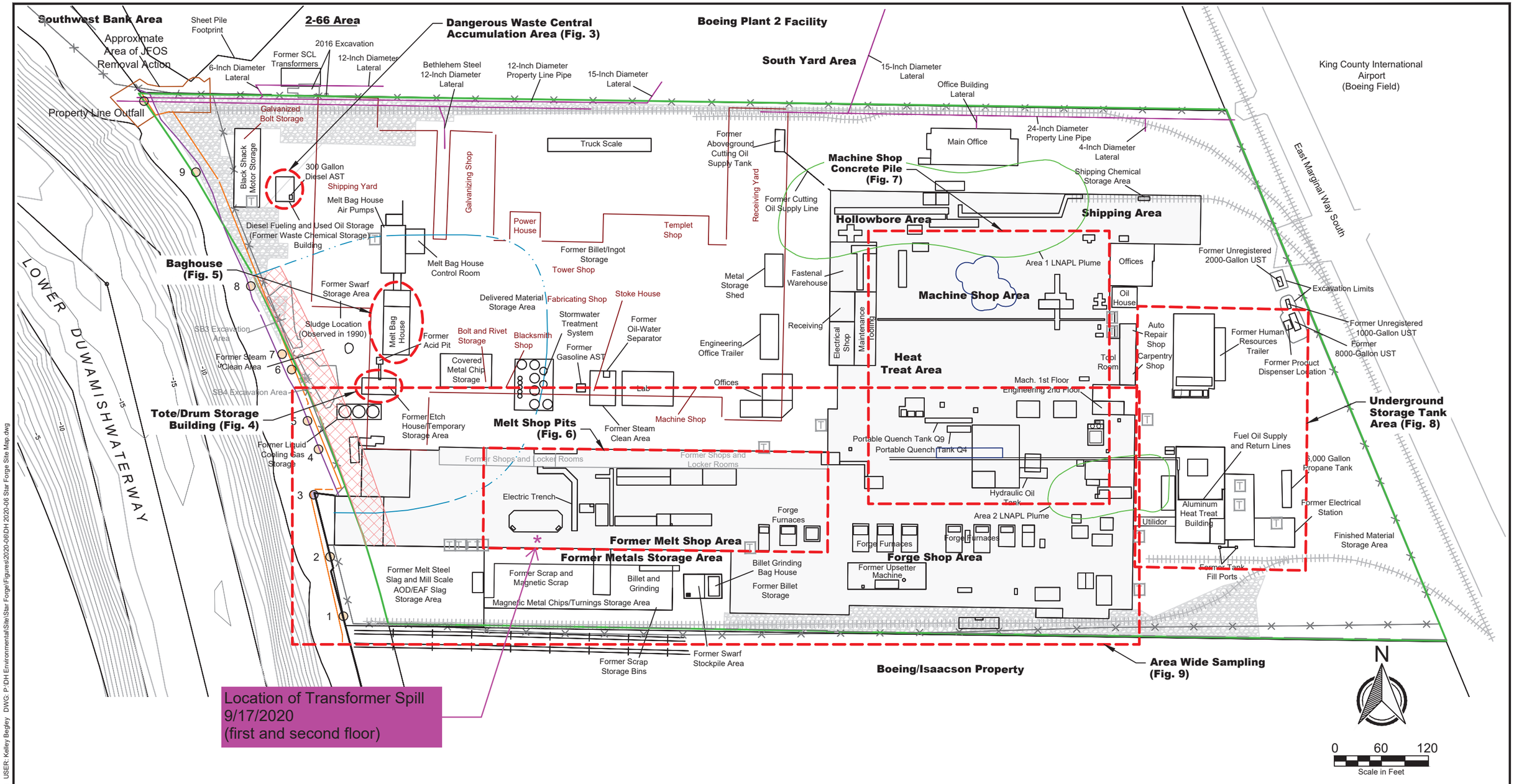
Further security measures are being taken on-site to prevent site trespassers. These further measures include additional fencing around the main structures, additional lighting, and close coordination with the Tukwila Police Department.

Please contact me at the below number or email with any questions.

Thank you,



David Hill, PE, CHMM, CPEA
Principal
DH Environmental, Inc.
(206) 293-3126
davehill@dhenviro.com



Legend

- Approximate Property Boundary
- Top of Shoreline Bank (2012)
- Top of Shoreline Bank (2014)
- Former Bethlehem Steel Facility
- Former Embayment
- Property Line Outfall Pipes
- Estimated Extent of LNAPL on Groundwater (Farallon, August 2009)
- Approximate Excavation Extents
- Bulkhead Area
- Outfall (Active)
- Outfall (Inactive)
- Railroad
- Fence
- Transformer
- Below Ground Feature

Notes:

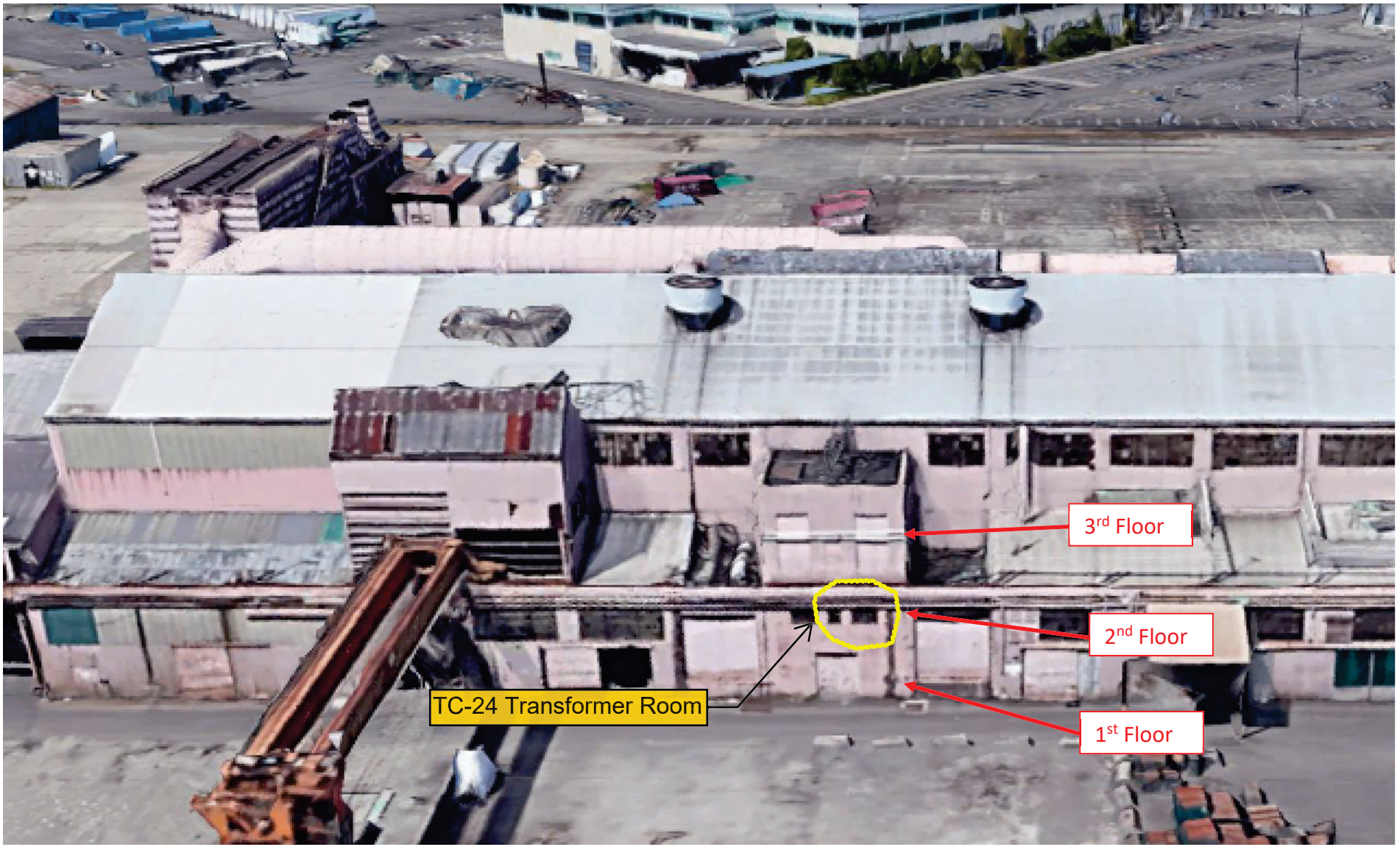
1. Figure adapted from client file, 141500101002_1-8.dwg, prepared by PES Environmental, Inc. dated July 2017, and 01012802-006.dwg, prepared by Achor Environmental, LLC and Farallon Consulting. Property Boundary from client file, 11078 Topo E-MAIL.dwg, prepared by Anchor QEA, LLC., Dated Jan 24, 2012.
2. Red text refers to features of the former Bethlehem Steel Facility.

DH Environmental Inc

SITE MAP

Former Jorgensen Forge Facility 8531 E. Marginal Way S. Tukwila, WA, 98108	06-19-2020	Figure 2

PLOT TIME: 6/18/2020 9:47 AM MOD TIME: 6/17/2020 5:54 PM USER: Kelley Begley DWG: P:\DH Environmental\Site\Star Forge\Figures\2020-06\DH 2020-06 Star Forge Site Map.dwg



View to the north showing the former Melt Shop Area. Transformer TC-24 is located on the 2nd floor behind the window marked in yellow. Transformer oil also dripped through holes in the floor to the first floor directly beneath the TC-24 room.

Photo Log
Star Forge Break-In and Transformer Spill
9/17/2020 – Post Cleanup Response Pictures

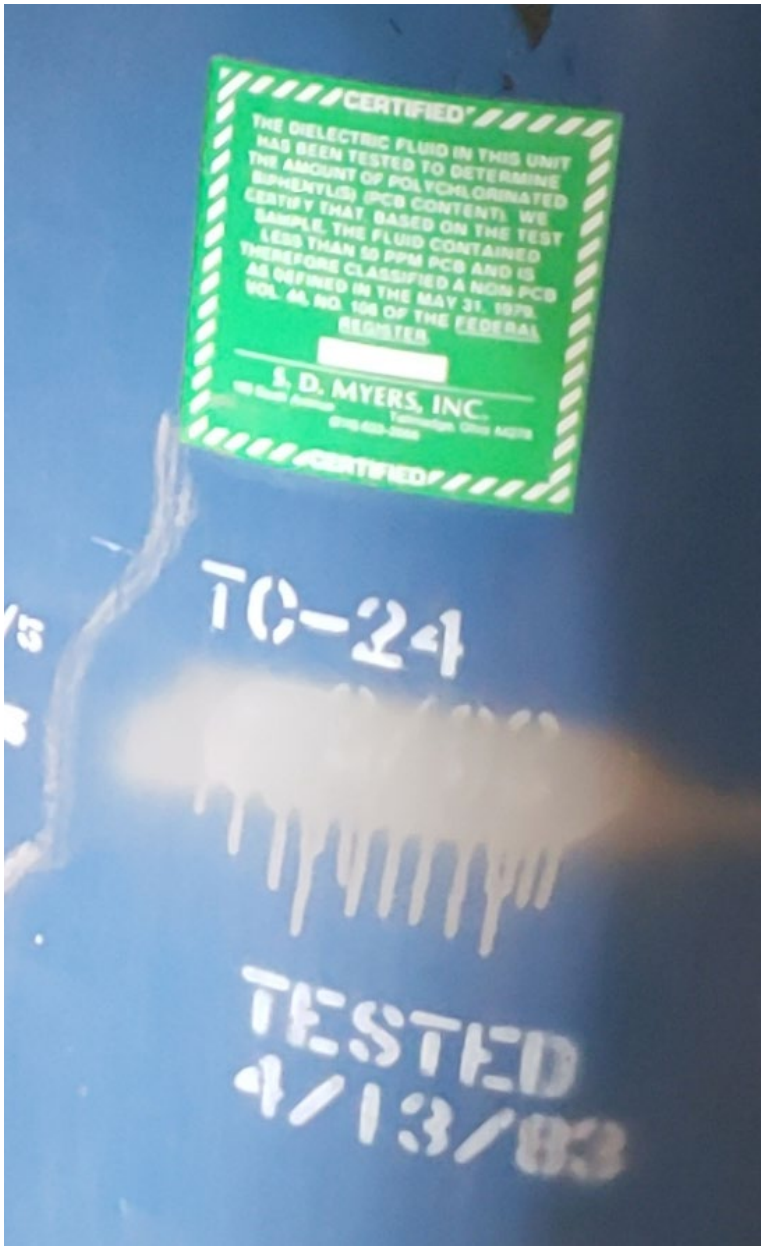


Photo 1: Transformer TC-24. The green label indicates the transformer was sampled and is a non-PCB transformer.



Photo 2: Transformer TC-24 Spill Area (second level) prior to cleanup actions.



Photo 3: Transformer TC-24 Spill Area (second level) after to cleanup actions.



Photo 4: Transformer TC-24 Spill Area (second level) after to cleanup actions. The drain valve was damaged but has now been secured. A spill pad has been placed on the ground to capture any drips and visqueen was placed on the ground of the impacted area.



Photo 5: First level spill area prior to cleanup actions.



Photo 6: First level spill area after cleanup actions.



Photo 7: Drummed Cleanup Media in the Tote Storage Area

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

September 18, 2020

David Hill
DH Environmental, Inc.
1011 SW Klickitat Way, Suite 107
Seattle, WA 98103

Re: Analytical Data for Project Star Forge
Laboratory Reference No. 2009-170

Dear David:

Enclosed are the analytical results and associated quality control data for samples submitted on September 17, 2020.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 18, 2020
Samples Submitted: September 17, 2020
Laboratory Reference: 2009-170
Project: Star Forge

Case Narrative

Samples were collected on September 17, 2020 and received by the laboratory on September 17, 2020. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 18, 2020
Samples Submitted: September 17, 2020
Laboratory Reference: 2009-170
Project: Star Forge

PCBs EPA 8082A

Matrix: Solid
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**TC-24-conc-first floor**					
Laboratory ID:	09-170-01					
Aroclor 1016	**ND**	10	EPA 8082A	9-17-20	9-18-20	
Aroclor 1221	**ND**	10	EPA 8082A	9-17-20	9-18-20	
Aroclor 1232	**ND**	10	EPA 8082A	9-17-20	9-18-20	
Aroclor 1242	**ND**	10	EPA 8082A	9-17-20	9-18-20	
Aroclor 1248	**ND**	10	EPA 8082A	9-17-20	9-18-20	
Aroclor 1254	**200**	10	EPA 8082A	9-17-20	9-18-20	
Aroclor 1260	**ND**	10	EPA 8082A	9-17-20	9-18-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	---	*46-125*				S
Client ID:	**TC-24-conc-1-2nd floor**					
Laboratory ID:	09-170-02					
Aroclor 1016	**ND**	10	EPA 8082A	9-17-20	9-18-20	
Aroclor 1221	**ND**	10	EPA 8082A	9-17-20	9-18-20	
Aroclor 1232	**ND**	10	EPA 8082A	9-17-20	9-18-20	
Aroclor 1242	**ND**	10	EPA 8082A	9-17-20	9-18-20	
Aroclor 1248	**ND**	10	EPA 8082A	9-17-20	9-18-20	
Aroclor 1254	**30**	10	EPA 8082A	9-17-20	9-18-20	
Aroclor 1260	**ND**	10	EPA 8082A	9-17-20	9-18-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	---	*46-125*				S

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 18, 2020
Samples Submitted: September 17, 2020
Laboratory Reference: 2009-170
Project: Star Forge

PCBs EPA 8082A
QUALITY CONTROL

Matrix: Solid
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0917S1					
Aroclor 1016	**ND**	0.050	EPA 8082A	9-17-20	9-18-20	
Aroclor 1221	**ND**	0.050	EPA 8082A	9-17-20	9-18-20	
Aroclor 1232	**ND**	0.050	EPA 8082A	9-17-20	9-18-20	
Aroclor 1242	**ND**	0.050	EPA 8082A	9-17-20	9-18-20	
Aroclor 1248	**ND**	0.050	EPA 8082A	9-17-20	9-18-20	
Aroclor 1254	**ND**	0.050	EPA 8082A	9-17-20	9-18-20	
Aroclor 1260	**ND**	0.050	EPA 8082A	9-17-20	9-18-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*90*	*46-125*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB0917S1										
	SB	SBD	SB	SBD		SB	SBD				
Aroclor 1260	**0.429**	**0.442**	0.500	0.500	N/A	**86**	**88**	50-134	3	18	
Surrogate:											
DCB						*92*	*92*	*46-125*			

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 18, 2020
Samples Submitted: September 17, 2020
Laboratory Reference: 2009-170
Project: Star Forge

PCBs EPA 8082A

Matrix: Wipe
Units: ug/100cm2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**TC-24-wipe-2nd floor**					
Laboratory ID:	09-170-03					
Aroclor 1016	**ND**	4000	EPA 8082A	9-17-20	9-18-20	
Aroclor 1221	**ND**	4000	EPA 8082A	9-17-20	9-18-20	
Aroclor 1232	**ND**	4000	EPA 8082A	9-17-20	9-18-20	
Aroclor 1242	**ND**	4000	EPA 8082A	9-17-20	9-18-20	
Aroclor 1248	**ND**	4000	EPA 8082A	9-17-20	9-18-20	
Aroclor 1254	**24000**	4000	EPA 8082A	9-17-20	9-18-20	
Aroclor 1260	**ND**	4000	EPA 8082A	9-17-20	9-18-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	---	*75-112*				S

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: September 18, 2020
Samples Submitted: September 17, 2020
Laboratory Reference: 2009-170
Project: Star Forge

PCBs EPA 8082A
QUALITY CONTROL

Matrix: Wipe
Units: ug/100cm2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0917P1					
Aroclor 1016	**ND**	2.0	EPA 8082A	9-17-20	9-17-20	
Aroclor 1221	**ND**	2.0	EPA 8082A	9-17-20	9-17-20	
Aroclor 1232	**ND**	2.0	EPA 8082A	9-17-20	9-17-20	
Aroclor 1242	**ND**	2.0	EPA 8082A	9-17-20	9-17-20	
Aroclor 1248	**ND**	2.0	EPA 8082A	9-17-20	9-17-20	
Aroclor 1254	**ND**	2.0	EPA 8082A	9-17-20	9-17-20	
Aroclor 1260	**ND**	2.0	EPA 8082A	9-17-20	9-17-20	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*94*	*75-112*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB0917P1										
	SB	SBD	SB	SBD		SB	SBD				
Aroclor 1260	**18.7**	**18.4**	20.0	20.0	N/A	**94**	**92**	83-124	2	15	
Surrogate:											
DCB						*97*	*96*	*75-112*			

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: DH Environmental
Project Number:
Project Name: Star Forge
Project Manager: David Hill
Sampled by: Nathan Moxley

Turnaround Request (in working days)
(Check One)
☐ Same Day ☒ 1 Day
☐ 2 Days ☐ 3 Days
☐ Standard (7 Days)
☑ Best available (other)

Laboratory Number: 09-170

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A					% Moisture
1	TC-24-conc-first floor	9-17-20	1320	Solid	1										X												
2	TC-24-conc-1-2nd floor	↓	1340	↓	1										↓												
3	TC-24-wipe-2nd floor	↓	1350	wipe	1										↓												

	Signature	Company	Date	Time
Relinquished	[signature]	DH Env.	9-17-20	1455
Received	[signature]	OSE	9/17/20	1455
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Send results to davehill@dhenviro.com

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

WASTE MANAGEMENT

EZ Profile™

Requested Facility: Chemical Waste Management (Hazardous Waste Facility) ❑ Unsure Profile Number: OR345688
❑ Multiple Generator Locations (Attach Locations) ❑ Request Certificate of Disposal ❑ Renewal? Original Profile Number: _____

A. GENERATOR INFORMATION (MATERIAL ORIGIN)

1. Generator Name: Star Forge LLC dba Jorgensen Forge
2. Site Address: 8531 E Marginal Way S
   (City, State, ZIP) Seattle WA 98108
3. County: _____
4. Contact Name: Wayne Turk
5. Email: _____
6. Phone: (206) 255-8177 7. Fax: _____
8. Generator EPA ID: WAD000602813 ❑ N/A
9. State ID: WAD000602813 ❑ N/A

B. BILLING INFORMATION ❑ SAME AS GENERATOR

1. Billing Name: DH Environmental, Inc.
2. Billing Address: 1011 SW Klickitat Way, Suite 107
   (City, State, ZIP) Seattle WA 98134
3. Contact Name: Scott St John
4. Email: scottstjohn@dhenviro.com
5. Phone: (206) 327-0026 6. Fax: _____
7. WM Hauled? ❑ Yes ☑ No
8. P.O. Number: _____
9. Payment Method: ☑ Credit Account ❑ Cash ❑ Credit Card

C. MATERIAL INFORMATION

1. Common Name: PCB01 - TSCA Regulated Cleanup Debris
   Describe Process Generating Material: ❑ See Attached

Spill debris and absorbents from cleanup of TSCA regulated transformer release.

2. Material Composition and Contaminants: ❑ See Attached

1. TSCA Debris - PPE, Plastic, Absorbents	100 %
2. Polychlorinated Biphenyls	<1400 mg/kg
3.	
4.	
Total comp. must be equal to or greater than 100%	≥100%

3. State Waste Codes: _____ ❑ N/A
4. Color: Varies
5. Physical State at 70˚F: ☑ Solid ❑ Liquid ❑ Other: _____
6. Free Liquid Range Percentage: _____ to _____ ☑ N/A
7. pH: 4 to 11 ❑ N/A
8. Strong Odor: ❑ Yes ☑ No Describe: _____
9. Flash Point: ❑ <140˚F ❑ 140˚–199˚F ☑ ≥200˚ ❑ N/A

D. REGULATORY INFORMATION

1. EPA Hazardous Waste? ❑ Yes* ☑ No
   Code: _____
2. State Hazardous Waste? ☑ Yes ❑ No
   Code: X002
3. Is this material non-hazardous due to Treatment, Delisting, or an Exclusion? ❑ Yes* ☑ No
4. Contains Underlying Hazardous Constituents? ❑ Yes* ☑ No
5. From an industry regulated under Benzene NESHAP? ❑ Yes* ☑ No
6. Facility remediation subject to 40 CFR 63 GGGGG? ❑ Yes* ☑ No
7. CERCLA or State-mandated clean-up? ❑ Yes* ☑ No
8. NRC or State-regulated radioactive or NORM waste? ❑ Yes* ☑ No

***If Yes, see Addendum (page 2) for additional questions and space.**

9. Contains PCBs? → If Yes, answer a, b and c. ☑ Yes ❑ No
   a. Regulated by 40 CFR 761? ☑ Yes ❑ No
   b. Remediation under 40 CFR 761.61 (a)? ❑ Yes ☑ No
   c. Were PCB imported into the US? ❑ Yes ☑ No
10. Regulated and/or Untreated Medical/Infectious Waste? ❑ Yes ☑ No
11. Contains Asbestos? ❑ Yes ☑ No
    → If Yes: ❑ Non-Friable ❑ Non-Friable – Regulated ❑ Friable

E. ANALYTICAL AND OTHER REPRESENTATIVE INFORMATION

1. Analytical attached ☑ Yes
   Please identify applicable samples and/or lab reports:

All

2. Other information attached (such as MSDS)? ❑ Yes

F. SHIPPING AND DOT INFORMATION

1. ☑ One-Time Event ❑ Repeat Event/Ongoing Business
2. Estimated Quantity/Unit of Measure: 2
   ❑ Tons ❑ Yards ☑ Drums ❑ Gallons ❑ Other: _____
3. Container Type and Size: 55 Gal DM
4. USDOT Proper Shipping Name: ❑ N/A
   UN3432, POLYCHLORINATED BIPHENYLS, SOLID MIXTURE, 9, PG II

G. GENERATOR CERTIFICATION (PLEASE READ AND CERTIFY BY SIGNATURE)

By signing this EZ Profile™ form, I hereby certify that all information submitted in this and all attached documents contain true and accurate descriptions of this material, and that all relevant information necessary for proper material characterization and to identify known and suspected hazards has been provided. Any analytical data attached was derived from a sample that is representative as defined in 40 CFR 261 - Appendix 1 or by using an equivalent method. All changes occurring in the character of the material (i.e., changes in the process or new analytical) will be identified by the Generator and be disclosed to Waste Management prior to providing the material to Waste Management.

☑ I am an Authorized Agent signing on behalf of the Generator, and I have confirmed with the Generator that information contained in this profile, as well as supporting documents provided, are accurate and complete.

Name (Print): Scott St. John Date: 09/18/2020
Title: Director of Project Services
Company: DH Environmental

Certification Signature

Scott St. John

0fda9d442a...

THINK GREEN®

QUESTIONS? CALL 800 963 4776 FOR ASSISTANCE

Revised June 30, 2015 ©2015 Waste Management

EZ Profile™ Addendum

Only complete this Addendum if prompted by responses on EZ Profile™ (page 1) or to provide additional information. Sections and question numbers correspond to EZ Profile™.

Profile Number: OR345688

C. MATERIAL INFORMATION

Describe Process Generating Material (Continued from page 1): If more space is needed, please attach additional pages.

Material Composition and Contaminants (Continued from page 1): If more space is needed, please attach additional pages.

5.	
6.	
7.	
8.	
9.	
Total composition must be equal to or greater than 100%	≥100%

D. REGULATORY INFORMATION

Only questions with a "Yes" response in Section D on the EZ Profile™ form (page 1) need to be answered here.

1. EPA Hazardous Waste
   a. Please list all USEPA listed and characteristic waste code numbers:
   b. Is the material subject to the Alternative Debris standards (40 CFR 268.45)? ❑ Yes ❑ No
   c. Is the material subject to the Alternative Soil standards (40 CFR 268.49)? → If Yes, complete question 4. ❑ Yes ❑ No
   d. Is the material exempt from Subpart CC Controls (40 CFR 264.1083)? ❑ Yes ❑ No
      → If Yes, please check **one** of the following:
      ❑ Waste meets LDR or treatment exemptions for organics (40 CFR 264.1082(c)(2) or (c)(4))
      ❑ Waste contains VOCs that average <500 ppmw (CFR 264.1082(c)(1)) – will require annual update.
2. State Hazardous Waste → Please list all state waste codes: _____
3. For material that is Treated, Delisted, or Excluded → Please indicate the category, below:
   ❑ Delisted Hazardous Waste ❑ Excluded Waste under 40 CFR 261.4 → Specify Exclusion: _____
   ❑ Treated Hazardous Waste Debris ❑ Treated Characteristic Hazardous Waste → If checked, complete question 4.
4. Underlying Hazardous Constituents → Please list all Underlying Hazardous Constituents:
5. Industries regulated under Benzene NESHAP include petroleum refineries, chemical manufacturing plants, coke by-product recovery plants, and TSDFs.
   a. Are you a TSDF? → If yes, please complete Benzene NESHAP questionnaire. If not, continue. ❑ Yes ❑ No
   b. Does this material contain benzene? ❑ Yes ❑ No
      1. If yes, what is the flow weighted average concentration? _____ ppmw
   c. What is your facility's current total annual benzene quantity in Megagrams? ❑ <1 Mg ❑ 1–9.99 Mg ❑ ≥10 Mg
   d. Is this waste soil from a remediation? ❑ Yes ❑ No
      1. If yes, what is the benzene concentration in remediation waste? _____ ppmw
   e. Does the waste contain >10% water/moisture? ❑ Yes ❑ No
   f. Has material been treated to remove 99% of the benzene or to achieve <10 ppmw? ❑ Yes ❑ No
   g. Is material exempt from controls in accordance with 40 CFR 61.342? ❑ Yes ❑ No
      → If yes, specify exemption: _____
   h. Based on your knowledge of your waste and the BWON regulations, do you believe that this waste stream is subject to treatment and control requirements at an off-site TSDF? ❑ Yes ❑ No
6. 40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at the point of determination? ❑ Yes ❑ No
7. CERCLA or State-Mandated clean up → Please submit the Record of Decision or other documentation with process information to assist others in the evaluation for proper disposal. A "Determination of Acceptability" may be needed for CERCLA wastes not going to a CERCLA approved facility.
8. NRC or state regulated radioactive or NORM Waste → Please identify Isotopes and pCi/g: _____

Revised June 30, 2015
©2015 Waste Management

Form Approved. OMB No. 2050-0039

Please print or type.

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: WAD000602813
2. Page 1 of: 1
3. Emergency Response Phone: 800-337-7455
4. Manifest Tracking Number: 021751122 JJK

5. Generator's Name and Mailing Address
Star Forge LLC DBA Jorgensen Forge
8531 E Marginal Way S
Seattle WA 98108
Att: Wayne R Turk
Generator's Site Address (if different than mailing address)
Generator's Phone: 206 255-8177
U.S. EPA ID Number: WAH000047217

6. Transporter 1 Company Name: DH Environmental Inc.
U.S. EPA ID Number: ORD089452353

7. Transporter 2 Company Name: Chemical Waste Management
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
CHEMICAL WASTE MANAGEMENT, INC
17629 CEDAR SPRINGS LANE
ARLINGTON OR 97812
Facility's Phone: 541 454-2643
U.S. EPA ID Number: ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. UN3432, Polychlorinated biphenyls, solid 9, PGII	02	DM	100	K	NONE
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile# OR245688 ERG# 171
Out Of Service Date 9-16-2020
Unique Drum ID: StrFrgDrum1, StrFrgDrum2

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Leonard J. Warnock on behalf of Star Forge DBA Jorgensen Forge
Signature: Leonard J Warnock
Month 09 Day 25 Year 20

INT'L
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER
17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Jacob Briere
Signature:
Month 09 Day 25 Year 20
Transporter 2 Printed/Typed Name: J. Pinuela
Signature:
Month 09 Day 25 Year 20

DESIGNATED FACILITY
18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name Signature Month Day Year


PCBs
PCBs

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

December 20, 2023

David Hill
DH Environmental, Inc.
1011 SW Klickitat Way, Suite 107
Seattle, WA 98103

Re: Analytical Data for Project Star Forge Powerhouse Cleanup
Laboratory Reference No. 2312-241

Dear David:

Enclosed are the analytical results and associated quality control data for samples submitted on December 20, 2023.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: December 20, 2023
Samples Submitted: December 20, 2023
Laboratory Reference: 2312-241
Project: Star Forge Powerhouse Cleanup

Case Narrative

Samples were collected on December 19, 2023 and received by the laboratory on December 20, 2023. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below. However the soil results for the QA/QC samples are reported on a wet-weight basis.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: December 20, 2023
Samples Submitted: December 20, 2023
Laboratory Reference: 2312-241
Project: Star Forge Powerhouse Cleanup

PCBs EPA 8082A

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Powerhouse-SS-NW-1.5**					
Laboratory ID:	12-241-01					
Aroclor 1016	**ND**	0.053	EPA 8082A	12-20-23	12-20-23	
Aroclor 1221	**ND**	0.053	EPA 8082A	12-20-23	12-20-23	
Aroclor 1232	**ND**	0.053	EPA 8082A	12-20-23	12-20-23	
Aroclor 1242	**ND**	0.053	EPA 8082A	12-20-23	12-20-23	
Aroclor 1248	**ND**	0.053	EPA 8082A	12-20-23	12-20-23	
Aroclor 1254	**ND**	0.053	EPA 8082A	12-20-23	12-20-23	
Aroclor 1260	**ND**	0.053	EPA 8082A	12-20-23	12-20-23	
Aroclor 1262	**ND**	0.053	EPA 8082A	12-20-23	12-20-23	
Aroclor 1268	**ND**	0.053	EPA 8082A	12-20-23	12-20-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*83*	*50-127*				
Client ID:	**Powerhouse-SS-NE-1.5**					
Laboratory ID:	12-241-02					
Aroclor 1016	**ND**	0.054	EPA 8082A	12-20-23	12-20-23	
Aroclor 1221	**ND**	0.054	EPA 8082A	12-20-23	12-20-23	
Aroclor 1232	**ND**	0.054	EPA 8082A	12-20-23	12-20-23	
Aroclor 1242	**ND**	0.054	EPA 8082A	12-20-23	12-20-23	
Aroclor 1248	**ND**	0.054	EPA 8082A	12-20-23	12-20-23	
Aroclor 1254	**ND**	0.054	EPA 8082A	12-20-23	12-20-23	
Aroclor 1260	**ND**	0.054	EPA 8082A	12-20-23	12-20-23	
Aroclor 1262	**ND**	0.054	EPA 8082A	12-20-23	12-20-23	
Aroclor 1268	**ND**	0.054	EPA 8082A	12-20-23	12-20-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*89*	*50-127*				
Client ID:	**Powerhouse-SS-SW-1.5**					
Laboratory ID:	12-241-03					
Aroclor 1016	**ND**	0.055	EPA 8082A	12-20-23	12-20-23	
Aroclor 1221	**ND**	0.055	EPA 8082A	12-20-23	12-20-23	
Aroclor 1232	**ND**	0.055	EPA 8082A	12-20-23	12-20-23	
Aroclor 1242	**ND**	0.055	EPA 8082A	12-20-23	12-20-23	
Aroclor 1248	**ND**	0.055	EPA 8082A	12-20-23	12-20-23	
Aroclor 1254	**ND**	0.055	EPA 8082A	12-20-23	12-20-23	
Aroclor 1260	**ND**	0.055	EPA 8082A	12-20-23	12-20-23	
Aroclor 1262	**ND**	0.055	EPA 8082A	12-20-23	12-20-23	
Aroclor 1268	**ND**	0.055	EPA 8082A	12-20-23	12-20-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*81*	*50-127*				

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: December 20, 2023
Samples Submitted: December 20, 2023
Laboratory Reference: 2312-241
Project: Star Forge Powerhouse Cleanup

PCBs EPA 8082A

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Powerhouse-SS-SE-1.5**					
Laboratory ID:	12-241-04					
Aroclor 1016	**ND**	0.056	EPA 8082A	12-20-23	12-20-23	
Aroclor 1221	**ND**	0.056	EPA 8082A	12-20-23	12-20-23	
Aroclor 1232	**ND**	0.056	EPA 8082A	12-20-23	12-20-23	
Aroclor 1242	**ND**	0.056	EPA 8082A	12-20-23	12-20-23	
Aroclor 1248	**ND**	0.056	EPA 8082A	12-20-23	12-20-23	
Aroclor 1254	**ND**	0.056	EPA 8082A	12-20-23	12-20-23	
Aroclor 1260	**ND**	0.056	EPA 8082A	12-20-23	12-20-23	
Aroclor 1262	**ND**	0.056	EPA 8082A	12-20-23	12-20-23	
Aroclor 1268	**ND**	0.056	EPA 8082A	12-20-23	12-20-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*85*	*50-127*				
Client ID:	**Powerhouse-Dup-1**					
Laboratory ID:	12-241-05					
Aroclor 1016	**ND**	0.056	EPA 8082A	12-20-23	12-20-23	
Aroclor 1221	**ND**	0.056	EPA 8082A	12-20-23	12-20-23	
Aroclor 1232	**ND**	0.056	EPA 8082A	12-20-23	12-20-23	
Aroclor 1242	**ND**	0.056	EPA 8082A	12-20-23	12-20-23	
Aroclor 1248	**ND**	0.056	EPA 8082A	12-20-23	12-20-23	
Aroclor 1254	**ND**	0.056	EPA 8082A	12-20-23	12-20-23	
Aroclor 1260	**ND**	0.056	EPA 8082A	12-20-23	12-20-23	
Aroclor 1262	**ND**	0.056	EPA 8082A	12-20-23	12-20-23	
Aroclor 1268	**ND**	0.056	EPA 8082A	12-20-23	12-20-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*84*	*50-127*				

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: December 20, 2023
Samples Submitted: December 20, 2023
Laboratory Reference: 2312-241
Project: Star Forge Powerhouse Cleanup

PCBs EPA 8082A
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1220S1					
Aroclor 1016	**ND**	0.050	EPA 8082A	12-20-23	12-20-23	
Aroclor 1221	**ND**	0.050	EPA 8082A	12-20-23	12-20-23	
Aroclor 1232	**ND**	0.050	EPA 8082A	12-20-23	12-20-23	
Aroclor 1242	**ND**	0.050	EPA 8082A	12-20-23	12-20-23	
Aroclor 1248	**ND**	0.050	EPA 8082A	12-20-23	12-20-23	
Aroclor 1254	**ND**	0.050	EPA 8082A	12-20-23	12-20-23	
Aroclor 1260	**ND**	0.050	EPA 8082A	12-20-23	12-20-23	
Aroclor 1262	**ND**	0.050	EPA 8082A	12-20-23	12-20-23	
Aroclor 1268	**ND**	0.050	EPA 8082A	12-20-23	12-20-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*91*	*50-127*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB1220S1										
	SB	SBD	SB	SBD		SB	SBD				
Aroclor 1260	**0.500**	**0.479**	0.500	0.500	N/A	**100**	**96**	55-119	4	34	
Surrogate:											
DCB						*101*	*101*	*50-127*			

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: December 20, 2023
Samples Submitted: December 20, 2023
Laboratory Reference: 2312-241
Project: Star Forge Powerhouse Cleanup

% MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
Powerhouse-SS-NW-1.5	12-241-01	**6**	12-20-23
Powerhouse-SS-NE-1.5	12-241-02	**7**	12-20-23
Powerhouse-SS-SW-1.5	12-241-03	**10**	12-20-23
Powerhouse-SS-SE-1.5	12-241-04	**10**	12-20-23
Powerhouse-Dup-1	12-241-05	**10**	12-20-23

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

X2 - Sample extract treated with a silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Y1 - Negative effects of the matrix from this sample on the instrument caused values for this analyte in the bracketing continuing calibration verification standard (CCVs) to be outside of 20% acceptance criteria. Because of this, quantitation limits and sample concentrations should be considered estimates.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: DH Environmental
Project Number:
Project Name: Star Forge Powerhouse Cleanup
Project Manager: Dave Hill
Sampled by: N. Moxley

Turnaround Request (in working days)

(Check One)

- [X] Same Day
- [ ] 1 Day
- [ ] 2 Days
- [ ] 3 Days
- [ ] Standard (7 Days)
- [X] Best Available (other)

Laboratory Number: 12-241

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX (8021☐ 8260☐)	NWTPH-Gx	NWTPH-Dx (SG Clean-up☐)	Volatiles 8260	Halogenated Volatiles 8260	EDB EPA 8011 (Waters Only)	Semivolatiles 8270/SIM (with low-level PAHs)	PAHs 8270/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081	Organophosphorus Pesticides 8270/SIM	Chlorinated Acid Herbicides 8151	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664				% Moisture
1	Powerhouse-SS-NW-1.5	12/19/23	1400	S	1										X											X
2	Powerhouse-SS-NE-1.5	↓	1410	↓	1										↓											↓
3	Powerhouse-SS-SW-1.5		1420		1																					
4	Powerhouse-SS-SE-1.5		1430		1																					
5	Powerhouse-Dup-1		1440		1																					

	Signature	Company	Date	Time
Relinquished		DHE	12/19/23	1900
Received	Nichelle Bilhimer	OSE	12/20/23	0830
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard [X] Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Please print or type. 478348 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: WAD000602813
2. Page 1 of 2
3. Emergency Response Phone: 800-337-7455
4. Manifest Tracking Number: 021751122 JJK

5. Generator's Name and Mailing Address
Star Forge LLC DBA Jorgensen Forge
8531 E Marginal Way S
Seattle WA 98108
Att: Wayne R Turk
Generator's Site Address (if different than mailing address)
Generator's Phone: 206 255-8177

6. Transporter 1 Company Name: DH Environmental Inc.
U.S. EPA ID Number: WAH000047217

7. Transporter 2 Company Name: Chemical Waste Management
U.S. EPA ID Number: ORD089452353

8. Designated Facility Name and Site Address
CHEMICAL WASTE MANAGEMENT, INC
17629 CEDAR SPRINGS LANE
ARLINGTON OR 97812
Facility's Phone: 541 454-2643
U.S. EPA ID Number: ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. UN3432, Polychlorinated biphenyls, solid 9, PGII	02	DM	100	K	NONE
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
Profile# OR345688 ERG# 171
Out Of Service Date 9-16-2020
Unique Drum ID: StrFrgDrum1, StrFrgDrum2
50K 50K
WMXU 97022

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Leonard J. Warnock on behalf of Star Forge DBA Jorgensen Forge
Signature: Leonard J Warnock
Month 09 Day 25 Year 20

INT'L
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER
17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Jacob Briere
Signature:
Month 09 Day 25 Year 20
Transporter 2 Printed/Typed Name: J. Pinarla
Signature:
Month 9 Day 25 Year 20

DESIGNATED FACILITY
18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☑ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Added individual weight for PCB Drums
Per Scott St John, Director of Project Services/DH Environmental LF 10/14/20
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132 2. 3. 4.
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Dawn Owle
Signature:
Month 10 Day 7 Year 20

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete. DESIGNATED FACILITY TO EPA's e-MANIFEST SYSTEM

9M

CWMI

478348

Please print or type. Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number WAD000602813	22. Page 2 of 2	23. Manifest Tracking Number 021751122 JJK

24. Generator's Name: STAR FORGE DBA JORGENSEN FORGE
8531 E MARGINAL WAY S
SEATTLE WA 98108-4018

25. Transporter 3 Company Name: UNION PACIFIC RAILROAD — U.S. EPA ID Number: NED001792910

26. Transporter 4 Company Name: COLUMBIA RIDGE LANDFILL — U.S. EPA ID Number: ORD987173457

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
	6.					
	7.					
	8.					
	9.					
	10.					
	11.					
	12.					
	13.					
	14.					

32. Special Handling Instructions and Additional Information
CONTAINER # WMXU 970221

GENERATOR

TRANSPORTER

33. Transporter 2 Acknowledgment of Receipt of Materials
Printed/Typed Name: G Altheimer — Signature — Month 9 Day 25 Year 20

34. Transporter ___ Acknowledgment of Receipt of Materials
Printed/Typed Name: Jennifer Williams — Signature — Month 10 Day 3 Year 20

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 12-17) Previous editions are obsolete.

DESIGNATED FACILITY TO EPA's e-MANIFEST SYSTEM

Chemical Waste Management of the NorthWest
17629 Cedar Springs Lane
Arlington, OR, 97812
Ph: (541) 454-2643

Reprint
Ticket# 33064

Customer Name	DH ENVIRONMENTAL DH ENVIRONME	Carrier	CRL Columbia Ridge Landfill
Ticket Date	10/16/2020	Vehicle#	RAIL Volume
Payment Type	Credit Account	Container	
CWM Load#	478348	Driver	
Hauling Ticket#	ESP	Check#	
Route		Billing #	0000107
State Waste Code		Gen EPA ID	
Manifest	021751122JJK		
Destination		Grid	
PO	478348		
Profile	OR345688 (PCB01 - TSCA REGULATED CLEANUP)		
Generator	OR-STAR FORGE LLC 8531 STAR FORGE LLC 8531 E MARGINAL WAY S SEATTLE WA 98108		

	Time	Scale	Operator	Inbound	Gross	220 lb*
In	10/16/2020 07:24:32	MANUAL WT	tlane		Tare	
Out	10/16/2020 07:24:32		tlane		Net	220 lb
			* Manual Weight		Tons	0.11

Comments

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	TSCA DRM-Each DM55	100	2.00	Each	85.00	2.20	$170.00	WA-SEATTLE
2	EVFt-P10-Environme	100		%	10.00		$23.50	WA-SEATTLE
3	TRANS EA DRUM-TRAN	100	2.00	Each	20.00		$40.00	WA-SEATTLE
4	MFE-e-Manifest (La	100	1.00	Each	25.00		$25.00	

Total Tax	$2.20
Total Ticket	$260.70

Driver`s Signature

Please print or type.

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: WAD000602813
2. Page 1 of: 1
3. Emergency Response Phone: (800) 424-9300
4. Manifest Tracking Number: 018614506 FLE

GENERATOR

5. Generator's Name and Mailing Address
Star Forge DBA Jorgensen Forge
8531 E Marginal Way S
Seattle, WA 98108-4018
Generator's Phone: 206-762-1100

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: R-Transport Inc
U.S. EPA ID Number: WAHC000028338

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Chemical Waste Management. Inc.
17629 Cedar Springs Lane
Arlington, OR 97812-9709
Facility's Phone: 541-454-2643
U.S. EPA ID Number: ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. RQ. UN3432 Polychlorinated Biphenyls, Solid, 9, II	01	DT		K	+082
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. OR35779 PCB Impacted Debris; ERG# 171 (RQ = 1 LB) R-77
1. PCB out of service date 12-21-23 Weight ___, Type ___

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Dan Rohlk
Signature:
Month: 12 Day: 21 Year: 23

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Brandon Hensley
Signature:
Month: 12 Day: 22 Year: 23
Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete.

DESIGNATED FACILITY TO EPA's e-MANIFEST SYSTEM

Please print or type.

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
WAD000602813	1	(800) 424-9300	018614507 FLE

GENERATOR

5. Generator's Name and Mailing Address
Star Forge DBA Jorgeson Forge
8531 - Emerginal Way S
Seattle, WA 98108, 4018
Generator's Phone: 206-767-1100

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
R-T Transport
U.S. EPA ID Number: WAH0000 28338

7. Transporter 2 Company Name
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Chemical Waste Management, Inc
17629 - Cedar Springs Lane
Arlington OR 97812-9709
Facility's Phone: 541-454-2643
U.S. EPA ID Number: ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. RQ UN 3432 Polychlorinated Biphenyls solid 9.11	01	DT	27,000	K	*002
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. OR 352799 PCB Impacted Debris; ERG# 171 CSF = 1 LB]
1. PCB out of service date 12.21.2023 Weight — Type —

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Dan Gable
Signature:
Month: 12 Day: 27 Year: 23

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Josh Portillo
Signature:
Month: 12 Day: 27 Year: 23

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

18b. Alternate Facility (or Generator) Manifest Reference Number:
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month: Day: Year:

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete.

DESIGNATED FACILITY TO EPA's e-MANIFEST SYSTEM

Form Approved. OMB No. 2050-0039

ase print or type.

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: WaD000602813
2. Page 1 of: 1
3. Emergency Response Phone: (800) 424-9300
4. Manifest Tracking Number: 018614508 FLE

5. Generator's Name and Mailing Address
Star Forge DBA Jorgensen Forge
8531 - E Marginal Way S
Seattle, WA 98108-4018
Generator's Phone: 206-767-1100

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: R-Transport
U.S. EPA ID Number: WaH000028338

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Chemical Waste Management, Inc
7629 Cedar Springs Lane
Arlington OR 97812-9709
U.S. EPA ID Number: ORD089452353
Facility's Phone: 541-454-2643

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. RQ UN3432 Polychlorinated Biphenyls solid 9-II	01	DT	27000	K	X002
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1- OR357799 PCB Impacted Debris; ERG# 171 Cfg = 1 LB]
1, PCB out of service dat 12 21 2023 Weight ___ Type ___

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Dan Rahdl
Signature:
Month 12 Day 27 Year 23

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Kelly DuKart
Signature: Kelly DuKart
Month 12 Day 27 Year 23

Transporter 2 Printed/Typed Name
Signature
Month Day Year

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY TO EPA's e-MANIFEST SYSTEM

GENERATOR | TRANSPORTER | INT'L | DESIGNATED FACILITY

Please print or type.

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: WAD000602813
2. Page 1 of: 1
3. Emergency Response Phone: (800) 424-9300
4. Manifest Tracking Number: 018614509 FLE

Generator's Site Address (if different than mailing address)

5. Generator's Name and Mailing Address
Star Forge DBA Jorgensen Forge
8531 - E Marginal Way S
Seattle, WA 98108-4018
Generator's Phone: 206-767-1100

U.S. EPA ID Number

6. Transporter 1 Company Name: R-Transport — U.S. EPA ID Number: WAD988028558

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address
Chemical Waste Management Inc
7629 Cedar Springs Lane
Arlington, OR 97812-9709
U.S. EPA ID Number: ORD089452353
Facility's Phone: 541-454-2643

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. RQ UN3432 Polychlorinated Biphenyls Solid 9.11	01	DT	27000	P	X002
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1- OR357799 PCB Impacted Debris; ERG# 171 cng = 1 2B J

1- PCB out of Service date 12 . 21 , 2023 , Weight — Type

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

GENERATOR

Generator's/Offeror's Printed/Typed Name: Dan Londe — Signature — Month 12 Day 27 Year 23

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: Date leaving U.S.:
Transporter signature (for exports only):

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: James Greenwood — Signature — Month 12 Day 27 Year 23

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

18b. Alternate Facility (or Generator) — Manifest Reference Number: — U.S. EPA ID Number

Facility's Phone: — Month Day Year

18c. Signature of Alternate Facility (or Generator)

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name — Signature — Month Day Year

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete.

DESIGNATED FACILITY TO EPA's e-MANIFEST SYSTEM

Chemical Waste Management of the NorthWest
17629 Cedar Springs Lane
Arlington, OR, 97812
Ph: (541) 454-2643

Reprint
Ticket# 87651

Customer Name	CONSTRUCTION GROUP INTERNATIO	Carrier	RTRANSPORT R Transport Inc
Ticket Date	01/17/2024	Vehicle#	R77 Volume
Payment Type	Credit Account	Container	
CWM Load#	502367	Driver	
Hauling Ticket#		Check#	
Route		Billing #	0000255
State Waste Code		Gen EPA ID	
Manifest	018614506FLE		
Destination		Grid	
PO	OR357799		
Profile	OR357799 (PCB Impacted Debris: PCB01)		
Generator	OR-STAR FORGE LLC 8531 STAR FORGE LLC DBA JORGENSEN FORGE 8531 E MARGINAL WA		

	Time	Scale	Operator	Inbound		
In	01/17/2024 10:44:15	MANUAL WT	pslider1		Gross	57141 lb*
Out	01/17/2024 10:44:15		pslider1		Tare	1 lb*
			* Manual Weight		Net	57140 lb
					Tons	28.57

Comments

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	TSCA Disp-Tons-TSC	100	28.57	Tons	172.10	571.40	$4916.90	WA-TUKWILA
2	ENERGY-Energy Surc	100		%	6.71		$530.46	WA-TUKWILA
3	MFE-e-Manifest (La	100	1.00	Each	25.00		$25.00	WA-TUKWILA
4	WWM-WASTE WATER MA	100		%	4.75		$233.55	WA-TUKWILA
5	TRANS PER TON-TRAN	100	28.57	Tons	86.00		$2580.00	WA-TUKWILA
6	LINER EA-LINER PER	100	2.00	Each	75.00		$150.00	WA-TUKWILA

Total Tax	$571.40
Total Ticket	$9007.31

Driver`s Signature

Chemical Waste Management of the NorthWest
17629 Cedar Springs Lane
Arlington, OR, 97812
Ph: (541) 454-2643

Reprint
Ticket# 87650

Customer Name	CONSTRUCTION GROUP INTERNATIO	Carrier	RTRANSPORT R Transport Inc
Ticket Date	01/17/2024	Vehicle#	R94 Volume
Payment Type	Credit Account	Container	
CWM Load#	502366	Driver	
Hauling Ticket#		Check#	
Route		Billing #	0000255
State Waste Code		Gen EPA ID	
Manifest	018614507FLE		
Destination		Grid	
PO	OR357799		
Profile	OR357799 (PCB Impacted Debris: PCB01)		
Generator	OR-STAR FORGE LLC 8531 STAR FORGE LLC DBA JORGENSEN FORGE 8531 E MARGINAL WA		

	Time	Scale	Operator	Inbound		
In	01/17/2024 10:40:17	MANUAL WT	pslider1		Gross	45361 lb*
Out	01/17/2024 10:40:17		pslider1		Tare	1 lb*
			* Manual Weight		Net	45360 lb
					Tons	22.68

Comments

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	TSCA Disp-Tons-TSC	100	22.68	Tons	172.10	453.60	$3903.23	WA-TUKWILA
2	ENERGY-Energy Surc	100		%	6.71		$459.21	WA-TUKWILA
3	MFE-e-Manifest (La	100	1.00	Each	25.00		$25.00	WA-TUKWILA
4	WWM-WASTE WATER MA	100		%	4.75		$185.40	WA-TUKWILA
5	TRANS PER TON-TRAN	100	22.68	Tons	86.00		$2580.00	WA-TUKWILA
6	LINER EA-LINER PER	100	2.00	Each	75.00		$150.00	WA-TUKWILA

Total Tax	$453.60
Total Ticket	$7756.44

Driver`s Signature

Chemical Waste Management of the NorthWest
17629 Cedar Springs Lane
Arlington, OR, 97812
Ph: (541) 454-2643

Reprint
Ticket# 87653

Customer Name	CONSTRUCTION GROUP INTERNATIO	Carrier	RTRANSPORT R Transport Inc
Ticket Date	01/17/2024	Vehicle#	R85 Volume
Payment Type	Credit Account	Container	
CWM Load#	502368	Driver	
Hauling Ticket#		Check#	
Route		Billing #	0000255
State Waste Code		Gen EPA ID	
Manifest	018614508FLE		
Destination		Grid	
PO	OR357799		
Profile	OR357799 (PCB Impacted Debris: PCB01)		
Generator	OR-STAR FORGE LLC 8531 STAR FORGE LLC DBA JORGENSEN FORGE 8531 E MARGINAL WA		

	Time	Scale	Operator	Inbound		
In	01/17/2024 10:51:35	MANUAL WT	pslider1		Gross	46381 lb*
Out	01/17/2024 10:51:35		pslider1		Tare	1 lb*
			* Manual Weight		Net	46380 lb
					Tons	23.19

Comments

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	TSCA Disp-Tons-TSC	100	23.19	Tons	172.10	463.80	$3991.00	WA-TUKWILA
2	ENERGY-Energy Surc	100		%	6.71		$465.38	WA-TUKWILA
3	MFE-e-Manifest (La	100	1.00	Each	25.00		$25.00	WA-TUKWILA
4	WWM-WASTE WATER MA	100		%	4.75		$189.57	WA-TUKWILA
5	TRANS PER TON-TRAN	100	23.19	Tons	86.00		$2580.00	WA-TUKWILA
6	LINER EA-LINER PER	100	2.00	Each	75.00		$150.00	WA-TUKWILA

Total Tax	$463.80
Total Ticket	$7864.75

Driver`s Signature

Chemical Waste Management of the NorthWest
17629 Cedar Springs Lane
Arlington, OR, 97812
Ph: (541) 454-2643

Reprint
Ticket# 87649

Customer Name	CONSTRUCTION GROUP INTERNATIO	Carrier	RTRANSPORT R Transport Inc
Ticket Date	01/17/2024	Vehicle#	84 Volume
Payment Type	Credit Account	Container	
CWM Load#	502365	Driver	
Hauling Ticket#		Check#	
Route		Billing #	0000255
State Waste Code		Gen EPA ID	
Manifest	018614509FLE		
Destination		Grid	
PO	OR357799		
Profile	OR357799 (PCB Impacted Debris: PCB01)		
Generator	OR-STAR FORGE LLC 8531 STAR FORGE LLC DBA JORGENSEN FORGE 8531 E MARGINAL WA		

	Time	Scale	Operator	Inbound		
In	01/17/2024 10:30:30	MANUAL WT	pslider1		Gross	54101 lb*
Out	01/17/2024 10:30:30		pslider1		Tare	1 lb*
			* Manual Weight		Net	54100 lb
					Tons	27.05

Comments

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	TSCA Disp-Tons-TSC	100	27.05	Tons	172.10	541.00	$4655.31	WA-TUKWILA
2	ENERGY-Energy Surc	100		%	6.71		$514.42	WA-TUKWILA
3	MFE-e-Manifest (La	100	1.00	Each	25.00		$25.00	WA-TUKWILA
4	WWM-WASTE WATER MA	100		%	4.75		$221.13	WA-TUKWILA
5	TRANS PER TON-TRAN	100	27.05	Tons	86.00		$2580.00	WA-TUKWILA
6	LINER EA-LINER PER	100	2.00	Each	75.00		$150.00	WA-TUKWILA
7	CERT-CERTIFICATE D	100	1.00	Each	35.00		$35.00	WA-TUKWILA

Total Tax	$541.00
Total Ticket	$8721.86

Driver`s Signature

2-23 504402

Please print or type. Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
WAD000802813	2	800-337-7455	025895525 JJK

GENERATOR

5. Generator's Name and Mailing Address
Star Forge LLC DBA Jorgensen Forge
8531 E Marginal Way S
Seattle WA 98108
Att: Wayne R Turk
Generator's Phone: 206 255-8177

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: R Transport Inc — U.S. EPA ID Number: WAH000028338

7. Transporter 2 Company Name: Union Pacific Railroad — U.S. EPA ID Number: NED001792910

8. Designated Facility Name and Site Address
CHEMICAL WASTE MANAGEMENT, INC
17629 CEDAR SPRINGS LANE
ARLINGTON OR 97812
Facility's Phone: 541 454-2843
U.S. EPA ID Number: ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ UN2315, Polychlorinated biphenyls, solid, mixture 9, PGII	1	CM	1016 ~~1,500~~ HW 3-4-24	K	~~NONE~~ X002
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1) OR357800 -TSCA ERG#171 RQ=1LBS 2240p.
Can 8808 Out of service Date 1/24/24 per David Hill President/principal Engineer only likely

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Nathan Moxley on behalf of Star Forge — Signature: [signature] — Month 1 Day 24 Year 24

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Chris Blum — Signature: [signature] — Month 1 Day 24 Year 24

Transporter 2 Printed/Typed Name: Alisha Lenius — Signature: Alisha Lenius — Month 1 Day 24 Year 24

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☒ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Weight correction per David Hill/pres. HW 3.4.24 Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H132			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Morgen Wolf — Signature: [signature] — Month 03 Day 04 Year 24

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete. DESIGNATED FACILITY TO EPA's e-MANIFEST SYSTEM

BMS

Please print or type. 504402 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)	21. Generator ID Number	22. Page	23. Manifest Tracking Number
	WAD000602813	2	025895525JJK

24. Generator's Name: STAR Forge. LLC. DBA Jorgenser Forge

25. Transporter 3 Company Name: PCC — U.S. EPA ID Number: ORD000041180

26. Transporter _____ Company Name — U.S. EPA ID Number:

GENERATOR

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

Chemical Waste Management of the NorthWest
17629 Cedar Springs Lane
Arlington, OR, 97812
Ph: (541) 454-2643

Reprint
Ticket# 93461

Customer Name	CONSTRUCTION GROUP INTERNATIO	Carrier	WATCO PALUOSE & COULEE CITY
Ticket Date	03/29/2024	Vehicle#	RAIL Volume
Payment Type	Credit Account	Container	
CWM Load#	504402	Driver	
Hauling Ticket#		Check#	
Route		Billing #	0000255
State Waste Code		Gen EPA ID	
Manifest	025895525JJK		
Destination		Grid	
PO	OR357800		
Profile	OR357800 (DRAINED PCB TRANSFORMER CARCASS - TSCA: PCB10)		
Generator	133-STAR FORGE LLC 8531 E MARG STAR FORGE LLC 8531 E MARGINAL WAY S TUKWILA		

	Time	Scale	Operator	Inbound		
In	03/29/2024 14:08:46	MANUAL WT	tlane		Gross	2241 lb*
Out	03/29/2024 14:08:46		tlane		Tare	1 lb*
			* Manual Weight		Net	2240 lb
					Tons	1.12

Comments

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	NonH Disp-Pounds-N	100	2240	lb	0.26	22.40	$5200.00	WA-TUKWILA
2	ENERGY-Energy Surc	100		%	7.02		$535.42	WA-TUKWILA
3	MFE-e-Manifest (La	100	1.00	Each	25.00		$25.00	WA-TUKWILA
4	WWM-WASTE WATER MA	100		%	4.75		$247.00	WA-TUKWILA
5	RAIL LOAD-RAIL PER	100	1	Load	785.00		$785.00	WA-TUKWILA
6	TRANS PER LOAD-TRA	100	1	Load	520.00		$520.00	WA-TUKWILA
7	LINER EA-LINER PER	100	1.00	Each	75.00		$75.00	WA-TUKWILA
8	RENT DAILY-RENT PE	100	37.00	Each	20.00		$740.00	
9	CERT35-CERTIFICATE	100	1.00	Each	35.00		$35.00	

Total Tax	$22.40
Total Ticket	$8184.82

Driver`s Signature

Please print or type. 503602 8004249300 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: WAD000602813
2. Page 1 of: 2
3. Emergency Response Phone: ~~800-337-7455~~
4. Manifest Tracking Number: 025895526 JJK

5. Generator's Name and Mailing Address
Att: Wayne R Turk
Star Forge LLC DBA Jorgensen Forge
8531 E Marginal Way S
Seattle WA 98108
Generator's Phone: 206 255-0177

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: R Transport Inc
U.S. EPA ID Number: WAH000028338

7. Transporter 2 Company Name: Union Pacific Railroad
U.S. EPA ID Number: NED001792910

8. Designated Facility Name and Site Address
CHEMICAL WASTE MANAGEMENT, INC
17629 CEDAR SPRINGS LANE
ARLINGTON OR 97812
Facility's Phone: 541-454-2843
U.S. EPA ID Number: ORD089452353

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. UN2315, Polychlorinated biphenyls, solid, mixture 9, PGII RQ= 1LBS	1	CM	3,000	K	~~NONE~~ X004
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1) OR358045-Non-TSCA ERG#171 RQ=1 LBS
Can 8701
752kg.

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

GENERATOR
Generator's/Offeror's Printed/Typed Name: Nathan Moxley on behalf of Star Forge
Signature:
Month: 1 Day: 24 Year: 24

INT'L
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER
17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Chris Blum
Signature:
Month: 1 Day: 24 Year: 24
Transporter 2 Printed/Typed Name: Alisha Lenius
Signature: Alisha Lenius
Month: 1 Day: 24 Year: 24

DESIGNATED FACILITY
18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month: Day: Year:
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H132 2. 3. 4.
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Morgan Wolf
Signature:
Month: 02 Day: 27 Year: 24

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete. DESIGNATED FACILITY TO EPA's e-MANIFEST SYSTEM

pms

Please print or type. 503602 Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)

21. Generator ID Number: WAD000602813

22. Page: 2

23. Manifest Tracking Number: 025895526 JJK

24. Generator's Name: STAR Forge LLC

25. Transporter 3 Company Name: PCL

U.S. EPA ID Number: ORQ000041180

26. Transporter _____ Company Name

U.S. EPA ID Number

27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No.	28. Containers Type	29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes		

GENERATOR

32. Special Handling Instructions and Additional Information

TRANSPORTER

33. Transporter 3 Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

34. Transporter _____ Acknowledgment of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

35. Discrepancy

36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

EPA Form 8700-22A (Rev. 12-17) Previous editions are obsolete.

DESIGNATED FACILITY TO EPA's e-MANIFEST SYSTEM

Chemical Waste Management of the NorthWest
17629 Cedar Springs Lane
Arlington, OR, 97812
Ph: (541) 454-2643

Reprint
Ticket# 91970

Customer Name	CONSTRUCTION GROUP INTERNATIO	Carrier	WATCO PALUOSE & COULEE CITY
Ticket Date	03/15/2024	Vehicle#	RAIL Volume
Payment Type	Credit Account	Container	
CWM Load#	503602	Driver	
Hauling Ticket#		Check#	
Route		Billing #	0000255
State Waste Code		Gen EPA ID	
Manifest	025895526JJK		
Destination		Grid	
PO	OR358045		
Profile	OR358045 (Drained PCB Transformer Carcass - NonTSCA: PCB10)		
Generator	133-STAR FORGE LLC 8531 E MARG STAR FORGE LLC 8531 E MARGINAL WAY S TUKWILA		

	Time	Scale	Operator	Inbound		
In	03/15/2024 09:33:40	MANUAL WT	pslider1		Gross	16561 lb*
Out	03/15/2024 09:33:40		pslider1		Tare	1 lb*
			* Manual Weight		Net	16560 lb
					Tons	8.28

Comments

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	NonH Disp-Pounds-N	100	16560	lb	0.26	41.40	$4305.60	WA-TUKWILA
2	ENERGY-Energy Surc	100		%	6.96		$461.46	WA-TUKWILA
3	WWM-WASTE WATER MA	100		%	4.75		$204.52	WA-TUKWILA
4	RAIL EA-RAIL EA	100	1.00	Each	785.00		$785.00	WA-TUKWILA
5	LINER EA-LINER PER	100	1.00	Each	75.00		$75.00	WA-TUKWILA
6	RENT DAILY-RENT PE	100	37.00	Each	20.00		$740.00	WA-TUKWILA
7	TRANS PER TRIP-TRA	100	1.00	Each	520.00		$520.00	WA-TUKWILA

Total Tax	$41.40
Total Ticket	$7132.98

Driver`s Signature

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

December 21, 2023

David Hill
DH Environmental, Inc.
1011 SW Klickitat Way, Suite 107
Seattle, WA 98103

Re: Analytical Data for Project Star Forge
Laboratory Reference No. 2312-252

Dear David:

Enclosed are the analytical results and associated quality control data for samples submitted on December 20, 2023.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: December 21, 2023
Samples Submitted: December 20, 2023
Laboratory Reference: 2312-252
Project: Star Forge

Case Narrative

Samples were collected on December 20, 2023 and received by the laboratory on December 20, 2023. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below. However the soil results for the QA/QC samples are reported on a wet-weight basis.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: December 21, 2023
Samples Submitted: December 20, 2023
Laboratory Reference: 2312-252
Project: Star Forge

PCBs EPA 8082A

Matrix: Wipe
Units: ug/100cm2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Breaker Bar Wipe_122023**					
Laboratory ID:	12-252-01					
Aroclor 1016	**ND**	2.0	EPA 8082A	12-20-23	12-21-23	
Aroclor 1221	**ND**	2.0	EPA 8082A	12-20-23	12-21-23	
Aroclor 1232	**ND**	2.0	EPA 8082A	12-20-23	12-21-23	
Aroclor 1242	**ND**	2.0	EPA 8082A	12-20-23	12-21-23	
Aroclor 1248	**ND**	2.0	EPA 8082A	12-20-23	12-21-23	
Aroclor 1254	**ND**	2.0	EPA 8082A	12-20-23	12-21-23	
Aroclor 1260	**ND**	2.0	EPA 8082A	12-20-23	12-21-23	
Aroclor 1262	**ND**	2.0	EPA 8082A	12-20-23	12-21-23	
Aroclor 1268	**ND**	2.0	EPA 8082A	12-20-23	12-21-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*97*	*54-135*				
Client ID:	**Excavator Bucket Wipe_122023**					
Laboratory ID:	12-252-02					
Aroclor 1016	**ND**	2.0	EPA 8082A	12-20-23	12-21-23	
Aroclor 1221	**ND**	2.0	EPA 8082A	12-20-23	12-21-23	
Aroclor 1232	**ND**	2.0	EPA 8082A	12-20-23	12-21-23	
Aroclor 1242	**ND**	2.0	EPA 8082A	12-20-23	12-21-23	
Aroclor 1248	**ND**	2.0	EPA 8082A	12-20-23	12-21-23	
Aroclor 1254	**ND**	2.0	EPA 8082A	12-20-23	12-21-23	
Aroclor 1260	**ND**	2.0	EPA 8082A	12-20-23	12-21-23	
Aroclor 1262	**ND**	2.0	EPA 8082A	12-20-23	12-21-23	
Aroclor 1268	**ND**	2.0	EPA 8082A	12-20-23	12-21-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*97*	*54-135*				

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: December 21, 2023
Samples Submitted: December 20, 2023
Laboratory Reference: 2312-252
Project: Star Forge

PCBs EPA 8082A
QUALITY CONTROL

Matrix: Wipe
Units: ug/100cm2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1220P1					
Aroclor 1016	**ND**	2.0	EPA 8082A	12-20-23	12-21-23	
Aroclor 1221	**ND**	2.0	EPA 8082A	12-20-23	12-21-23	
Aroclor 1232	**ND**	2.0	EPA 8082A	12-20-23	12-21-23	
Aroclor 1242	**ND**	2.0	EPA 8082A	12-20-23	12-21-23	
Aroclor 1248	**ND**	2.0	EPA 8082A	12-20-23	12-21-23	
Aroclor 1254	**ND**	2.0	EPA 8082A	12-20-23	12-21-23	
Aroclor 1260	**ND**	2.0	EPA 8082A	12-20-23	12-21-23	
Aroclor 1262	**ND**	2.0	EPA 8082A	12-20-23	12-21-23	
Aroclor 1268	**ND**	2.0	EPA 8082A	12-20-23	12-21-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*92*	*54-135*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB1220P1										
	SB	SBD	SB	SBD		SB	SBD				
Aroclor 1260	**20.4**	**20.4**	20.0	20.0	N/A	**102**	**102**	74-124	0	15	
Surrogate:											
DCB						*95*	*102*	*54-135*			

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

X2 - Sample extract treated with a silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Y1 - Negative effects of the matrix from this sample on the instrument caused values for this analyte in the bracketing continuing calibration verification standard (CCVs) to be outside of 20% acceptance criteria. Because of this, quantitation limits and sample concentrations should be considered estimates.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: DH Environmental
Project Number:
Project Name: Star Forge
Project Manager: D. Hill
Sampled by: N. Moxley

Turnaround Request (in working days)

(Check One)

- [X] Same Day
- [ ] 1 Day
- [ ] 2 Days
- [ ] 3 Days
- [ ] Standard (7 Days)
- [X] Best Available (other)

Laboratory Number: 12-252

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX (8021☐ 8260☐)	NWTPH-Gx	NWTPH-Dx (SG Clean-up☐)	Volatiles 8260	Halogenated Volatiles 8260	EDB EPA 8011 (Waters Only)	Semivolatiles 8270/SIM (with low-level PAHs)	PAHs 8270/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081	Organophosphorus Pesticides 8270/SIM	Chlorinated Acid Herbicides 8151	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664					% Moisture
1	Breaker Bar Wipe_122023	12/20/23	1145	Wipe	1										X											
2	Excavator Bucket Wipe_122023	↓	1215	↓	↓										X											

	Signature	Company	Date	Time
Relinquished		DHE	12/20/23	1345
Received		OHE	12/20/23	1400
Relinquished		OHE	12/20/23	1435
Received		OSE	12/20/23	1435
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☒ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

December 28, 2023

David Hill
DH Environmental, Inc.
1011 SW Klickitat Way, Suite 107
Seattle, WA 98103

Re: Analytical Data for Project Star Forge
Laboratory Reference No. 2312-300

Dear David:

Enclosed are the analytical results and associated quality control data for samples submitted on December 27, 2023.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,



David Baumeister
Project Manager

Enclosures

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: December 28, 2023
Samples Submitted: December 27, 2023
Laboratory Reference: 2312-300
Project: Star Forge

Case Narrative

Samples were collected on December 27, 2023 and received by the laboratory on December 27, 2023. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below. However the soil results for the QA/QC samples are reported on a wet-weight basis.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

PCBs EPA 8082A Analysis

During sample extraction, the sample "Smooth bucket" was mistakenly spiked with the Aroclor 1260 spike solution. Because the laboratory only had one wipe sample, a re-extraction was not possible, and extraction of the spiked sample continued. With a theoretical 100% recovery, the spiked sample would have a concentration of 10 $\mu g/100cm^2$. After extraction, the spiked sample had a concentration of 9.3 $\mu g/100cm^2$ of Aroclor 1260 and showed no evidence of containing other Aroclors.

Considering that the Aroclor 1260 in the sample extract is of the same composition as our spike, and that the amount recovered is less than the theoretical recovery, it is highly likely that the wipe "Smooth bucket" does not contain any Aroclor 1260 above the concentration of 2.0 $\mu g/100cm^2$.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: December 28, 2023
Samples Submitted: December 27, 2023
Laboratory Reference: 2312-300
Project: Star Forge

PCBs EPA 8082A

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**W. Pwrhouse Vault Soil-2**					
Laboratory ID:	12-300-01					
Aroclor 1016	**ND**	0.058	EPA 8082A	12-27-23	12-27-23	
Aroclor 1221	**ND**	0.058	EPA 8082A	12-27-23	12-27-23	
Aroclor 1232	**ND**	0.058	EPA 8082A	12-27-23	12-27-23	
Aroclor 1242	**ND**	0.058	EPA 8082A	12-27-23	12-27-23	
Aroclor 1248	**ND**	0.058	EPA 8082A	12-27-23	12-27-23	
Aroclor 1254	**0.14**	0.058	EPA 8082A	12-27-23	12-27-23	
Aroclor 1260	**ND**	0.058	EPA 8082A	12-27-23	12-27-23	
Aroclor 1262	**ND**	0.058	EPA 8082A	12-27-23	12-27-23	
Aroclor 1268	**ND**	0.058	EPA 8082A	12-27-23	12-27-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*76*	*50-127*				

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: December 28, 2023
Samples Submitted: December 27, 2023
Laboratory Reference: 2312-300
Project: Star Forge

PCBs EPA 8082A
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1227S1					
Aroclor 1016	**ND**	0.050	EPA 8082A	12-27-23	12-27-23	
Aroclor 1221	**ND**	0.050	EPA 8082A	12-27-23	12-27-23	
Aroclor 1232	**ND**	0.050	EPA 8082A	12-27-23	12-27-23	
Aroclor 1242	**ND**	0.050	EPA 8082A	12-27-23	12-27-23	
Aroclor 1248	**ND**	0.050	EPA 8082A	12-27-23	12-27-23	
Aroclor 1254	**ND**	0.050	EPA 8082A	12-27-23	12-27-23	
Aroclor 1260	**ND**	0.050	EPA 8082A	12-27-23	12-27-23	
Aroclor 1262	**ND**	0.050	EPA 8082A	12-27-23	12-27-23	
Aroclor 1268	**ND**	0.050	EPA 8082A	12-27-23	12-27-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*85*	*50-127*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB1227S1										
	SB	SBD	SB	SBD		SB	SBD				
Aroclor 1260	**0.414**	**0.459**	0.500	0.500	N/A	**83**	**92**	55-119	10	34	
Surrogate:											
DCB						*80*	*89*	*50-127*			

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: December 28, 2023
Samples Submitted: December 27, 2023
Laboratory Reference: 2312-300
Project: Star Forge

PCBs EPA 8082A

Matrix: Wipe
Units: ug/100cm2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Smooth Bucket**					
Laboratory ID:	12-300-02					
Aroclor 1016	**ND**	2.0	EPA 8082A	12-27-23	12-27-23	
Aroclor 1221	**ND**	2.0	EPA 8082A	12-27-23	12-27-23	
Aroclor 1232	**ND**	2.0	EPA 8082A	12-27-23	12-27-23	
Aroclor 1242	**ND**	2.0	EPA 8082A	12-27-23	12-27-23	
Aroclor 1248	**ND**	2.0	EPA 8082A	12-27-23	12-27-23	
Aroclor 1254	**ND**	2.0	EPA 8082A	12-27-23	12-27-23	
Aroclor 1260	**9.3**	2.0	EPA 8082A	12-27-23	12-27-23	Z
Aroclor 1262	**ND**	2.0	EPA 8082A	12-27-23	12-27-23	
Aroclor 1268	**ND**	2.0	EPA 8082A	12-27-23	12-27-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*86*	*54-135*				
Client ID:	**Tooth Backet**					
Laboratory ID:	12-300-03					
Aroclor 1016	**ND**	2.0	EPA 8082A	12-27-23	12-27-23	
Aroclor 1221	**ND**	2.0	EPA 8082A	12-27-23	12-27-23	
Aroclor 1232	**ND**	2.0	EPA 8082A	12-27-23	12-27-23	
Aroclor 1242	**ND**	2.0	EPA 8082A	12-27-23	12-27-23	
Aroclor 1248	**ND**	2.0	EPA 8082A	12-27-23	12-27-23	
Aroclor 1254	**ND**	2.0	EPA 8082A	12-27-23	12-27-23	
Aroclor 1260	**ND**	2.0	EPA 8082A	12-27-23	12-27-23	
Aroclor 1262	**ND**	2.0	EPA 8082A	12-27-23	12-27-23	
Aroclor 1268	**ND**	2.0	EPA 8082A	12-27-23	12-27-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*91*	*54-135*				

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: December 28, 2023
Samples Submitted: December 27, 2023
Laboratory Reference: 2312-300
Project: Star Forge

PCBs EPA 8082A
QUALITY CONTROL

Matrix: Wipe
Units: ug/100cm2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1227P1					
Aroclor 1016	**ND**	2.0	EPA 8082A	12-27-23	12-27-23	
Aroclor 1221	**ND**	2.0	EPA 8082A	12-27-23	12-27-23	
Aroclor 1232	**ND**	2.0	EPA 8082A	12-27-23	12-27-23	
Aroclor 1242	**ND**	2.0	EPA 8082A	12-27-23	12-27-23	
Aroclor 1248	**ND**	2.0	EPA 8082A	12-27-23	12-27-23	
Aroclor 1254	**ND**	2.0	EPA 8082A	12-27-23	12-27-23	
Aroclor 1260	**ND**	2.0	EPA 8082A	12-27-23	12-27-23	
Aroclor 1262	**ND**	2.0	EPA 8082A	12-27-23	12-27-23	
Aroclor 1268	**ND**	2.0	EPA 8082A	12-27-23	12-27-23	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*89*	*54-135*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB1227P1										
	SB	SBD	SB	SBD		SB	SBD				
Aroclor 1260	**19.4**	**19.4**	20.0	20.0	N/A	**97**	**97**	74-124	0	15	
Surrogate:											
DCB						*90*	*91*	*54-135*			

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: December 28, 2023
Samples Submitted: December 27, 2023
Laboratory Reference: 2312-300
Project: Star Forge

% MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
W. Pwrhouse Vault Soil-2	12-300-01	**13**	12-27-23

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

X2 - Sample extract treated with a silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Y1 - Negative effects of the matrix from this sample on the instrument caused values for this analyte in the bracketing continuing calibration verification standard (CCVs) to be outside of 20% acceptance criteria. Because of this, quantitation limits and sample concentrations should be considered estimates.

Z - Sample was inadvertently spiked at 10 ug/100 cm2 of Aroclor 1260. Please refer to the case narrative for this result.

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Laboratory Number: 12-300

Company: DH ENVIRONMENTAL
Project Number:
Project Name: STAR forge
Project Manager: D. Hill
Sampled by: D. Jenkins

Turnaround Request (in working days)
(Check One)
☐ Same Day ☒ 1 Day
☐ 2 Days ☐ 3 Days
☐ Standard (7 Days)
☒ Fastest Available (other)

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers
1	W. Pwrhouse Vault Soil-2	12/27/23	0930	Soil	1
2	Smooth bucket	↓	1050	Wipe	1
3	tooth bucket	↓	1045	Wipe	1

Lab ID	NWTPH-HCID	NWTPH-Gx/BTEX (8021☐ 8260☐)	NWTPH-Gx	NWTPH-Dx (SG Clean-up ☐)	Volatiles 8260	Halogenated Volatiles 8260	EDB EPA 8011 (Waters Only)	Semivolatiles 8270/SIM (with low-level PAHs)	PAHs 8270/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081	Organophosphorus Pesticides 8270/SIM	Chlorinated Acid Herbicides 8151	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664	% Moisture
1										X								X
2										↓								
3										↓								

	Signature	Company	Date	Time
Relinquished		DH Environ	12/27/23	11:49
Received		OSE	12/27/23	1149
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☒ Level III ☐ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Appendix G

Powerhouse Vault Excavation and Disposal Documentation



DH Environmental Inc.

Powerhouse Vault Location Map

Former Jorgensen Forge Facility 8531 E. Marginal Way S. Tukwila, WA, 98108	01/26/2024	Figure 1

Legend

Approximate Location of Powerhouse Vault

Note:

1. Aerial Photography Source: Google Earth Pro, 08/14/2020.

N

0 60 120

Scale in Feet

Photo Log
Previously Unknown Powerhouse Vault
December 2023
Former Jorgensen Forge Facility, Tukwila, WA



Photo 1: Location of the vault, west of the Powerhouse, after initial discovery. The vault was hidden beneath a concrete structure, and beneath a steel plate supported by an I-beam. The main Powerhouse structure is visible in the background, view to the east southeast.



Photo 2: Powerhouse vault, west of the Powerhouse, after initial discovery. View to the south.



Photo 3: Powerhouse vault, west of the Powerhouse, after initial discovery. Initial waste characterization soil sample collected from the brown soil marked with a red arrow. View to the southwest.



Photo 4: Powerhouse vault, west of the Powerhouse, following soil removal from the portion of the vault extending east-west. The vault contains a concrete base and sidewalls. Soil was stockpiled on plastic pending profile approval as TSCA waste to a subtitle C landfill. View to the west.



Photo 5: Powerhouse vault, west of the Powerhouse, following soil removal from the portion of the vault extending east-west. View to the east.



Photo 6: Powerhouse vault, west of the Powerhouse, following soil removal from the portion of the vault extending east-west. The vault appears to end after the steel I-beam visible in the top portion of this picture, and the fill material distinctly changes to a very dense gravel. No concrete sidewall was present at the south end of the vault. View to the south.

Chemical Waste Management of the NorthWest
17629 Cedar Springs Lane
Arlington, OR, 97812
Ph: (541) 454-2643

Reprint
Ticket# 88345

Customer Name	CONSTRUCTION GROUP INTERNATIO	Carrier	RTRANSPORT R Transport Inc
Ticket Date	01/31/2024	Vehicle#	2
Payment Type	Credit Account	Container	
CWM Load#	502778	Driver	
Hauling Ticket#		Check#	
Route		Billing #	0000255
State Waste Code		Gen EPA ID	
Manifest	017543360JJK		
Destination		Grid	
PO	OR357930		
Profile	OR357930 (PCB IMPACTED SOIL: PCB01)		
Generator	133-STAR FORGE LLC 8531 E MARG STAR FORGE LLC 8531 E MARGINAL WAY S TUKWILA		

	Time	Scale	Operator	Inbound		
In	01/31/2024 09:49:17	MANUAL WT	pslider1		Gross	52821 lb*
Out	01/31/2024 09:49:17		pslider1		Tare	1 lb*
			* Manual Weight		Net	52820 lb
					Tons	26.41

Comments

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	TSCA Disp-Tons-TSC	100	26.41	Tons	175.00	528.20	$4621.75	WA-TUKWILA
2	ENERGY-Energy Surc	100		%	6.74		$498.97	WA-TUKWILA
3	MFE-e-Manifest (La	100	1.00	Each	25.00		$25.00	WA-TUKWILA
4	WWM-WASTE WATER MA	100		%	4.75		$219.53	WA-TUKWILA
5	TRANS PER TON-TRAN	100	26.41	Tons	90.00		$2376.90	WA-TUKWILA
6	LINER EA-LINER PER	100	2.00	Each	80.00		$160.00	WA-TUKWILA

Total Tax	$528.20
Total Ticket	$8430.35

Driver`s Signature

Chemical Waste Management of the NorthWest
17629 Cedar Springs Lane
Arlington, OR, 97812
Ph: (541) 454-2643

Reprint
Ticket# 88344

Customer Name	CONSTRUCTION GROUP INTERNATIO	Carrier	RTRANSPORT R Transport Inc
Ticket Date	01/31/2024	Vehicle#	7 Volume
Payment Type	Credit Account	Container	
CWM Load#	502777	Driver	
Hauling Ticket#		Check#	
Route		Billing #	0000255
State Waste Code		Gen EPA ID	
Manifest	017543361JJK		
Destination		Grid	
PO	OR357930		
Profile	OR357930 (PCB IMPACTED SOIL: PCB01)		
Generator	133-STAR FORGE LLC 8531 E MARG STAR FORGE LLC 8531 E MARGINAL WAY S TUKWILA		

	Time	Scale	Operator	Inbound		
In	01/31/2024 09:38:16	MANUAL WT	pslider1		Gross	56821 lb*
Out	01/31/2024 09:38:16		pslider1		Tare	1 lb*
			* Manual Weight		Net	56820 lb
					Tons	28.41

Comments

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	TSCA Disp-Tons-TSC	100	28.41	Tons	175.00	568.20	$4971.75	WA-TUKWILA
2	ENERGY-Energy Surc	100		%	6.74		$535.82	WA-TUKWILA
3	MFE-e-Manifest (La	100	1.00	Each	25.00		$25.00	WA-TUKWILA
4	WWM-WASTE WATER MA	100		%	4.75		$236.16	WA-TUKWILA
5	TRANS PER TON-TRAN	100	28.41	Tons	90.00		$2556.90	WA-TUKWILA
6	LINER EA-LINER PER	100	2.00	Each	80.00		$160.00	WA-TUKWILA

Total Tax	$568.20
Total Ticket	$9053.83

Driver`s Signature

Chemical Waste Management of the NorthWest
17629 Cedar Springs Lane
Arlington, OR, 97812
Ph: (541) 454-2643

Reprint
Ticket# 89757

Customer Name	CONSTRUCTION GROUP INTERNATIO	Carrier	RTRANSPORT R Transport Inc
Ticket Date	02/23/2024	Vehicle#	7
Payment Type	Credit Account	Container	
CWM Load#	503263	Driver	
Hauling Ticket#		Check#	
Route		Billing #	0000255
State Waste Code		Gen EPA ID	
Manifest	025895550JJK		
Destination		Grid	
PO	OR357930		
Profile	OR357930 (PCB IMPACTED SOIL: PCB01)		
Generator	133-STAR FORGE LLC 8531 E MARG STAR FORGE LLC 8531 E MARGINAL WAY S TUKWILA		

	Time	Scale	Operator	Inbound		
In	02/23/2024 09:46:19	MANUAL WT	pslider1		Gross	60281 lb*
Out	02/23/2024 09:46:19		pslider1		Tare	1 lb*
			* Manual Weight		Net	60280 lb
					Tons	30.14

Comments

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	TSCA Disp-Tons-TSC	100	30.14	Tons	175.00	602.80	$5274.50	WA-TUKWILA
2	ENERGY-Energy Surc	100		%	7.22		$608.11	WA-TUKWILA
3	MFE-e-Manifest (La	100	1.00	Each	25.00		$25.00	WA-TUKWILA
4	WWM-WASTE WATER MA	100		%	4.75		$250.54	WA-TUKWILA
5	TRANS PER TON-TRAN	100	30.14	Tons	90.00		$2712.60	WA-TUKWILA
6	LINER EA-LINER PER	100	2.00	Each	80.00		$160.00	WA-TUKWILA

Total Tax	$602.80
Total Ticket	$9633.55

Driver`s Signature

Chemical Waste Management of the NorthWest
17629 Cedar Springs Lane
Arlington, OR, 97812
Ph: (541) 454-2643

Reprint
Ticket# 91782

Customer Name	CONSTRUCTION GROUP INTERNATIO	Carrier	WATCO PALUOSE & COULEE CITY
Ticket Date	03/13/2024	Vehicle#	RAIL Volume
Payment Type	Credit Account	Container	
CWM Load#	503680	Driver	
Hauling Ticket#		Check#	
Route		Billing #	0000255
State Waste Code		Gen EPA ID	
Manifest	025895551JJK		
Destination		Grid	
PO	OR357930		
Profile	OR357930 (PCB IMPACTED SOIL: PCB01)		
Generator	133-STAR FORGE LLC 8531 E MARG STAR FORGE LLC 8531 E MARGINAL WAY S TUKWILA		

	Time	Scale	Operator	Inbound		
In	03/13/2024 11:26:07	MANUAL WT	pslider1		Gross	34441 lb*
Out	03/13/2024 11:26:07		pslider1		Tare	1 lb*
			* Manual Weight		Net	34440 lb
					Tons	17.22

Comments

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	TSCA Disp-Tons-TSC	100	17.22	Tons	175.00	344.40	$3013.50	WA-TUKWILA
2	ENERGY-Energy Surc	100		%	6.96		$334.88	WA-TUKWILA
3	MFE-e-Manifest (La	100	1.00	Each	25.00		$25.00	WA-TUKWILA
4	WWM-WASTE WATER MA	100		%	4.75		$143.14	WA-TUKWILA
5	TRANS PER TON-TRAN	100	17.22	Tons	90.00		$1549.80	WA-TUKWILA
6	LINER EA-LINER PER	100	1.00	Each	80.00		$80.00	WA-TUKWILA

Total Tax	$344.40
Total Ticket	$5490.72

Driver`s Signature

Chemical Waste Management of the NorthWest
17629 Cedar Springs Lane
Arlington, OR, 97812
Ph: (541) 454-2643

Reprint
Ticket# 91783

Customer Name	CONSTRUCTION GROUP INTERNATIO	Carrier	WATCO PALUOSE & COULEE CITY
Ticket Date	03/13/2024	Vehicle#	RAIL Volume
Payment Type	Credit Account	Container	
CWM Load#	503777	Driver	
Hauling Ticket#		Check#	
Route		Billing #	0000255
State Waste Code		Gen EPA ID	
Manifest	025895552JJK		
Destination		Grid	
PO	OR357930		
Profile	OR357930 (PCB IMPACTED SOIL: PCB01)		
Generator	133-STAR FORGE LLC 8531 E MARG STAR FORGE LLC 8531 E MARGINAL WAY S TUKWILA		

	Time	Scale	Operator	Inbound		
In	03/13/2024 11:32:22	MANUAL WT	pslider1		Gross	35121 lb*
Out	03/13/2024 11:32:22		pslider1		Tare	1 lb*
			* Manual Weight		Net	35120 lb
					Tons	17.56

Comments

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	TSCA Disp-Tons-TSC	100	17.56	Tons	175.00	351.20	$3073.00	WA-TUKWILA
2	ENERGY-Energy Surc	100		%	6.96		$341.34	WA-TUKWILA
3	MFE-e-Manifest (La	100	1.00	Each	25.00		$25.00	WA-TUKWILA
4	WWM-WASTE WATER MA	100		%	4.75		$145.97	WA-TUKWILA
5	TRANS PER TON-TRAN	100	17.56	Tons	90.00		$1580.40	WA-TUKWILA
6	LINER EA-LINER PER	100	1.00	Each	80.00		$80.00	WA-TUKWILA

Total Tax	$351.20
Total Ticket	$5596.91

Driver`s Signature

Chemical Waste Management of the NorthWest
17629 Cedar Springs Lane
Arlington, OR, 97812
Ph: (541) 454-2643

Reprint
Ticket# 89758

Customer Name	CONSTRUCTION GROUP INTERNATIO	Carrier	RTRANSPORT R Transport Inc
Ticket Date	02/23/2024	Vehicle#	1 Volume
Payment Type	Credit Account	Container	
CWM Load#	503264	Driver	
Hauling Ticket#		Check#	
Route		Billing #	0000255
State Waste Code		Gen EPA ID	
Manifest	025895553JJK		
Destination		Grid	
PO	OR357930		
Profile	OR357930 (PCB IMPACTED SOIL: PCB01)		
Generator	133-STAR FORGE LLC 8531 E MARG STAR FORGE LLC 8531 E MARGINAL WAY S TUKWILA		

	Time	Scale	Operator	Inbound		
In	02/23/2024 09:50:58	MANUAL WT	pslider1		Gross	60681 lb*
Out	02/23/2024 09:50:58		pslider1		Tare	1 lb*
			* Manual Weight		Net	60680 lb
					Tons	30.34

Comments

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	TSCA Disp-Tons-TSC	100	30.34	Tons	175.00	606.80	$5309.50	WA-TUKWILA
2	ENERGY-Energy Surc	100		%	7.22		$612.06	WA-TUKWILA
3	MFE-e-Manifest (La	100	1.00	Each	25.00		$25.00	WA-TUKWILA
4	WWM-WASTE WATER MA	100		%	4.75		$252.20	WA-TUKWILA
5	TRANS PER TON-TRAN	100	30.34	Tons	90.00		$2730.60	WA-TUKWILA
6	LINER EA-LINER PER	100	2.00	Each	80.00		$160.00	WA-TUKWILA

Total Tax	$606.80
Total Ticket	$9696.16

Driver`s Signature

Chemical Waste Management of the NorthWest
17629 Cedar Springs Lane
Arlington, OR, 97812
Ph: (541) 454-2643

Reprint
Ticket# 88980

Customer Name	CONSTRUCTION GROUP INTERNATIO	Carrier	RTRANSPORT R Transport Inc
Ticket Date	02/15/2024	Vehicle#	R72 Volume
Payment Type	Credit Account	Container	
CWM Load#	502979	Driver	
Hauling Ticket#		Check#	
Route		Billing #	0000255
State Waste Code		Gen EPA ID	
Manifest	025895556JJK		
Destination		Grid	
PO	OR357930		
Profile	OR357930 (PCB IMPACTED SOIL: PCB01)		
Generator	133-STAR FORGE LLC 8531 E MARG STAR FORGE LLC 8531 E MARGINAL WAY S TUKWILA		

	Time	Scale	Operator	Inbound	Gross	64941 lb*
In	02/15/2024 15:45:19	MANUAL WT	pslider1		Tare	1 lb*
Out	02/15/2024 15:45:19		pslider1		Net	64940 lb
			* Manual Weight		Tons	32.47

Comments

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	TSCA Disp-Tons-TSC	100	32.47	Tons	175.00	649.40	$5682.25	WA-TUKWILA
2	ENERGY-Energy Surc	100		%	7.24		$655.90	WA-TUKWILA
3	MFE-e-Manifest (La	100	1.00	Each	25.00		$25.00	WA-TUKWILA
4	WWM-WASTE WATER MA	100		%	4.75		$269.91	WA-TUKWILA
5	TRANS PER TON-TRAN	100	32.47	Tons	90.00		$2922.30	WA-TUKWILA
6	LINER EA-LINER PER	100	2.00	Each	80.00		$160.00	WA-TUKWILA

Total Tax	$649.40
Total Ticket	$10364.76

Driver`s Signature

Chemical Waste Management of the NorthWest
17629 Cedar Springs Lane
Arlington, OR, 97812
Ph: (541) 454-2643

Reprint
Ticket# 88973

Customer Name	CONSTRUCTION GROUP INTERNATIO	Carrier	RTRANSPORT R Transport Inc
Ticket Date	02/15/2024	Vehicle#	R86 Volume
Payment Type	Credit Account	Container	
CWM Load#	502972	Driver	
Hauling Ticket#		Check#	
Route		Billing #	0000255
State Waste Code		Gen EPA ID	
Manifest	025895557JJK		
Destination		Grid	
PO	OR357930		
Profile	OR357930 (PCB IMPACTED SOIL: PCB01)		
Generator	133-STAR FORGE LLC 8531 E MARG STAR FORGE LLC 8531 E MARGINAL WAY S TUKWILA		

	Time	Scale	Operator	Inbound		
In	02/15/2024 12:32:33	MANUAL WT	pslider1		Gross	57601 lb*
Out	02/15/2024 12:32:33		pslider1		Tare	1 lb*
			* Manual Weight		Net	57600 lb
					Tons	28.80

Comments

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	TSCA Disp-Tons-TSC	100	28.80	Tons	175.00	576.00	$5040.00	WA-TUKWILA
2	ENERGY-Energy Surc	100		%	7.24		$583.28	WA-TUKWILA
3	MFE-e-Manifest (La	100	1.00	Each	25.00		$25.00	WA-TUKWILA
4	WWM-WASTE WATER MA	100		%	4.75		$239.40	WA-TUKWILA
5	TRANS PER TON-TRAN	100	28.80	Tons	90.00		$2592.00	WA-TUKWILA
6	LINER EA-LINER PER	100	2.00	Each	80.00		$160.00	WA-TUKWILA

Total Tax	$576.00
Total Ticket	$9215.68

Driver`s Signature

Appendix H

Stormwater Engineer Certification Letter

6814 GREENWOOD AVE N.
SEATTLE, WA 98103
T 206.522.9510
WWW.PACLAND.COM

April 1, 2024

Subject: Jorgensen Forge
Engineer Certification Letter

The project site is located at the former Jorgensen Forge site at 8531 E Marginal Way in the City of Tukwila, Washington. PACLAND performed a site visit to the project site on March 15, 2024 to evaluate the condition of the existing site after demolition of buildings and stabilization of the disturbed areas, which consisted of paving/grading operations to direct stormwater runoff to existing storm drainage infrastructure.

Based on site observations and information provided by the contractor on-site, the re-grading operations appear to be functioning as intended, with stormwater runoff on the pad being directed toward existing stormwater infrastructure to the maximum extent feasible. No ponding was observed on the former building pad area.

Per a letter provided by DH Environmental Inc. on March 27, 2024, the existing storm drainage system "was cleaned via jet rodding and pressure washing to the extent possible utilizing industry standard equipment. All waste was collected and will be designated and disposed of in accordance with WAC 173-303." Per the site contractor, all structural temporary erosion and sediment control (TESC) measures (silt fences, catch basin inserts, etc.) have been removed from the site.

Based on the site observations, removal of TESC measures, and cleaning of the existing infrastructure, it is our opinion that the storm drainage system is functioning properly.

If you have questions regarding the above letter, please feel free to contact us at (206) 522-9510 or via email at lrandles@pacland.com.

Sincerely,





Luke Randles, P.E.

04/01/2024

Appendix I

Administrative Order Docket Number 22970

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Northwest Region Office
PO Box 330316, Shoreline, WA 98133-9716 • 206-594-0000

July 25, 2024

James Robertson
Star Forge LLC, dba Jorgensen Forge
8531 E. Marginal Way S.
Tukwila, WA 98108

Re: Administrative Order

Administrative Order Docket #	22970
Site Location	Jorgensen Forge (former) 8531 E. Marginal Way S. Tukwila, WA 98108

Dear James Robertson:

The Department of Ecology (Ecology) is issuing the enclosed Administrative Order (Order) requiring Star Forge LLC, dba Jorgensen Forge to comply with:

- Chapter 90.48 Revised Code of Washington (RCW) - State of Washington Water Pollution Control Act.
- Chapter 173-201A Washington Administrative Code (WAC) - Water Quality Standards for Surface Waters of the State of Washington.

If you have questions, please contact Jessica Kasmari at Jessica.kasmari@ecy.wa.gov or 425-758-3799.

Sincerely,

Rachel McCrea

Rachel McCrea
Water Quality Section Manager
Northwest Region Office

Enclosure: Administrative Order Docket #22970

By Certified Mail #9171 9690 0935 0233 1459 40

ecc: Amy Jankowiak, Ecology
Jessica Kasmari, Ecology
Stacy Fox, DH Environmental, Inc.
David Hill, DH Environmental, Inc.

State of Washington
Department of Ecology

In the Matter of an Administrative Order Against STAR FORGE LLC, DBA JORGENSEN FORGE JAMES ROBERTSON Administrative Order Docket #22970

To: James Robertson
Star Forge LLC, dba Jorgensen Forge
8531 E. Marginal Way S.
Tukwila, WA 98108

Administrative Order Docket #	22970
Site Location	Jorgensen Forge (former) 8531 E. Marginal Way S. Tukwila, WA 98108

The Department of Ecology (Ecology) has issued this Administrative Order (Order) requiring Star Forge LLC, dba Jorgensen Forge to comply with:

- Chapter 90.48 Revised Code of Washington (RCW) - State of Washington Water Pollution Control Act.
- Chapter 173-201A Washington Administrative Code (WAC) - Water Quality Standards for Surface Waters of the State of Washington.

Chapter 90.48.120(2) RCW gives Ecology the authority to issue Administrative Orders requiring compliance whenever it determines that immediate action is necessary to accomplish the purposes of Chapter 90.48 RCW.

1. Order to Comply

Ecology's determination that immediate action is necessary to accomplish the purposes of Chapter 90.48 RCW is based on the information listed below.

Star Forge LLC, dba Jorgensen Forge (Star Forge) previously operated the facility at 8531 E. Marginal Way S. and was conditionally authorized to discharge stormwater associated with industrial activity under Industrial Stormwater General Permit (ISGP) #WAR003231 (Permit). The site has undergone demolition, and all industrial equipment has been removed. Star Forge applied for and received Notice of Termination of the Permit on June 10, 2024.

The prior owner of the facility, Jorgensen Forge Corporation, filed for bankruptcy in 2016. The facility was subsequently purchased by Star Forge, LLC and Star Forge continued to operate the facility under the name Jorgensen Forge. The past operations occurred in one large building (main building) with a footprint of approximately 283,000 square feet (8.03 acres). The main

building included the Melt Shop, Forge Shop, Heat Treat, Hollowbore, and Machine Shops. There were also several smaller buildings that housed an office, support services, storage, and an aluminum heat-treat facility. The buildings were demolished after obtaining a demolition permit from the City of Tukwila. Most of the property is paved with concrete or asphalt. The stormwater treatment system remains and discharges to the Duwamish River via outfall 3.

Ecology issued Administrative Order #18074 on April 9, 2020 and Amended Administrative Order #18160 on July 20, 2020 (collectively, the "2020 Order") related to contamination on site (soil and groundwater) requiring the collection of stormwater, treatment, monitoring and reporting prior to discharge to the Lower Duwamish Waterway, a Superfund cleanup site.

Water quality violations prior to April 2020, under the Permit showed elevated levels of PCBs, zinc, copper, petroleum hydrocarbons, turbidity, and pH. The Permit did not have water quality sampling requirements or benchmarks for all known constituents of concerns on-site, such as PCBs, arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc, gasoline-range hydrocarbons, diesel and oil-range hydrocarbons, and BTEX. The 2020 Order required the collection of all contaminated stormwater to go to a treatment system that could ensure indicator levels set by the 2020 Order would be met prior to batch discharge. The indicator levels were set to assure that water quality standards would be met for the known contaminants. The 2020 Order also required monitoring and reporting of monitoring data as well as notification of indicator level exceedances.

Star Forge has ceased all industrial activity and has completed demolition of the buildings on the site. Due to the presence of contamination in the soil and groundwater, Star Forge plans to keep the treatment system on site and operating until the site is sold to a new owner. This Order terminates and replaces the 2020 Order but continues the 2020 Order requirements for collection, treatment, monitoring and reporting separate from the terminated Permit. Batch treatment is no longer necessary as the site has shown that the treatment regularly meets indicator levels.

In order to comply with the Water Quality Standards for discharges to surface waters of the State of Washington, and to comply with Chapter 90.48 RCW, this Order continues to require collection of contaminated stormwater, treatment to indicator levels, monitoring, and reporting. Ecology used updated indicator levels consistent with current standards and included parameters that were in the Permit but not the Order including Zinc, Copper, Lead, Diesel and oil-range hydrocarbons, turbidity, and pH.

Corrective Actions Required:

For these reasons and in accordance with RCW 90.48.120(2), it is ordered that Star Forge LLC take the following actions. These actions are required at the location formerly known as Jorgensen Forge at 8531 E. Marginal Way S, Tukwila, WA.

1. Capture, contain, and treat all contaminated stormwater prior to discharge to the receiving waterbody.
2. Use the existing Ecology-approved treatment system and media filtration to treat any contaminated stormwater. Ecology must be notified in advance if any changes in the treatment are made, with the exception of routine maintenance.
3. All captured solids from the treatment of the contaminated stormwater must be transported to an approved disposal facility based on the level of contamination.
4. Star Forge may use a flow-through treatment system. All contaminated stormwater must be sampled monthly while discharging and tested for the parameters listed in Table 1.
5. If any of the Indicator Levels listed in Table 1 are exceeded, Star Forge must stop the discharge of contaminated stormwater to the receiving waterbody until it has been retested to determine that all parameters are equal to or below the Indicator Levels in Table 1. If any of the Indicator Levels are exceeded after being retested, Star Forge must modify the existing flow-through treatment system to increase its effectiveness, install an additional Ecology-approved treatment system, or truck the contaminated stormwater off-site for disposal in an approved manner. Star Forge may also discharge the treated water to sanitary sewer in accordance with the conditions of the discharge authorization from the proper sewer authority.
6. Sampling results for the contaminants listed in Table 1 must be reported by email to the lead Duwamish Inspector (as listed in the contact information in section 4 of this Order). Results of monthly sampling must be submitted quarterly (due April 15 for the first quarter; July 15; October 15; and January 15 of each year). If sampling is conducted more frequently than required by this Order, the results of this monitoring must be included. If sampling is not conducted for one or more months in a quarter, include a description of why no sample was collected and/or analyzed.
7. Any discharge to Waters of the State in exceedance of the Indicator Levels in Table 1 must be reported to the Department of Ecology as follows:
    a. Immediately notify Ecology by calling the regional 24-hour Environmental Report Tracking System (ERTS) phone number (206) 594-0000.
    b. Cease the discharge until Indicator Levels can be met.
8. If a modification of this Order is desired, a written request must be submitted to Ecology and if approved, Ecology will issue an amendment to this Order. Ecology retains the right to make modifications to this Order through supplemental Order, or amendment to this Order, it if appears necessary to further protect water quality.

Table 1. Marine/Brackish Water Parameters

Star Forge must use the specified analytical methods, detection limits (DLs) and quantitation levels (QLs) in the following table for monitoring unless the method used produces measurable results in the sample and EPA has listed it as an EPA-approved method in 40 CFR Part 136. If Star Forge uses an alternative method, not specified in the order and as allowed above, it must report the test method, DL, and QL to Ecology.

Pollutant & CAS No. (if available)	Sampling Frequency*	Sample Type	Indicator Level, µg/L unless otherwise noted	Required Analytical Protocol	Detection Level, µg/L unless otherwise noted	Quantitation Level, µg/L unless otherwise noted
PETROLEUM HYDROCARBONS						
BTEX (benzene, toluene, ethylbenzene and O,M,P xylenes)	Monthly	Grab	2.0 [a]	SW 846 8021/ 8260	1.0	2.0
Diesel and Oil-Range Hydrocarbons (NWTPH-Dx) [b]	Monthly	Grab	250 [a]	NWTPH-Dx	250	250
Gasoline-Range Hydrocarbons (NWTPH-Gx) [c]	Monthly	Grab	250 [a]	NWTPH-Gx	250	250
METALS						
Arsenic, Total (7440-38-2)	Monthly	Grab	69 [d]	200.8	0.1	0.5
Barium, Total (7440-39-3)	Monthly	Grab	1,000 [i]	200.8	0.5	2.0
Cadmium, Total (7440-43-9)	Monthly	Grab	42.25 [d]	200.8	0.05	0.25
Chromium, Total (7440-47-3)	Monthly	Grab	1100 [h]	200.8	0.2	1.0
Copper, Total (7440-50-8)	Monthly	Grab	5.78 [d]	200.8	0.4	2.0
Lead, Total (7439-92-1)	Monthly	Grab	220.82 [d]	200.8	0.1	0.5
Mercury, Total (7439-97-6)	Monthly	Grab	2118 ng/L [d]	1631E	0.2 ng/L	0.5 ng/L
Nickel, Total (7440-02-0)	Monthly	Grab	74.75 [d]	200.8	0.1	0.5
Selenium, Total (7782-49-2)	Monthly	Grab	290.58 [d]	200.8	1.0	1.0
Silver, Total (7440-22-4)	Monthly	Grab	2.24 [d]	200.8	0.04	0.2
Zinc, Total (7440-66-6)	Monthly	Grab	95.14 [d]	200.8	0.5	2.5
POLYCHLORINATED BIPHENYLS (PCBs)						
PCBs, Total [f] (8082A)	Monthly	Grab	0.016 [g]	8082A (Update V)	0.016 [g]	0.016 [g]

Pollutant & CAS No. (if available)	Sampling Frequency*	Sample Type	Indicator Level, µg/L unless otherwise noted	Required Analytical Protocol	Detection Level, µg/L unless otherwise noted	Quantitation Level, µg/L unless otherwise noted
TURBIDITY AND pH						
Turbidity	Monthly	Grab	25 NTU	SM2130 [k]		
pH	Monthly	Grab	6.5 - 8.5 SU	SM4500-H^+ B		

NOTES:

a	No applicable surface water criterion; value is laboratory quantitation level.
b	NWTPH-Dx = Northwest Total Petroleum Hydrocarbons – Semi-volatile ("diesel") for diesel range organics and heavy oils (includes jet fuels, kerosene, diesel-oils, hydraulic fluids, mineral oils, lubricating oils, and fuel oils).
c	NWTPH-Gx = Northwest Total Petroleum Hydrocarbons – Volatile petroleum products including aviation and automotive gasolines, mineral spirits, Stoddard solvent, and naphtha.
d	Acute – Marine Water Toxic Substances Criteria (WAC 173-201A-240) calculated using conversion factors per Table 240.
e	Or equivalent.
f	Total PCBs are the sum of all congener or all isomer or homolog or Aroclor analyses.
g	Value is the Lowest Level of Quantitation (LLOQ) for water samples for PCBs by Method 8082A, Update V.
h	Indicator Level total chromium is actually for hexavalent chromium using Acute – Marine Water Toxic Substances Criteria (WAC 173-201A-240) because there is no water quality standard for total chromium.
i	Applicable surface water criterion does not exist for barium. The indicator level of 1,000 µg/L for barium is based on groundwater quality standards to be protective of human health and the environment.
*	Sampling frequency is a minimum of monthly.

2. Failure to Comply With This Order

Failure to comply with this Order may result in the issuance of civil penalties or other actions, whether administrative or judicial, to enforce the terms of this Order.

3. Your Right to Appeal

You have a right to appeal this Order to the Pollution Control Hearings Board (PCHB) within thirty (30) days of the date of receipt of this Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B0.001(2).

To appeal, you must do all of the following within thirty (30) days of receipt of this Order:

- File your appeal and a copy of this Order with the PCHB (see address below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Order on Ecology by mail, in person or by email (see addresses below).

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

Filing with the PCHB

For the most current information regarding filing with the PCHB, visit: https://eluho.wa.gov/ or call: 360-664-9160.

Service on Ecology

Street Addresses:
Department of Ecology
Attn: Appeals Processing Desk
300 Desmond Drive SE
Lacey, WA 98503

Mailing Addresses:
Department of Ecology
Attn: Appeals Processing Desk
PO Box 47608
Olympia, WA 98504-7608

E-Mail Address:
ecologyappeals@ecy.wa.gov

4. Contact Information

Please direct all questions about this Order to:

Jessica Kasmari
Department of Ecology
Northwest Region Office
P.O. Box 330316
Shoreline, WA 98133-9716

Phone: 425-758-3799
Email: Jessica.kasmari@ecy.wa.gov

5. More Information

- **Pollution Control Hearings Board Website:**
  https://www.eluho.wa.gov
- **Chapter 43.21B RCW – Environmental and Land Use Hearings Office – Pollution Control Hearings Board:**
  https://app.leg.wa.gov/RCW/default.aspx?cite=43.21B
- **Chapter 371-08 WAC – Practice and Procedure**
  https://app.leg.wa.gov/WAC/default.aspx?cite=371-08
- **Chapter 34.05 RCW – Administrative Procedure Act**
  https://app.leg.wa.gov/RCW/default.aspx?cite=34.05
- **Ecology's Laws, Rules, & Rulemaking Website**
  https://ecology.wa.gov/Footer/rulemaking

6. Signature

Rachel McCrea

Rachel McCrea
Water Quality Section Manager
Northwest Region Office

July 25, 2025
Date

Appendix J

Cultural Resources Monitoring Report
Stell Environmental Enterprises, July 2024

CULTURAL RESOURCES REPORT COVER SHEET

DAHP Project Number: 2019-10-08126

Author: Nichole Padovano, BA and Anne B. Parfitt, MA

Title of Report: FINAL: Star Forge Facility Demolition Project Cultural Resources Monitoring Report

Date of Report: July 16, 2024

County(ies): King Section: 33 Township: 23, 24 Range: 4E

Quad: Seattle North Acres: 20.2

PDF of report submitted (REQUIRED) ☒ Yes

Historic Property Inventory Forms to be Approved Online? ☐ Yes ☒ No

Archaeological Site(s)/Isolate(s) Found or Amended? ☐ Yes ☒ No

TCP(s) found? ☐ Yes ☒ No

Replace a draft? ☐ Yes ☒ No

Satisfy a DAHP Archaeological Excavation Permit requirement? ☐ Yes # ☒ No

Were Human Remains Found? ☐ Yes DAHP Case # ☒ No

DAHP Archaeological Site #:
HPI 720357
HPI 720359
HPI 720360

FINAL: STAR FORGE FACILTY DEMOLITION PROJECT CULTURAL RESOURCES MONITORING REPORT

King County, Washington



July 29, 2024

Prepared for:

DH Environmental, Inc.
1011 SW Klickitat Way #107
Seattle, WA 98134

Contract No.: 06222023
Task Order No.: WO-SF-01

Prepared by:

Stell
6100 219th St. SW Suite 480
Mountlake Terrace, WA 98043

By: Nichole Padovano, BA., Anne B. Parfitt, MA

DAHP Project No.: 2019-10-08126
Stell Project No.: DHE001.01

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APPENDICES

Appendix A: Monitoring and Inadvertent Discovery Plan (MIDP)
Appendix B: Daily Monitoring Logs

ACRONYMS AND ABBREVIATIONS

APE	Area of Potential Effect
BP	Before Present
DAHP	Washington Department of Archaeology and Historic Preservation
DH	DH Environmental, Inc
ft.	foot/feet
GLO	United States Department of the Interior, Bureau of Land Management, Government Land Office
km	kilometer(s)
m	meter(s)
MIDP	Monitoring and Inadvertent Discovery Plan
N/A	Not Applicable/Not Available
No.	Number
NRHP	National Register of Historic Places
NT	North Tank Vault System
Project, the	Star Forge Facility Demolition Project
SEPA	State Environmental Policy Act
SS	Soil Sample
ST	South Tank Vault System
Star Forge	Star Forge, LLC
Stell	Stell Environmental Enterprises, Inc.
UST	Underground Storage Tank
WA	Washington
WISAARD	Washington Information System for Architectural and Archaeological Records Data

EXECUTIVE SUMMARY

Stell Environmental Enterprises, Inc. was contracted by DH Environmental, Inc. to conduct cultural resources monitoring for the Star Forge Facility Demolition Project (the Project), located at 8531 East Marginal Way South in Tukwila, Washington. The area of potential effect (APE) is 8.2 hectares (20.2 acres), on the right (eastern) bank of the Lower Duwamish Waterway, about 6.4 kilometers (4 miles) upstream from the mouth of the Duwamish River. The APE is located within an area designated as very highly likely to yield cultural materials by the Washington State Department of Archaeology and Historic Places predictive model. The **Department of Archaeology and Historic Preservation Project Number is 2019-10-08126**. A literature review of the Washington Information System for Architectural and Archaeological Records Data, as well as other cultural and environmental documents, revealed that a total of 27 cultural resource surveys, 10 archaeological sites, 2 cemeteries, 5 registered historic properties, and 1,504 structures have been previously recorded within 1.6 kilometers (1 mile) of the APE. No archaeological sites were identified within the APE. A Monitoring and Inadvertent Discovery Plan was developed and followed for this Project by Stell's Geri Knight-Iske(**Appendix A**). Archaeological monitoring was conducted on August 21, 22, 24, 28–30, and October 11 and 24, 2023 for eight days over two months.

This report is a summary of monitoring activities for the Star Forge Facility Demolition Project. No significant cultural resources were discovered during monitoring.

1. INTRODUCTION

1.1 PROJECT INFORMATION

The Washington State Department of Ecology negotiated a legal Agreed Order with Star Forge LLC (Star Forge) to conduct an early cleanup and demolition of the Star Forge Facility, which is a private parcel located at 8531 East Marginal Way South in Tukwila, Washington (WA) (the Project). DH Environmental, Inc. (DH) was contracted to conduct the remediation and demolition of the existing structures on the Star Forge facility. The Project included the removal of 18 underground storage tanks (USTs); decontamination and/or removal of concrete and asphalt slabs at the site's Dangerous Waste Management Units; demolition of all site buildings; and removal of necessary soil to facilitate paving. Stell Environmental Enterprises, Inc. (Stell) was subcontracted by DH to conduct the cultural resources monitoring for the Project in compliance with the State Environmental Policy Act (SEPA). See **Appendix A** for the Monitoring and Inadvertent Discovery Plan (MIDP). The Department of Archaeology and Historic Places (DAHP) Project Number (No.) is 2019-10-08126**.**

1.2 PROJECT LOCATION

The area of potential effect (APE) is in Tukwila, WA on the right (eastern) bank of the Duwamish River, approximately 6.4 kilometers (km) (4 miles) upstream from the mouth of the Duwamish River, in Section 33 of Township 23 and 24 North, Range 4 East, Willamette Meridian (**Figure 1-1** and **Figure 1-2**). The Project is in Parcel No. 000160-0023, King County, Washington. The total acreage of the APE is 8.2 hectares (20.2 acres). The APE is located within an area designated as very highly likely to yield cultural materials by the DAHP predictive model.

1.3 PROJECT BACKGROUND

The Duwamish River and adjacent upland areas have served as Seattle's major water-dependent industrial corridor since the river was created by widening and straightening much of the Duwamish River in the early 1900s. The Duwamish River flows north through Tukwila and Seattle, splitting at the southern end of Harbor Island to form the East and West Waterways, which discharge into Elliott Bay in Seattle, WA.

1.4 REGULATORY ENVIRONMENT

This project is subject to SEPA, which mirrors the National Environmental Policy Act. SEPA requires that all major actions sponsored, funded, permitted, or approved by Washington State and/or local agencies consider the impacts of the planned action on the environment and properties of historical, archaeological, scientific, or cultural importance (Washington Administrative Code 197-11-960), especially those that are or could be listed on the National Register of Historic Places (NRHP) or other historic registers, including the Washington Heritage Register or King County Landmarks. The DAHP is the lead agency for considering the effects of a proposed action on cultural resources and provides formal recommendations to local governments and other Washington State agencies for appropriate treatments or actions.

Historic properties that could be eligible for the NRHP include any artifacts, records, and remains that are related to such a district, site, building, structure, or object (16 United States Code 470[5]). The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association.

They also:

- are associated with events that have contributed to the broad pattern of our history;
- are associated with the lives of people significant in our past;
- embody the distinct characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or
- have yielded, or are likely to yield, information important for understanding prehistory or history (36 Code of Federal Regulations 60.4).

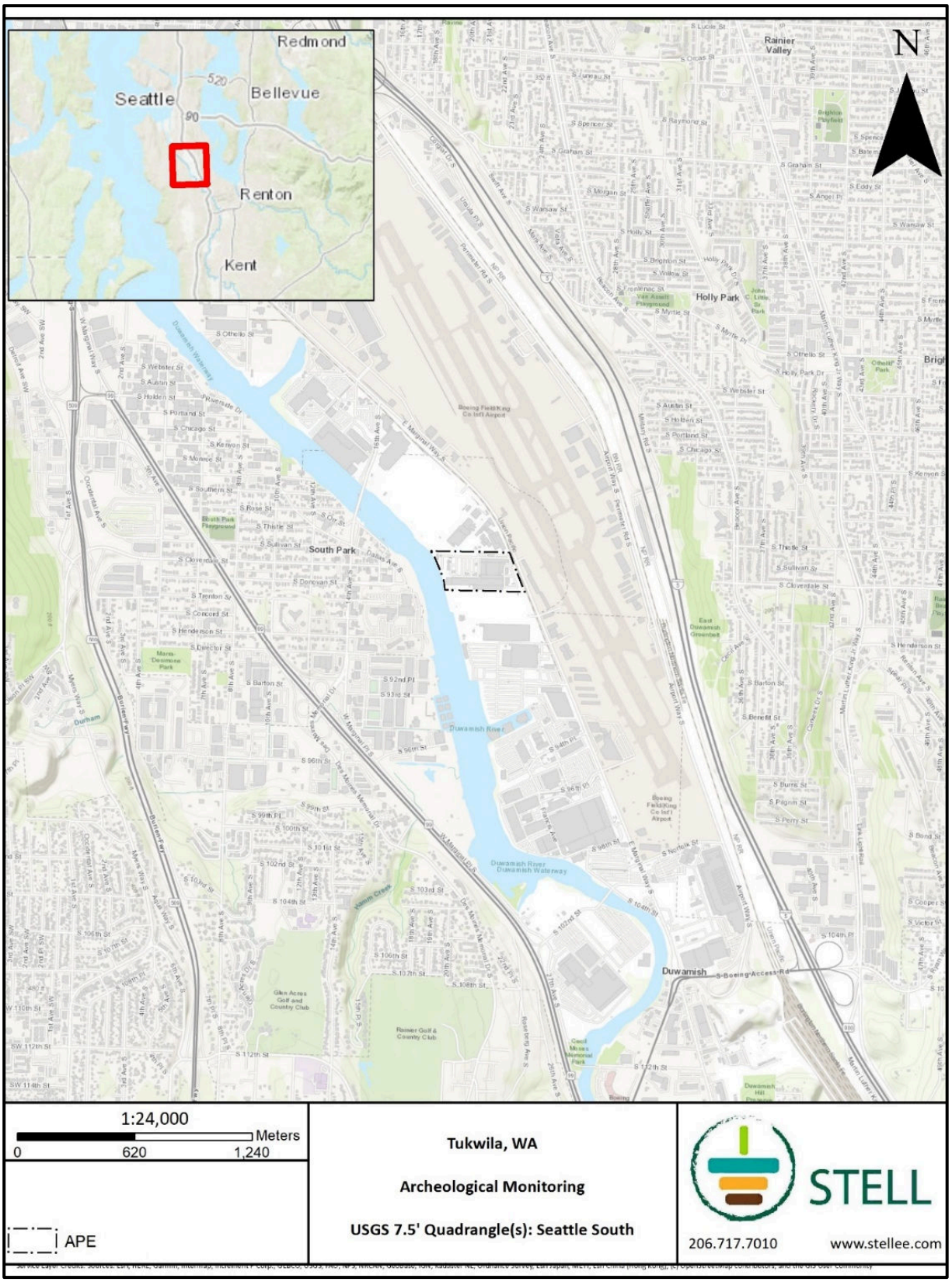

Figure 1-1. APE project vicinity map



Figure 1-2. Star forge facility demolition project area

2. ENVIRONMENT AND CULTURAL SETTING

This section describes the environmental and cultural context of the APE. Elements of the environmental context include geology, soils, and plant and animal habitats. Knowledge of the geologic processes associated with the landforms in this area can assist in locating archaeological resources. Geographic features like shorelines, rivers, lakes, and terraces are often correlated with the archaeological record. These locations provided abundant plant resources and fish throughout prehistory and often attracted terrestrial animals. As a result, sites tend to be found along shorelines, within active floodplains, or along associated terraces. The depth of soils and potential for buried deposits can be derived from soil surveys and geomorphologic descriptions of the landscape. Understanding the extent of native plant and ecological habitats provides a context for interpreting archaeological sites and activity locations.

2.1 ENVIRONMENTAL CONTEXT

Environmental data for the APE was gathered from geologic and soil maps and reports of recent geological and geomorphological investigations describing subsurface conditions and the post-depositional processes that may have impacted the APE's cultural deposits.

2.1.1 PHYSIOGRAPHIC PROVINCE

The Project is within the Puget Sound Area of the western hemlock (*Tsuga heterophylla*) vegetation zone within the Puget-Willamette Lowland physiographic province (Franklin and Dyrness 1988). The Western Hemlock Zone is western Washington and Oregon's most extensive vegetation zone (Franklin and Dyrness 1988). It extends from British Columbia through the Olympic Peninsula, Coast Ranges, Puget Trough, and both Cascade physiographic provinces in western Washington (Franklin and Dyrness 1988). Major forest tree species in this zone are Douglas-fir (*Pseudotsuga menziesii*), western hemlock, and western red cedar (*Thuja plicata*). Less common conifers include grand fir (*Abies grandis*), Sitka spruce (*Picea sitchensis*), and western white pine (*Pinus monticola*). Western white pine and lodgepole pine (*Pinus contorta*) are common on glacial drift in the Puget Sound area. The APE presently contains standing structures, asphalt, manicured garden areas, and lawns.

2.1.2 GEOMORPHOLOGY

The Project is in the southern Puget Lowlands. The Puget Lowlands are a north-south-trending geological and physiographic province bordered by the Cascade Mountains on the east and the Olympic Mountains on the west (Franklin and Dyrness 1988; Troost and Stein 1995). It was shaped by at least four periods of extensive glaciation during the Pleistocene epoch (Easterbrook 2003; Lasmanis 1991). The bedrock was depressed and deeply scoured by glaciers, and sediments were deposited and often reworked as the glaciers advanced and retreated. This can be seen in the area's overall rolling, low-relief topography that is deeply incised by large troughs/ravines. The elevation of the area is 152 meters (m) (500 feet [ft.]) above mean sea level (Troost and Stein 1995). The scoured troughs left by the glaciers are currently occupied by the Puget Sound and freshwater lakes, such as Lake Washington and Lake Sammamish (Galster and Laprade 1991; Liesch et al. 1963; Yount et al. 1993).

A mantle of glacial drift and outwash deposits were left across much of the Puget Lowland at the end of the Fraser Glaciation (the last of the four glacial periods) (Booth et al. 2003; Easterbrook 2003). The Vashon Stade of the Fraser Glaciation began around 18,000 years before present (BP) with an advance of the Cordilleran Ice Sheet into the lowlands (Porter and Swanson 1998). The

Puget Lobe rapidly advanced into the Puget Lowland and reached its maximum extent near what is now the town of Centralia by about 15,000 BP. The glacier remained this way for approximately 1,000 years until the ice began to retreat. The retreating Puget Lobe reached Seattle at about 13,600 BP (Borden and Troost 2001; Porter and Swanson 1998). The Puget Lobe was thicker towards the north and thinned towards its terminus in the south.

The APE is within the Geologic unit Quaternary alluvium, indicating alluvium ranging from a few meters to 30 m deep (United States Geological Survey 2005). The Duwamish River is part of the greater Duwamish-Green River system, within a glacial trough formed by melting and incision beneath the Puget Lobe (Montgomery et al. 2003). This river system and other sub-glacial river systems in the region aggraded throughout the Holocene and developed long, meandering channels running through what were often far-reaching wetland environments (Montgomery and Wohl 2004). The Duwamish-Green River delta reached its present position via repeated lahar events deriving from Mount Rainier, which helped shape and provide delta expansion material over the past 5,700 years (Dragovich et al. 1994). A lahar is a sediment-laden debris and/or mudflow that originates from the flanks of a volcano (Smith and Lowe 1991). The largest of these events was the Osceola mudflow. Approximately 5,700 years ago, it flowed from the summit and northeastern flank of Mount Rainier down the White River drainage into the Green and Puyallup River drainages, covering a total area of 314 km (121 square miles) (Dragovich et al. 1994). This lahar event, and subsequent, smaller lahar events, extended the Puyallup and Duwamish River deltas out into the marine embayments for these rivers and provided material for future delta advancement as the rivers downcut into the lahar material and deposited the sediment further downstream (Dragovich et al. 1994). Today, the sea level is approximately 1.5 m (5 ft.) higher than it was 5,700 years ago when the Duwamish deltas first began protruding into its current location, resulting in a slight increase in the elevation of the lower Duwamish floodplain (Steinkraus and Hodges 2018). In the 1800s, the Duwamish delta exhibited a complicated series of streams and channels extending across it (Collins and Sheikh 2005).

2.1.3 PALEOECOLOGY

Pollen samples collected through lake and wetland coring throughout the Puget Sound area suggest that paleoecology varied over time (Tsukada 1982; Whitlock 1992). Lodgepole pine, bracken fern (*Pteridium aquilinum*), and red alder (*Alnus rubra*) were the first to populate the landscape after the glaciers receded. These were followed by Douglas-Fir a few centuries later (Barnosky 1985).

At the beginning of the Holocene (10,000 BP–present), the climate continued to warm, and grasslands as well as oak (*Quercus* sp.) and hazel (*Corylus* sp.) woodlands established themselves on the landscape between 10,000 and 5000 BP. Douglas-fir became the dominant tree species in the area. At this time, precipitation became more seasonal, and summers saw increased droughts, fire frequency, and expanding prairies. Cedar (*Thuja* sp.) and Hemlock (*Tsuga* sp.) populations increased between 7000 and 5000 BP as canopy forests dominated the landscape and weather conditions became cool and moist (Tsukada 1982; Whitlock 1992). Since then, the climate has remained stable with small fluctuations between warmer/drier and cooler/moister conditions (Leopold et al. 1982).

2.1.4 SOILS

As defined by the United States Department of Agriculture soil survey, the soils within the APE comprise urban land and water. The urban land comprises all the soils surrounding the APE. No

subsurface characteristics are defined for these soils (United States Department of Agriculture 2021).

2.2 CULTURAL CONTEXT

This section describes the cultural context of the APE, which will inform the evaluation of findings from future field investigations performed as part of this Project. Elements of the cultural context include cultural chronologies developed for the pre-contact occupation through archaeological research, information derived from oral histories, and documented historic events and land use patterns. Reviewing archival archaeological, historical, and ethnographic documents provides insight toward developing hypotheses and a research design. The completion of this section included reviewing information from the DAHP; the Washington State Archives; the Department of the Interior, Bureau of Land Management, General Land Office (GLO) records; King County records; the University of Washington Libraries; and multiple historic imagery sources.

2.2.1 ARCHAEOLOGICAL CONTEXT

The first human occupation of western Washington may date back to approximately 14,000 BP, as evidenced at the Manis Mastodon site in Sequim, where a bone point and the spirally fractured bones of a mastodon suggest possible human hunting and butchering (Gustafson et al. 1979; Waters et al. 2011). Artifacts of the Clovis period, which began between 13,500 and 13,000 BP elsewhere in North America, have been found in isolated locales in southern and central Puget Sound. However, no occupation sites of this period have been found in Washington. The Richey Roberts site, a cache of Clovis blades, is the sole in-situ discovery of Clovis archaeology in Washington (Gramly 1991; Mehringer 1985). Several similar early sites in the region that coeval and predate Clovis are presented in recent literature (Huckleberry et al. 2003). While archaeologists have traditionally assumed that Clovis peoples focused heavily on big game for subsistence, there is increasing evidence that Clovis groups also relied on plants and smaller animals and had considerable dietary variability across North America (Cannon and Meltzer 2004).

As early as 9000 BP, as the climate stabilized, cultural complexes with distinct lithic technological assemblages emerged in the region (Carlson 1990; Fladmark 1979). These assemblages demonstrate a “foraging” economy based on generalized resource procurement for immediate consumption and high-residential group mobility (Ames 1981; Binford 1978). One of these distinct technologies is the Old Cordilleran Tradition (Butler 1961). In western Washington, the Old Cordilleran Tradition manifestations are recognized by unifacial pebble and cobble tools and chopper-like cores.

Other contemporary technologies include the Northwest Coast Microblade Tradition, identified by a diverse assemblage that includes microblade and microblade cores, leaf-shaped bifaces, and bifacial cores (Borden 1975; Fladmark 1979). The various technologies in the archaeological record suggest establishing multiple well-defined cultural groups populating the Northwest Coast vicinity early in prehistory. The post-Clovis prehistory of Western Washington is commonly divided into three cultural periods—Early, Middle, and Late—defined by a series of technological characteristics found at archaeological sites.

2.2.1.1 EARLY PERIOD

The Early period, which lasted from 12,000 to 7000 BP, is classified archaeologically by the Old Cordilleran Tradition (Matson and Coupland 1995), with regional manifestations defined as the Olcott Complex in the Puget Sound and the western Cascade Range regions and the Cascade Phase

east of the Cascade Range. Sites of this period in western Washington typically occur on high marine and river terraces, sometimes at significant distances from modern watercourses; they consist of concentrations of cobble cores; flakes; large, ovate knives; and broad-stemmed and leaf-shaped projectile points (Wessen 1990). These people are thought to have relied more on inland hunting than on fishing and shellfish procurement for subsistence. However, finds along the British Columbia coast indicate aquatic resources were sometimes important (Blukis Onat 1987).

2.2.1.2 MIDDLE PERIOD

The Middle period, lasting from 7000 to 4500 BP, incorporates a continuation of the Old Cordilleran Tradition and the emergence of a distinct Northwest Coastal culture; however, few sites in Washington can be attributed to this time interval (Blukis Onat et al. 2001; Morgan 1999). Toward the end of this period, as sea levels stabilized, the focus of subsistence activity seems to have changed from reliance on terrestrial to marine resources. Most sites appear along the coasts or major river systems. It is thought that this adaptation may have occurred earlier in the Gulf of Georgia and Fraser Valley regions of Canada (Stein 2000).

Archaeological sites associated with this cultural period are found to be technologically more complex and more diverse. They often include tools, bone and antler ornaments, and flaked stone. In the Puget Sound and western Washington, the Middle period is a transitional time represented archaeologically by a shift toward marine resource utilization (Morgan 1999).

2.2.1.3 LATE PERIOD

Human lifeways changed radically in the Late period (4500 to 250 BP) as people focused even more strongly on marine resources. During this time, the number and diversity of sites markedly increased (Matson and Coupland 1995). People maintained permanent villages on the coast and along the lower reaches of inland rivers. They used these as home bases and storage warehouses for fish, shellfish, game, and plant foods systematically amassed during the warm seasons (Matson and Coupland 1995). Cemeteries and petroglyph sites are often associated with significant places such as villages and seasonal habitation areas. Petroglyphs also occur occasionally in higher montane settings. Blazed cedars, stripped of bark for basketry or with planks removed from their living trunks, can still be found throughout the region. Seasonal habitation areas and task-specific locations have been documented in the lowlands and up into the subalpine zone of the mountains. However, they usually remain close to larger, permanent sources of water. These places are typically concentrated along trade routes that link communities living on both sides of the Cascade Mountains.

2.2.2 ETHNOGRAPHIC BACKGROUND

Prior to the arrival of Europeans, the Northwest Coast was one of the world's most densely populated nonagricultural areas. Between the mid-1700s and late 1800s, numerous outbreaks of infectious diseases, including smallpox and measles, decimated the population of the Northwest coast (Boyd 1990). Despite the massive reduction of the local population, when the first Euromerican settlers arrived at Alki Point in 1851, at least 17 Duwamish villages, including over 90 longhouses, were present along Elliott Bay and local river systems (Duwamish Tribe 2008).

The Duwamish people primarily utilized the APE and the surrounding area. Neighboring groups, including members of what are now the Suquamish, Puyallup, and Yakima Tribes, also traditionally utilized this region. The Duwamish Tribe is a Southern Coast Salish group who speak the southern dialect of the Lushootseed language (Suttles and Lane 1990). Duwamish, or *Dkhw'Duw'Absh* in the Lushootseed language, means "the people of the inside." The name refers

to Elliott Bay, the Duwamish River, and the other waterways that connect the people to the land. Upon the arrival of the first European explorers, the Duwamish people occupied at least 17 winter villages, living in over 90 longhouses throughout the Duwamish River basin and surrounding landscape (Speer 2004). Winter villages were the nexus of natural resources, political power, and ideological systems. These winter villages, including nearby seasonal habitation areas and spiritual places, were linked to the broader geographic community through kinship, trade, and diplomacy (Thrush 2007). Indigenous peoples in the area hunted deer, elk, and bears across the land, as well as ducks, geese, and other waterfowl from the estuarine environment. They fished for salmon, cod, and halibut; harvested clams; and gathered berries, camas, and other plants for food and medicine.

Although some places have completely transformed with the industrial development of the Duwamish River watershed in the twentieth century, these locations and resources remain important to the Duwamish people. They are significant in understanding the development of Seattle. The area surrounding the Lower Duwamish Superfund APE still holds significance for the Duwamish people. The following place names are from Thomas T. Waterman's ethnographic book *Puget Sound Geography* (2001 [1920]) and are written using his linguistic characters (**Figure** 2-1). One such place is Lwalb, which means "abandoned" (Waterman 2001 [1920]:120). Lwalb refers to an abandoned river channel on the southwestern side of the Duwamish. Another place name is T³ a'Lt³aLusid or "where there is something overhead across the path" (Waterman 2001 [1920]:120). This place was on the western side of the river, which is now filled in. hÛtesa'tci or "cut in two with reference to the hand," has a malevolent connotation with the Duwamish people (Waterman 2001 [1920]:120–121). As Waterman retells the legend, an evil supernatural being's mangled hand rose from the water. Waterman is unsure where exactly this spot is located along the Duwamish.

The closest Duwamish villages located to the APE are Tuqwe'Ltid or "a large open space" (Waterman 2001 [1920]:45, 121). There is some debate about where the village of Tuqwe'Ltid was located, but it is accepted that it was near the South Park Bridge (Berger and Hartmann 2013:5; Blukis Onat et al. 2008:21). "A brace supporting a rafter," or TEtc³gwEs, is for an area where trees fell over a trail, caused by a landslide, on the northern side of the Duwamish River (Waterman 2001 [1920]:121). This place is now somewhere underneath the King County International Airport.

The area where the Duwamish River narrowed and made a sharp turn was called cka'lapsEb or "neck" (Waterman 2001 [1920]:121). This area was once where the Duwamish people could collect lily bulbs (Waterman 2001 [1920]:121). Hwa'pitcld means "where one throws something," for this area was wide and flat near an old river channel (Waterman 2001 [1920]:121). Qiyawa'lapsEd, or "eel's throat," is a place name for three knolls situated on the western side of the Duwamish River, which is in the South Park neighborhood (Waterman 2001 [1920]:121). Xo'bxobti, or "canoe paddles," is where the Duwamish people harvested ash trees to make paddles (Waterman 2001 [1920]:121). This area is described as a flat river bend on the Duwamish River's eastern side. The last placename is tsitskad'b, a small promontory stuck out in the river (Waterman 2001 [1920]:121). This could refer to Turn Basin Number 3.

Another Duwamish village, sqoa'l-qo, or "meeting of rivers," was approximately 4.8 km (3 miles) upstream from the APE (Berger and Hartmann 2013:5; Waterman 2001 [1920]:45). This village was near where the Black and White rivers met. Waterman claimed there were additional villages near the Duwamish River, but the names were unknown to him (Berger and Hartmann 2013:5; Waterman 2001 [1920]:45).

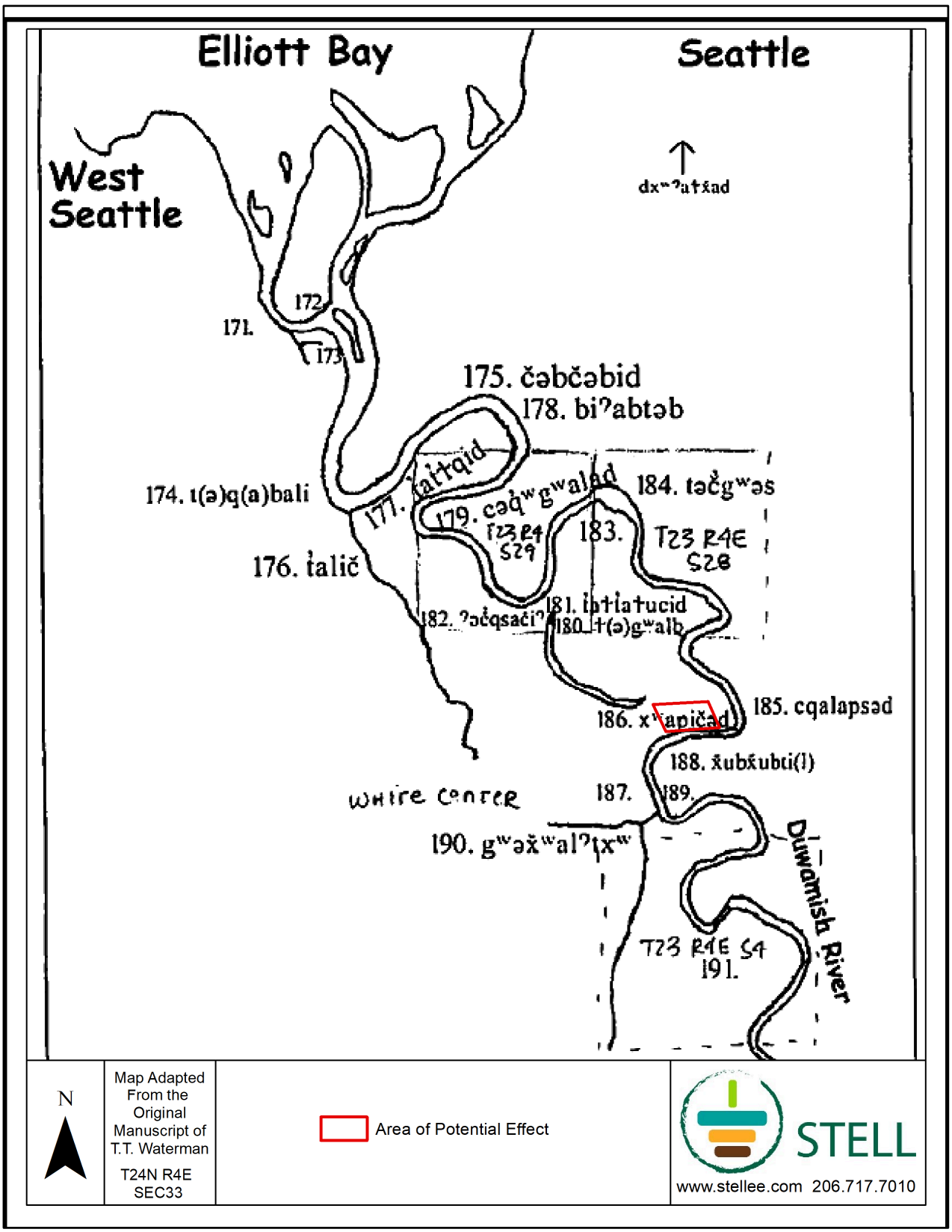

Figure 2-1. Waterman (2001 [1920]) place names map within project APE

Once non-native settlers moved into this area, the Duwamish people were pushed out of their traditional lands, especially after the 1855 Treaty of Point Elliott. The Sackman and Dewatto Duwamish communities chose to stay within the area and formed new communities with other tribes in the area (Tollefson 1992:214–216). These communities were forced to live outside of the city of Seattle. They were able to retain some of their seasonal gathering, hunting, and fishing traditions that helped supplement their diet (Tollefson 1992:214–216).

2.2.3 HISTORIC BACKGROUND

Following the arrival of non-Native settlers in the Pacific Northwest by the mid-1850s, many Native village/habitation sites were subsequently homesteaded or platted as towns. This was especially true for locations near water, at river confluences, or along traditionally utilized travel corridors/trails, many of which were in use into the historical period, if not into modern times. Extensive logging and mining activity occurred throughout the region from the mid-1800s to the present. The construction and expansion of transportation corridors associated with railroads and roadways had a profound effect on the landscape in this area (Marino 1990).

2.2.3.1 HISTORY OF KING COUNTY

Colonel Isaac Ebey and, later, John Holgate were the first Euroamerican explorers to visit King County. European settlement of the area started in 1852, with lumber, hops, coal, and fish constituting the area's first industries (Long 2006). The Oregon Territorial Legislature formed King County on December 22, 1852, and three months later in 1853, was included in the newly created Washington Territory. The county was originally named for William Rufus DeVane King, a senator from Alabama elected as the United States vice president in 1853 and died shortly after the election. In 1986, this county name was officially changed to honor the Rev. Dr. Martin Luther King Jr. (Long 2006).

The first settlers of King County were a group of farmers led by Luther Collins, who claimed land inland along the Duwamish River on September 14, 1851 (later called Georgetown). A week after the Collins party claimed their land, the initial vanguard of the Denny Party (the group credited with the founding of Seattle) arrived on Alki Point (near what is now West Seattle). The rest of the Denny Party arrived on November 13, 1851 (Long 2006).

The major industries in King County in the late 1800s were logging and coal mining. By the 1880s, sawmills and shingle mills were the main industries in many towns throughout the Puget Sound (Long 2006). Throughout this decade, hops were a major King County crop until hop lice/aphid infestations that started in 1889 prompted growers to turn to dairy farming, orchards, and other crops (Bagley 1929; Long 2006). Native Americans provided much of the labor for harvests in King County. The hop lice crisis was exacerbated by a national economic depression in the 1890s. Overall, King County recovered quickly due to the 1897 Klondike Gold Rush, during which Seattle and King County merchants provided supplies to those headed north to the goldfields (Long 2006).

2.2.3.2 HISTORY OF THE APE

Seattle's earliest non-native settlers first arrived in the Puget Sound via canoes floating down the Duwamish River from Nisqually. They were the Collins Party and settled along the Duwamish River in late September 1851, about 3.2 km (2 miles) south of the mouth of the Duwamish River. Eventually, Luther Collins filed for a Donation Land Claim. Other parties of settlers were quick to join the Collins Party in acquiring lands around Elliott Bay. These included John Holgate, William Latimer, and the Denny Party (Lange 2000). The Duwamish River was a river that meandered in

curves through the valley floor and eventually discharged into the southern end of Elliott Bay through a delta of intertidal marshlands **(Figure 2-1**).

Much of the surrounding land was submerged in high water and plus tides. Seattle was incorporated on December 2, 1869, and by the 1890s, the population was well established, and maritime traffic became a common sight on Elliott Bay. Steamboats could navigate the Duwamish River as far as Kent, but ocean-going vessels could not use the river. In 1985, Eugene Semple proposed a plan of public works, which included digging a canal from Elliott Bay to Lake Washington, filling the tide flats west of Beacon Hill (**Figure 2-2**), and straightening the Duwamish River. The Washington State Legislature authorized the formation of diking and dredging districts in that same year. By 1901, Semple began construction, sluicing the soils of Beacon Hill and transporting soil from Seattle regrade projects for filling the tide flats south of downtown Seattle.



Figure 2-2. East Marginal Way, view to the southwest. Dated: February 24, 1916 (Seattle Municipal Archives [1916] Photograph Collection # 941)

In 1909, City Engineer R. H. Thomson formed the Duwamish Waterway Commission to sell bonds for rechanneling the river. The straightening and dredging of the Duwamish River began on October 14, 1913 (Wilma 2001; **Figure 2-3** and **Figure 2-4**). The channel would allow larger ships to access the reclaimed land and alleviate the flooding that frequently occurred throughout the valley.

Dredging began at the County Poor Farm in Georgetown, filling the meanders, except for a few recessed in the channel to accommodate high water levels and turning ships. By 1920, the Duwamish Waterway reached a depth of 15 m (50 ft.) for 7.2 km (4.5 miles) (Wilma 2001). All of the original meanders were filled except for one—a short section of the original course of the Duwamish delta channels, which is still present along the southwestern shore of Kellogg Island (Thrush 2007).

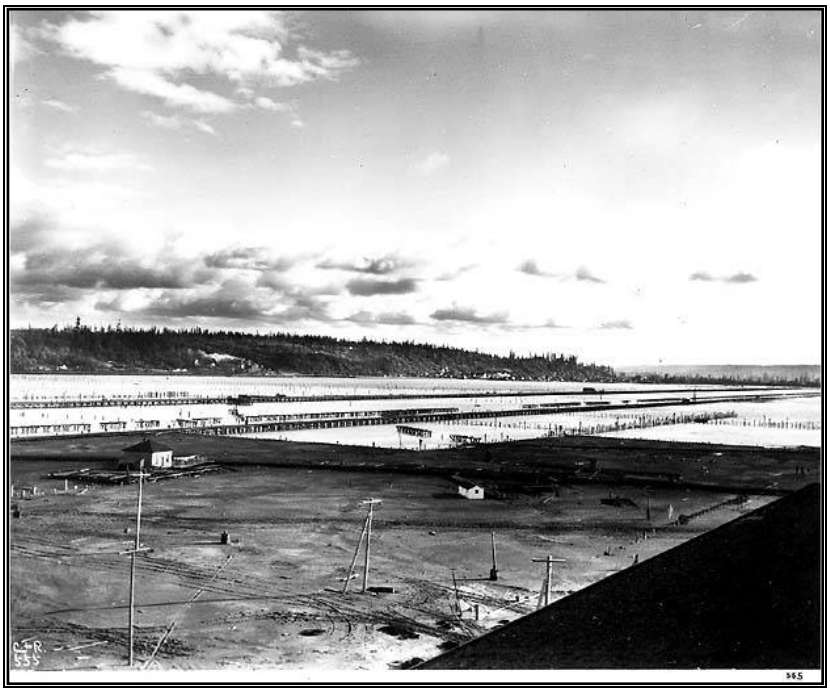

Figure 2-3. Historic photograph of the Seattle tidelands looking southeast. Taken from Centennial Mill in 1902 (University of Washington digital archives, Asahel Curtis Photo Company Photographs Collection, # CUR118)

It is known that dredge spoils were used for the creation of Harbor Island, which was finished in 1909 by the Puget Sound Bridge and Dredging Company. At the time, Harbor Island was the largest artificial island in the world. Soil from Beacon Hill, Denny Hill, Yesler Hill, Jackson Hill, and Dearborne Street regrades were used in the construction of Harbor Island, in addition to the filling of the greater Duwamish delta tidelands (Stein and Goodman 2001; Wilma 2001).

By 1920, the Indigenous people who traditionally utilized resources from the Duwamish River could no longer safely gather food from that area (Thrush 2006:110). The channelization of the Duwamish River was complete, and industrial factories were established along its banks. The 1949 United States Geological Survey Seattle, South Quadrangle 7.5-minute series shows structures of all sizes up and down the Duwamish River.

2.2.3.3 APE BACKGROUND

The APE is first seen in an 1862 GLO Cadastral survey map (GLO 1862) (**Figure 2-5**) and an 1863 GLO Cadastral survey map (GLO 1863) (**Figure 2-6**). Both maps show the APE prior to any channeling of the river, with the APE being present east of the river course. The APE does not appear in 1862 to be in an area that is privately owned; however, just to the northeast, private landowners had claimed portions of the land along the river.

The following year, in 1863, the APE was located within lands owned by Mr. John Buckley. Later maps show that Buckley owned the property that the APE was in from 1863 to 1907; at least four different John Buckleys were listed in King County census records during this time. Two of these people were born in Wisconsin, one in Connecticut, and one in Washington. The first person from Wisconsin was 21 in 1889, and the other was 20 in 1892. The John Buckley from Connecticut is listed in the 1870 Census as 72 years of age and appears again in the 1871 Census. His wife was

also listed in both census records. While the 1870 Census name for her is unreadable, she was listed as E. Buckley in the 1871 Census.



Figure 2-4. Map showing route of Duwamish Waterway, Commercial Waterway, Commercial Waterway District No. 1, revised September 1, 1919 (King County Road Services 2023 Map Vault Image No. 20100824-17370).



Figure 2-5. GLO Cadastral Survey from 1862 with the APE overlayed (GLO 1862).

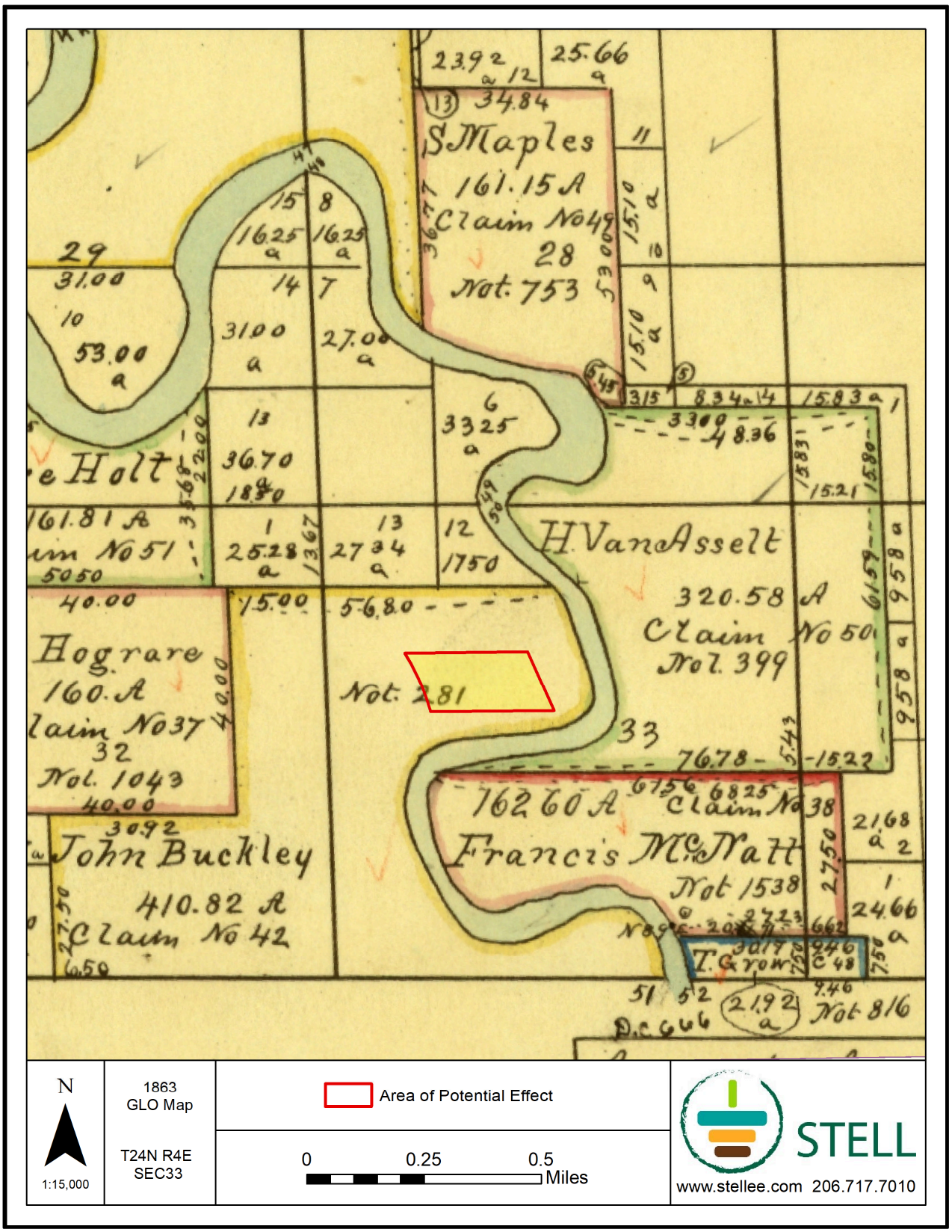

Figure 2-6. GLO Cadastral Survey from 1863 with the APE overlayed (GLO 1863).

Another John Buckley from Washington was one of four children whose parents are listed as A. Buckley and Martha Buckley; he is listed in the 1887 Census (aged 7) and 1889 Census (aged 9). Between 1896 and 1957, six John Buckleys passed away within King County. One of these passed away at 75 years in 1912, while another passed away at 70 in 1932. The others are either too young or old to have been associated with the ownership of the property. In 1868, a John Buckley married an Eliza Horton in King County. Another marriage certificate from 1919 also mentions a John Buckley, who married Nathalia Ryan. A frontier justice divorce record also mentions a Jane Buckley, who divorced a John Buckley in 1867 in King County.

A 1907 Anderson map shows the Duwamish River still following a natural channel but with multiple landowners occupying the surrounding area (**Figure 2-7**). Currently, a John Buckley still owns the land where the APE is located.

A 1912 Kroll map shows the Duwamish River remaining in its natural channel. However, the course appears to have shifted slightly west on the bend of the river that the APE is located within, indicating that the southeastern portion of the river was likely underwater at this point (Kroll 1912) (**Figure 2-8**). Many of the landowners changed in this period. The large property owned by Mr. John Buckley is no longer present; instead, much of this area has been divided. The landowners that appear are Dan Shea and T. F. Burns. Only two T. F. Burns are mentioned in the Washington Census records for King County. The earliest mention is from 1896 and references T. F. Burns, who was 26 and born in California. There is another mention in 1910 of a T. F. Burns, born in Washington, who was 38 years old at the time of the census and lived in Meadow Gardens, the same area where the APE is located. This T. F. Burns is listed as the head of the household, with two brothers, J. J. and James P., and a boarder, James W. Agnew. There is also a death record for a Thomas F. Burns, who died in 1926 at age 69 in Pierce, Washington, and a Thomas Burns, who died at age 62 in King County in the year 1935. This latter death certificate matches closely with the age of the T. F. Burns mentioned in the 1910 Census, although the birth locations of the two people are different.

A 1926 Kroll map shows the Duwamish River as fully canaled and removed from its original channel north of the APE. However, the river within the vicinity of the APE still follows a natural course (**Figure 2-9**). The 1926 Kroll map does show the proposed path of the Duwamish Canal as it is labeled on the map. Many landowners on the 1926 map remain consistent with the 1912 map; however, many parcels were further divided amongst landowners. Large tracts of land were still listed as “The Meadows and Moore’s 5 Acre Tracts.” The city limits of South Park were expanded from the 1912 map.

The 1936 Metsker map shows a landscape similar to what is seen today around the APE, with the Duwamish River in its current orientation and many roads seen today (**Figure 2-10**). To the east of the APE, Boeing Field was present. Many of the large parcels that had been previously noted are no longer located on this map, with many smaller parcels having taken their place. The parcel that the APE is in appears to be owned by King County. A parcel along the river's east bank was listed as being owned by the Fisher Body Company. Fisher Body was an automobile coachbuilder founded in Detroit in 1908 (Jackson 2021). The Fisher Body Company had a Seattle Division leased to the Boeing Company. Additional parcels are listed as being owned by multiple lumber companies, including the Newell-Bissell Lumber Company. This company was formed when the Newell Mill & Lumber Company changed its name in 1917 (Lumber World Review 1917).

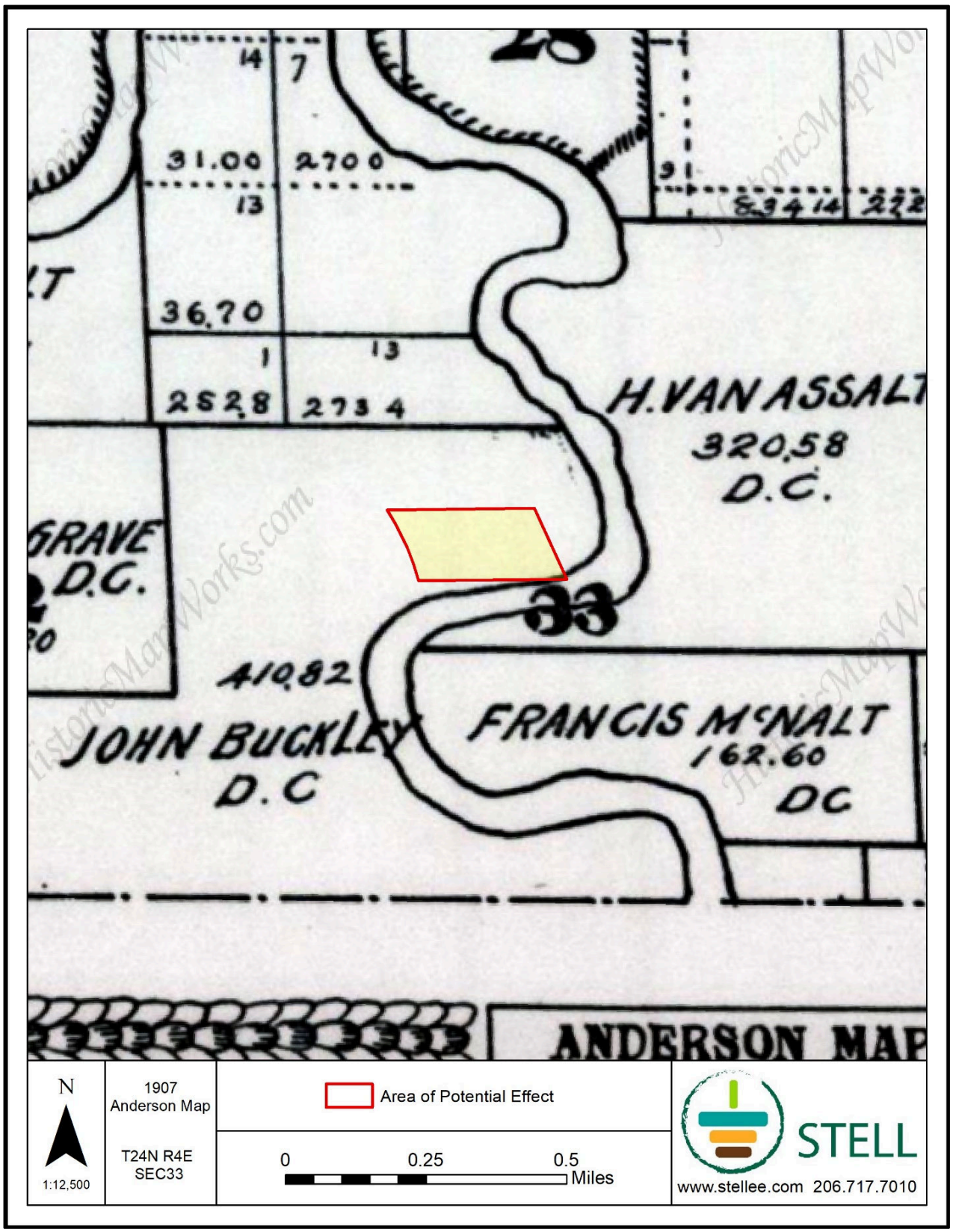

Figure 2-7. 1907 Anderson map with APE overlayed (Anderson 1907)

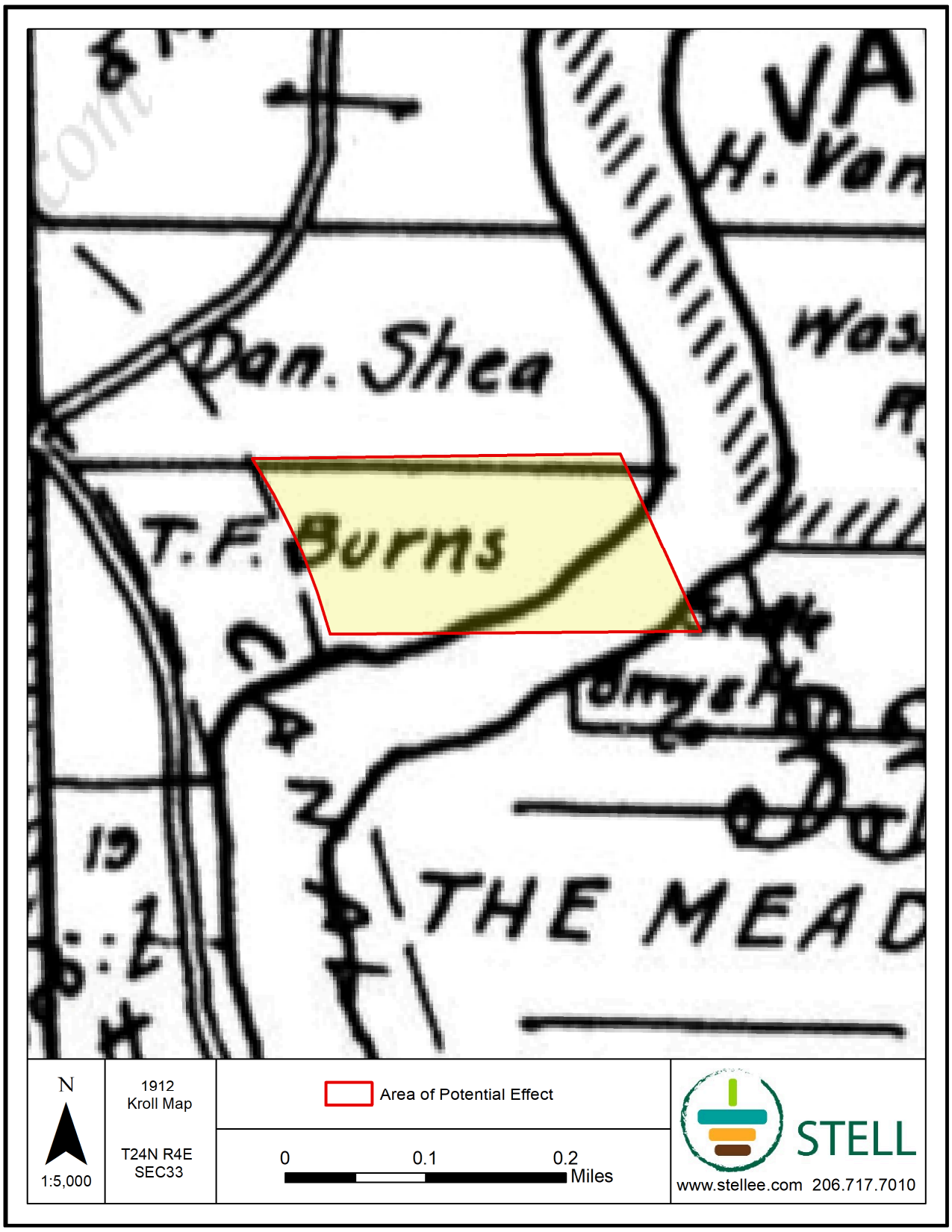

Figure 2-8. 1912 Kroll map with APE overlayed (Kroll 1912)

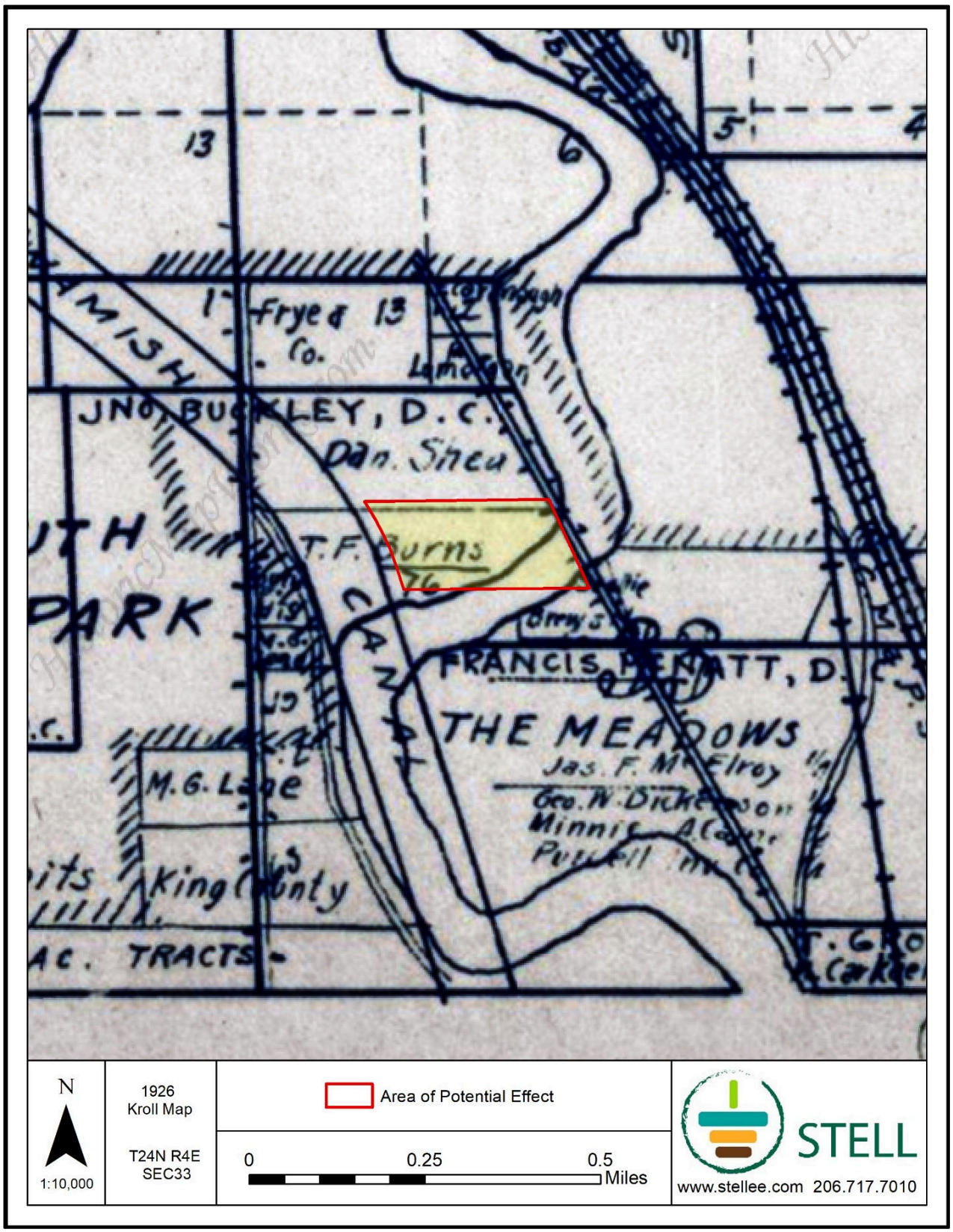

Figure 2-9. 1926 Kroll map with APE overlayed (Kroll 1926)

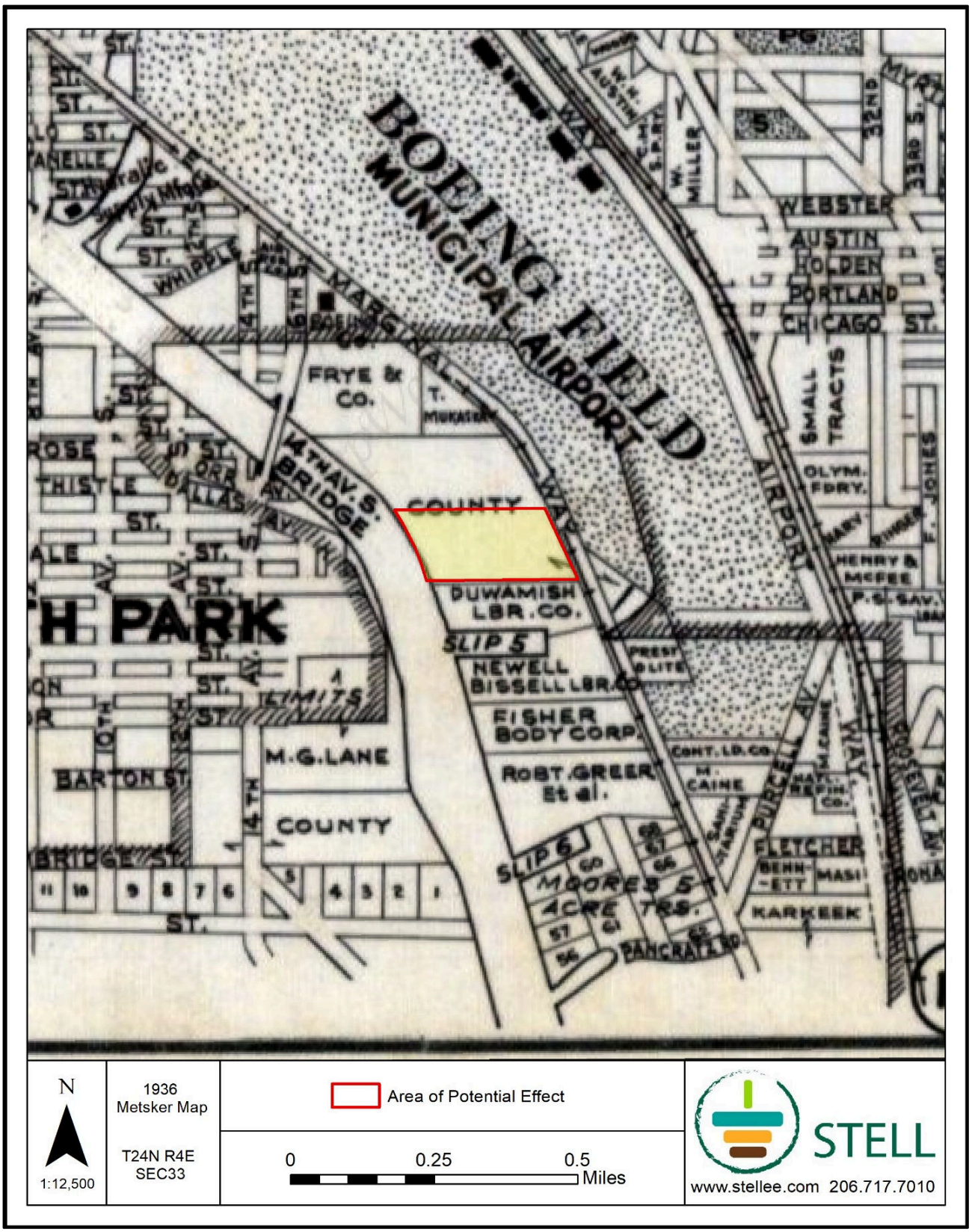

Figure 2-10. 1936 Metsker map with APE overlayed (Metsker 1936)

The 1937 aerial imagery shows the development of South Park to the west of the river. More open large tracts of land to the east of the river were noted in these images (**Figure 2-11**). To the east of the Duwamish River, East Marginal Way and railroad lines appear in their modern layout. A portion of the APE appears to have been inundated by the river in 1937, with a large semi-circular area covered by water.

In 1940, Isaacson Iron Works purchased the land currently comprising the APE. Issacson Iron Works began in 1908 as a small smith shop on King Street in Seattle, founded by Swedish immigrant John Issacson (Caldbrick 2020; Earley and Heideman 2019). The 8531 East Marginal Way South property, known as Isaacson Plant No. 2, was adjacent to Boeing's main factory. Issacson Plant No. 2, built by the United States Navy and run by Issacson, was the largest steel manufacturing plant on the West Coast and became a major supplier of precision parts for United States military operations during World War II. During the height of the war, it employed 1,200 workers (**Figure 2-12**), and its output included propellor shafts and precision parts for Navy vessels (Caldbrick 2020) and bulldozer blades and other parts for the Seabees which were used to construct runways in the Pacific (Earley and Heideman 2019). The company also built a steel melting plant next to Plant No. 2 in 1943 to decrease reliance on outside steel suppliers (Earley and Heideman 2019).

In March 1961, Isaacson Iron Works became full owners of the property when they bought the buildings built by the United States Navy in 1942 (**Figure 2-13**; Caldbrick 2020). In 1965, they divided Plant No. 2 and sold the melting, forging, and machining half of the plant to the Earle M. Jorgensen Company while retaining the fabrication part of the plant to the south. While the Isaacson Iron Works company went out of business in 1983, selling the fabrication plant to Boeing at that time (Earley and Heideman 2019), the Earle M. Jorgenson Company owned and operated the forge until 1992 when they sold it to a number of the managers who subsequently continued operation of the forge (Caldbrick 2020). In May 2016, Jorgenson Forge came under the ownership of Constellation Enterprises LLC, which then filed for bankruptcy. In August 2016, the forge fell under the ownership of CE Star Holdings and became Star Forge (Caldbrick 2020). One of the conditions of this sale was that Star Forge would work with the United States Environmental Protection Agency to clean up the Jorgenson Forge property, which is part of the Lower Duwamish Waterway Superfund site and has contributed heavily to the pollution in the Duwamish River and floodplains over its 70 years as a metal forging plant. In April 2018, Star Forge's owners announced that they would be closing the plant to redevelop the land (Caldbrick 2020).

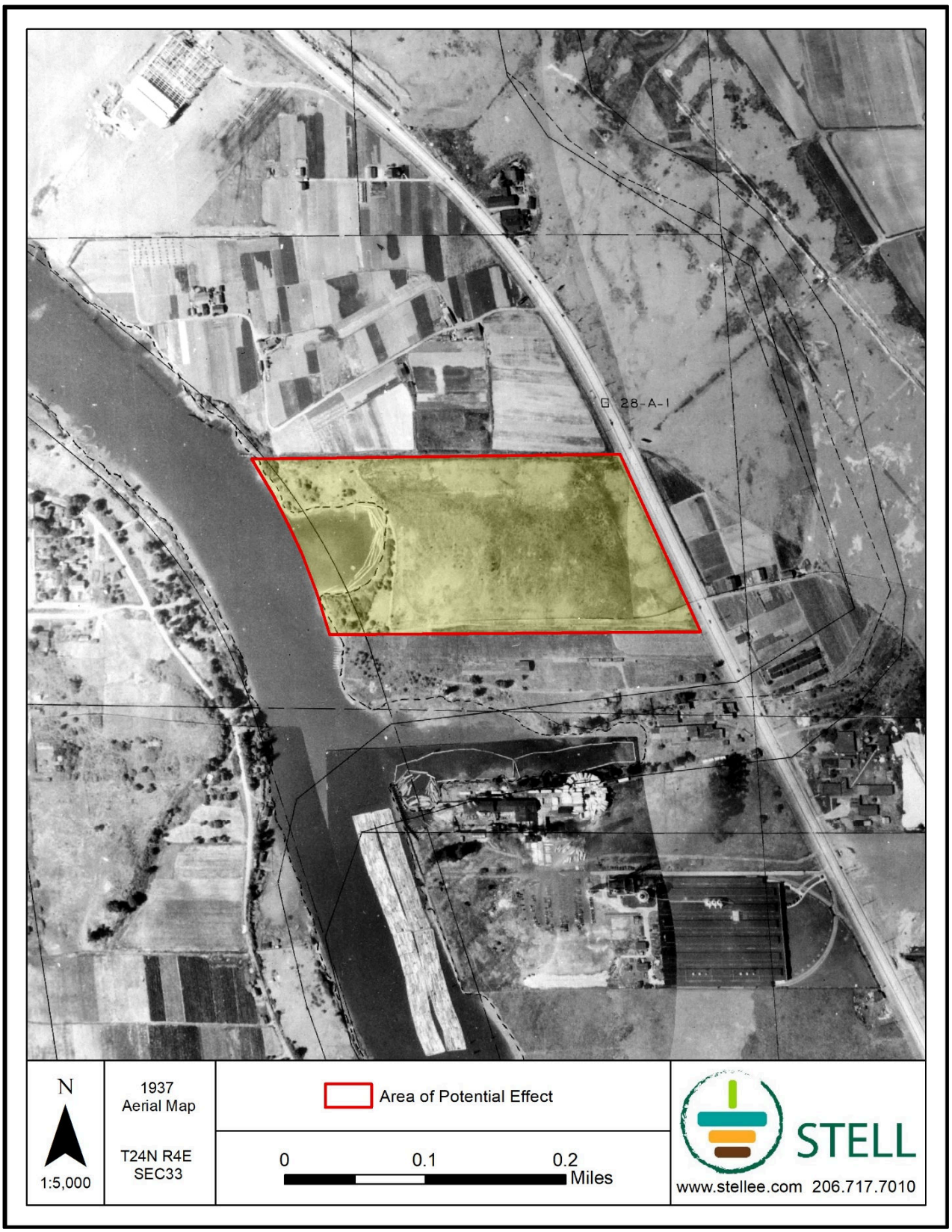

Figure 2-11. 1937 Aerial imagery with APE overlayed (King County Road Service 2023 Map Vault Image No. 240433)

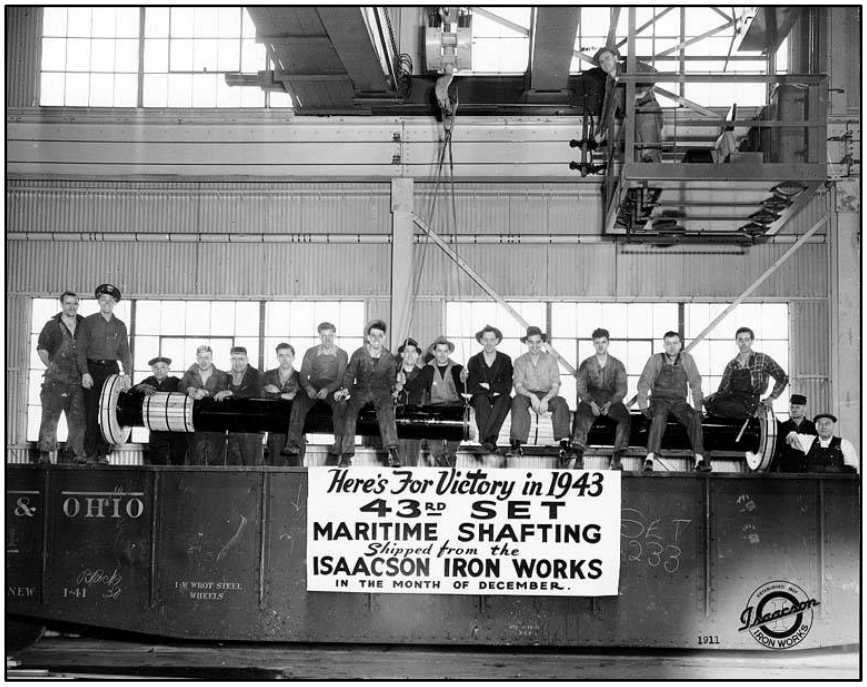

Figure 2-12. Workers at Issacson Iron Works in 1943 (University of Washington Libraries 2022 Digital Collections, IND0085)

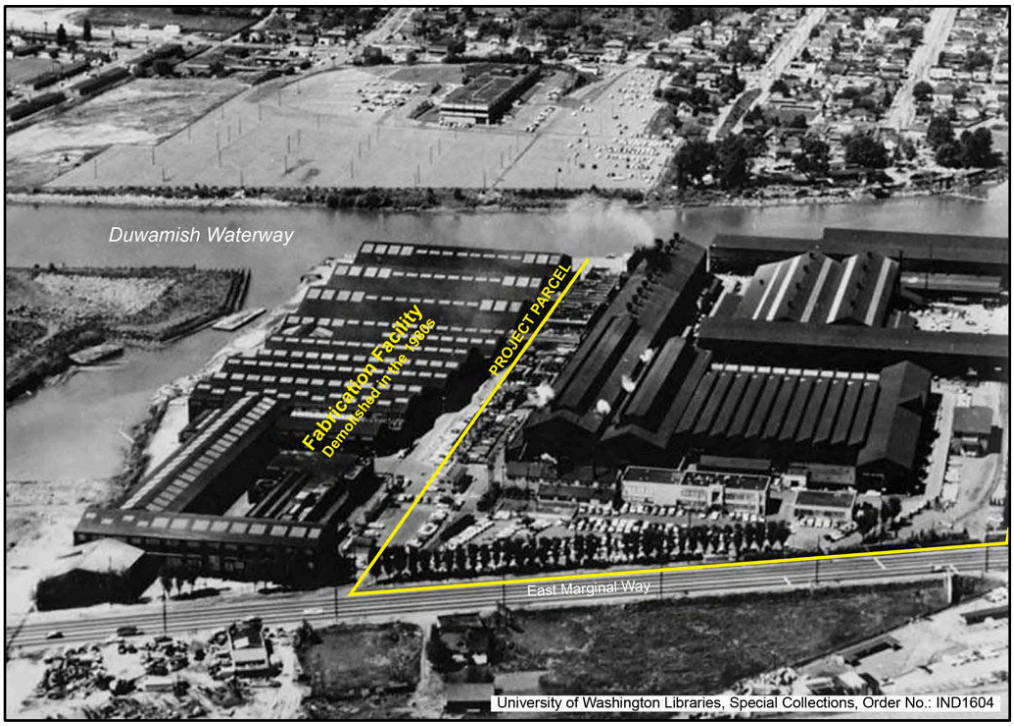

Figure 2-13. Aerial view of the Jorgenson Forge, early 1960s (University of Washington Libraries Digital Collections, IND1604)

3. RECORD SEARCH AND LITERATURE REVIEW

Stell conducted two literature reviews and record searches for this Project by consulting the Washington Information System for Architectural and Archaeological Records Data (WISAARD) repository, reviewing historical land records, maps, and online archives. The DAHP Predictive Model places the APE at very high risk for locating cultural materials. This model is based primarily on the distance to water and soil types.

Within 1.6 km (1 mile) of the APE, there are 27 cultural resource surveys, 10 archaeological sites, 2 cemeteries, 5 registered historic properties (**Table 3-1**), and 1,504 structures.

Table 3-1. Historic Properties Identified at the Star Forge Property

Historic Property ID	Historic Property Name	State Historic Preservation Office Eligibility
333378	N/A	Not Determined
720357	Isaacson Iron Works Plant Number Two	Determined Eligible
720358	Isaacson Iron Works "Black Sheep"	Determined Not Eligible
720359	Isaacson Iron Works Powerhouse	Determined Eligible
720360	Isaacson Iron Works Office Headquarters	Determined Eligible

Note:
N/A = Not Available

3.1 STELL RECORD SEARCH AND LITERATURE REVIEW

The first literature review for the Project was originally conducted in October 2019 by Perteet (Earley and Heideman 2019) for a separate cultural resource monitoring project within the current Project area. During archaeological monitoring, Stell identified five historic properties located on the 8531 East Marginal Way South, Tukwila, WA, Star Forge property. A Historic Property Inventory form was created for each property, and properties 720357, 720359, and 720360 were determined Eligible by the State Historic Preservation Office.

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A second cultural resources literature review for the Project was conducted in January of 2024 to update the previous archaeological investigations list with the current record search data on WISAARD.

3.2 PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

Within 1.6 km (1 mile) of the APE, there are 27 cultural resource surveys, 10 archaeological sites, 2 cemeteries, 5 registered historic properties, and 1,504 structures.

For additional information on previous archaeological investigations, see **Table 3-2**, **Table 3-3**, **Table 3-4**, and **Table 3-5**.

Table 3-2. Previous Cultural Resources Investigations within 1 Mile of the APE

Author(s)	Date	NADB No.	Title	Findings Relevant to the Current Project
Cole, Steve	5/14/2001	1339898	Heritage Resources Investigation of the South Park Cell # 41982 Tower	No archaeological or historic deposits identified.
Roedel, Kurt W.	6/6/2001	1339904	Letter to Ronda Smith Regarding Archaeological Resources Monitoring for the South Park Bridge Project	No significant archaeological resources were identified during excavation monitoring.
Historical Research Associates, Inc.	8/1/2004	1344408	South Park Bridge Project Cultural and Historical Resources Technical Report	Moderate potential for the presence of intact subsurface archaeological resources. No archaeological sites have been previously recorded in the APE. 80 historic resources; South Park Bridge is listed on NRHP; 12 others are NRHP eligible, of those, 2 are located along the Duwamish (Boeing Property and Red Brick Road are potentially eligible).
Gilpin, Jennifer	10/5/2006	1348322	Archaeological Monitoring at 9229 E. Marginal Way, Tukwila, King County, Washington	No sites were recorded. A pocket of historic artifacts including ceramics and glass was observed as likely remnants of a historic trash dump with no identifiable integrity.
Krafft, Katheryn, and Cathy Wickwire	9/30/1997	1350146	Historic Property Survey Report: Georgetown (Seattle, Washington)	34 historic properties within APE
Demuth, Kimberly, Craig Smith, Robin Hoffman, Kirk Ranzetta, Jennifer Flathman, David Harvey, Jeannie Cziesla, Lucy Zuccotti, Astrida Blukis Onat, and Timothy Cowan	6/1/2008	1351645	Cultural Resources Survey for the South Park Bridge Project	3 precontact archaeological sites identified on the southern side of the Duwamish waterway: 45KI815, 45KI816, and 45KI817. One site is within the APE and two are outside of the APE. It is likely they are connected to the abandoned meander channel. Three Historic Properties within the APE: Boeing Building, Brick Road, and South Park Bridge.
Zuccotti, Lucy, Jennifer Flathman, Kimberly Demuth, and Robin Hoffman	11/4/2008	1352098	Cultural Resources Section 106 Technical Report Georgetown Steam Plant Flume Project, EOA Slip 4 Early Action Area, Lower Duwamish Waterway Superfund Site, Seattle	Surface and subsurface surveys did not locate any archaeological resources. Five historic properties in the APE: Boeing Buildings 3-323 and 3-346, the Steam Plant building, holding tank, and flume.
Foutch, Amy, Michele Punke, Jon Held, Elizabeth O'Brien, and John Fagan	7/1/2009	1353867	Cultural Resources Study for the SR 99 Intelligent Transportation System Improvements Project	No archaeological deposits identified. One historic resource identified: North 46th Street/SR 99 Overcrossing.

Author(s)	Date	NADB No.	Title	Findings Relevant to the Current Project
Roedel, Kurt, Leonard Forsman, Dennis Lewarch, and Lynn Larsen	7/5/2001	1681071	Boeing Field Runway Safety Area Compliance Archaeological Resources and Traditional Cultural Places Assessment	No significant archaeological deposits
BOLA Architecture + Planning	9/24/2012	1682897	King County International Airport / Boeing Field Seattle, Historical Documentation	Historical documentation, not cultural resource survey.
Cooper, Jason	6/1/2013	1683973	Archaeological Monitoring Program Synopsis Construction Season 1: Duwamish Sediment Other Area and Southwest Bank Corrective Measure and Habitat Project Boeing Plant 2 Seattle/Tukwila, Washington	No archaeological material was identified; isolate: one historic object (45KI1142) was recorded.
Marcotte, Jacqueline, Bryan Hoyt, Chris Lockwood, and Paula Johnson	5/17/2013	1684370	West Duwamish Trail Extension Project	No buried archaeological resources were uncovered during monitoring. Three historic-aged properties (all commercial warehouses) identified within the APE.
Schultze, Carol, Brent A Hicks, Shari Maria Silverman, and Jennifer Gilpin	2/27/2014	1684580	45KI815 Archaeological Data Recovery, South Park Bridge Replacement Project, King County, Washington	Data analysis for known site 45KI815
Schultze, Carol, Amy Jordan, Justin Butler, Jennifer Gebhardt, Angus Tierney, and Daniel Schau	3/31/2015	1686020	Archaeological Monitoring Report for the South Park Bridge Replacement Project, King County, Washington	45KI815: during monitoring, 8 additional locations associated with site extended the site boundary. New boundaries identified.
Marcotte, Jacqueline and Paula Johnson	12/1/2014	1686226	West Duwamish Trail Extension Project, Seattle, King County, Washington, Results of Archaeological Monitoring	No significant archaeological resources were identified during excavation monitoring.
Hodges, Charles	1/30/2015	1686270	Results of Geoarchaeological Monitoring at 8th Avenue Terminals, Inc., During Phase 2 Remedial Investigation Surveys	Multiple boring locations east of Slip 4. Possible buried archaeological deposits, but boring results are unclear and not consistent.
Carrilho, Yonara, and Brandy Rink	6/17/2016	1689109	Pipe Documentation at the Georgetown Steam Plant, Seattle	Wooden stave pipe associated with the Georgetown Steam Plant was uncovered, requiring monitoring
Boersema, Jana, and Anthony Cagle	8/3/2017	1689679	Cultural Resources Assessment for the Seattle City Light Technical Training Center, King County, Washington	No precontact or significant cultural material was discovered in the APE. The only cultural material found during this survey was scattered debris within the fill deposit that was not directly datable.

Author(s)	Date	NADB No.	Title	Findings Relevant to the Current Project
Berger, Margaret, and Glenn Hartmann	4/8/2013	1691049	Cultural Resources Assessment of the Duwamish Substation North Property	No above-ground cultural resources were identified within the subject property.
Lockwood, Chris, and Tom Ostrander	3/21/2014	1691097	Archaeological Monitoring of Geotechnical Boring and Monitoring Well Installation, West Michigan and 8th Avenue, King County, Washington	No prehistoric or historic archaeological resources were observed during monitoring.
Lockwood, Chris, and Brian Hoyt	4/17/2014	1691098	Archaeological Monitoring of South Park Hydrological Investigations, GSI Project - West Michigan and 8th Avenue, King County, Washington	South Park Basin is considered to have a very high likelihood for deeply buried precontact and historic archaeological resources. Isolate 45KI1183 comprised fragments of 3 to 5 bricks and one non-diagnostic whiteware sherd, associated with bash and dispersed charcoal. The isolate is in an area that was formally a meander of the Duwamish River.
Kopperl, Robert, and Charles Hodges	2/15/2017	1694843	Archaeological Resources Assessment for the 8430 Dallas Ave Warehouse Project, King County, Washington	No archaeological or historic deposits were identified.
Stropes, Tracy	10/8/2019	1695191	A Cultural Resources Assessment for the 8801 East Marginal Way Project, City of Tukwila, King County, Washington	No archaeological resources identified; four historic properties identified: warehouse building, office facility, water tower, groundwater treatment facility.
Hoyt, Bryan, and Chris Lockwood	12/14/2021	1696132	South Park Plaza Project, Seattle, King County, Washington - Cultural Resources Assessment	No cultural resources were identified.
Jones, Jessica	06/3/2022	1696843	Archaeological Monitoring at 14th Avenue S and Dallas Avenue S for a Proposed Signal Pole Instillation	No cultural resources were identified.
Anchor QEA, LLC	09/2022	1697123	King County International Airport Runway 14L-32R Rehabilitation and Reconstruction Cultural Resources Survey Report	No cultural resources were identified.
Beckner, Chrisanne, Brian Drukin, Kristen Freeman, and Historic Research Associates, Inc.	11/7/2022	1697234	Cultural Resources Inventory for the Georgetown to South Park Trail Project in the City of Seattle, King County, Washington	No cultural resources were identified.

Table 3-3. Previously Recorded Archaeological Sites within 1 Mile of the APE

Site Trinomial	Site Name	NRHP Determination of Eligibility	Site Description
45KI817	Site Three	Unevaluated	Precontact Site: charcoal, shell, bird bone, fish bone, and mammal bone; depth: 190–225 cm.
45KI816	Lwalb Old Channel Two	Unevaluated	Precontact Site: shell midden, fire-cracked rock, mammal bone, bird bone, fish bone; depth: 24–195 cm.
45KI815	Lwalb Old Channel One	Eligible	Precontact Site: Shell midden, bird bone, mammal bone, fish bone, and fire-cracked rock; depth: 50–240 cm.
45KI1352	King County International Airport Historic Debris	Not Eligible	Concentration of nine cow bones found during the excavation of a utility trench from an unknown depth. One of the bones exhibited a saw cut.
45KI1351	Hotel Butler Historic Debris Concentration	Not Eligible	A subsurface debris concentration 30-50 cm below the surface, measuring 6 m ^{2}. Associated with Hotel Butler, dating to 1913, and includes historic ceramics, glass, animal bone, oyster shells, and metal plate/cup fragments.
45KI1280	Wood-stave Pipe Segment at the Georgetown Steam Plant	N/A	A wood-stave pipe associated with the Seattle Electric Company Georgetown Steam Plant. 23.5 m of the pipe was exposed in a utility trench.
45KI1183	Not applicable	Unevaluated	Isolate: single whiteware fragment and 3 to 5 red brick fragments., circa. 1900-1950.
45KI01149	Hamm Creek Pilings	Potentially Eligible	Historic isolate.
45KI01142	Wooden wagon wheel	Unevaluated	Historic isolate, circa 1890's to 1920's.
45KI00538	Columbia and Puget Sound Railroad	Potentially Eligible	Historic isolate.

Note:
cm = centimeters

Table 3-4. Previously Recorded Cemeteries within 1 Mile of the APE

Site Trinomial	Description	Distance from APE	Comments
45KI01526	Rose Street	1.1 km (0.70) miles west-northwest of APE	Human Remains were found in 1925. The remains were found at a depth of 18 inches in sandy clay soil.
45KI00910	Maple Grave/Memorial	1 km (0.67) miles north of APE	A monument and urn of the ashes of John and Samuel, son, Maple.

Table 3-5. Historic Register-Listed Properties within 1 Mile of the APE

Site Trinomial	Listing Number	Property Name	Register	Address
45KI136	N/A	Maple Donation Claim	Washington Heritage Register	Airport Way South, Seattle, WA
45KI138	78002755	Seattle Electric Company Georgetown Steam Plant	National Historic Landmark	6605 13th Ave S, Seattle, WA
45KI139	71000872	Building No. 105, Boeing Airplane Company	National Register; Washington Heritage Register	Purcell Avenue, Tukwila, WA
45KI259	82004228	14th Avenue South Bridge – Seattle	National Register; Washington Heritage Register	Spans Duwamish River, Seattle, WA
45KI1440	100004460	Eng, Jimmie & Betty, House	National Register; Washington Heritage Register	8310 Beacon Ave. S, Seattle, WA 98118

4. METHODS

Stell Archaeologists Dana Chandler, BA; Jordan Cooper, BA; and Nichole Padovano, BA, conducted archaeological monitoring on August 21, 22, 24, 28–30, October 11 and 24, 2023, for a total of eight days of monitoring over two months. The ground-disturbing activity for the Project consisted of the decommissioning and removal of 18 USTs, decontamination and/or removal of concrete and asphalt slabs, demolition of all site buildings, and removal of soil, and if necessary, facilitate paving. Soil samples were collected on-site to define the extent of ground contamination.

Excavation and demolition monitoring focused on observing any organic or shell-midden deposits, signs of soil oxidation, lithic or bone artifacts, or animal or human bones. All other monitoring activities were conducted following the monitoring plan developed by Stell (Steinkraus 2020). See **Appendix A** for the MIDP.

4.1 UNDERGROUND STORAGE TANKS

The Project consisted of the decommissioning and removal of 18 USTs, divided between a "North Tank Vault" (NT) system and a "South Tank Vault" (ST) system. The NT was the central location for 10 USTs (**Figure 4-1)**, while the ST was the central location for eight USTs (**Figure 4-2)**. The USTs in each tank-bed were buried below grade but within concrete vault structures that extended above grade. Both tank nests were constructed within the basement of former buildings. Once the former buildings were demolished, the voids around the tanks were filled with sand and slag that was available from forging operations on-site. The North Tank Vault included a concrete base that was 1.5 m (5 ft.) below the surrounding grade. The concrete walls of the South Tank Vault extended slightly deeper and did not contain a concrete bottom. Forty-two soil samples between the NT and ST systems were to be collected on-site by the DH Environmental Licensed Hydrogeologist and brought back to a lab for chemical analysis.

Figure 4-1. Location of North and South UST locations in APE; Map provided by DH Environmental (2024).

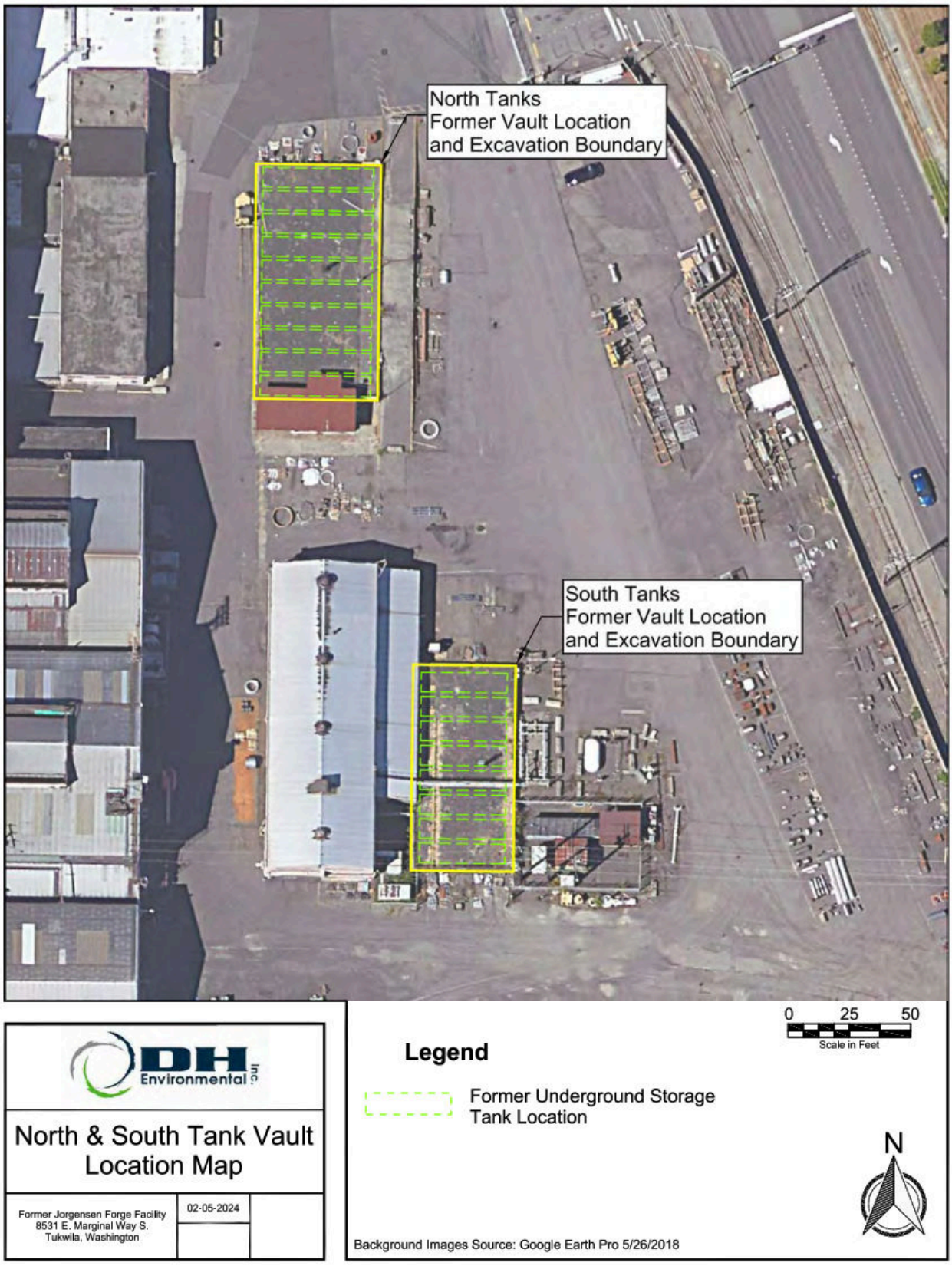
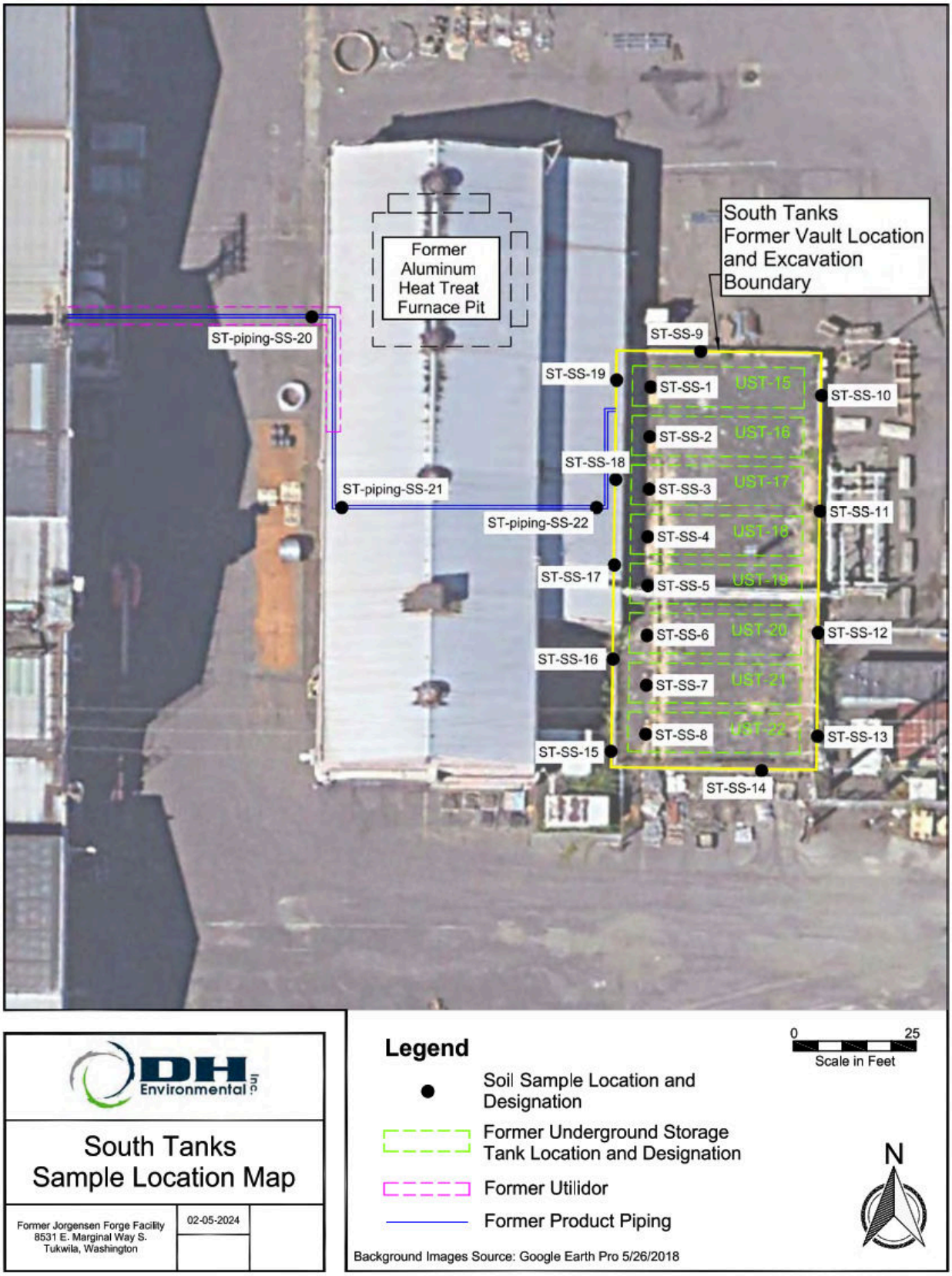


Figure 4-1. Map of North UST Sample Locations, provided by DH Environmental (2024).



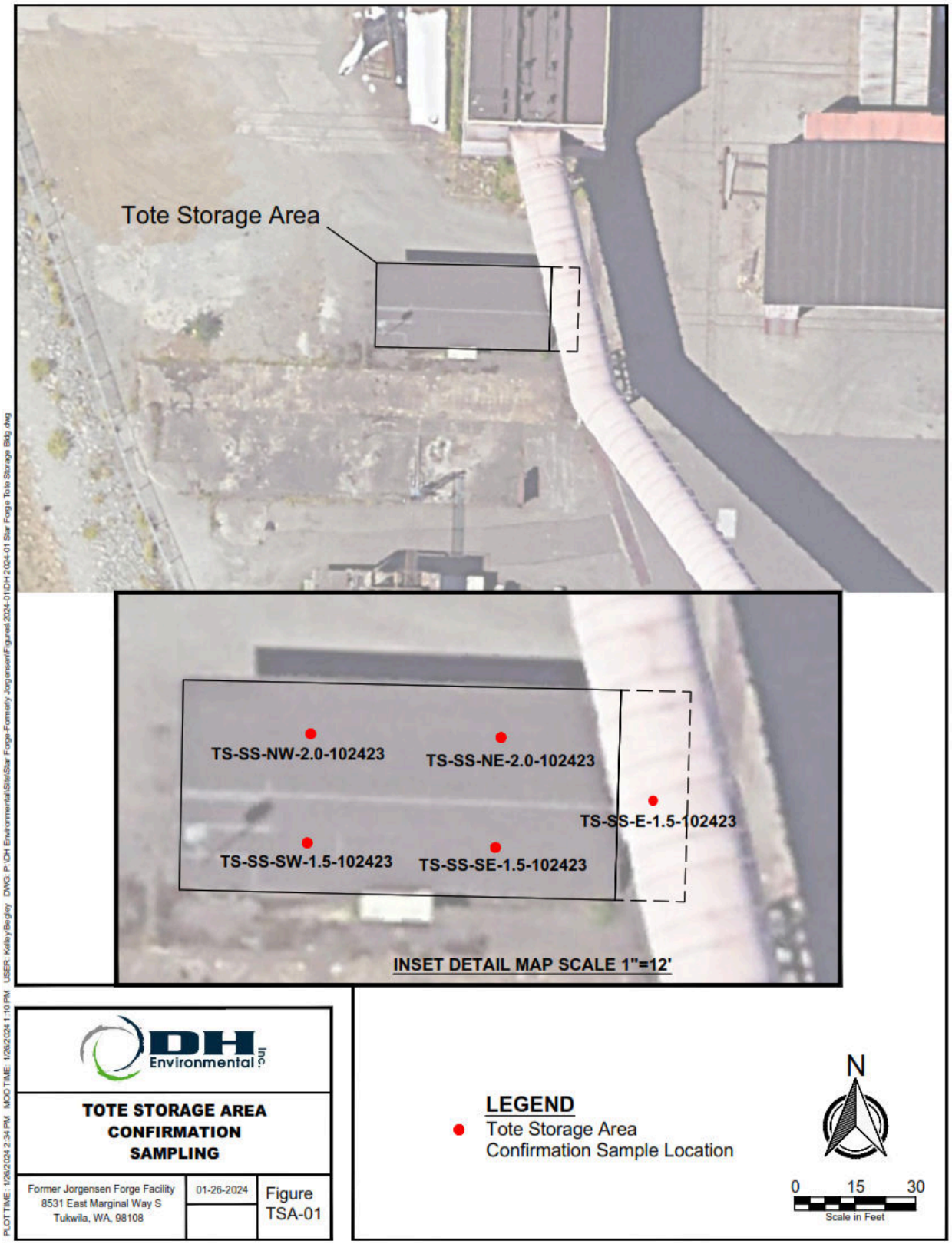
Figure 4-2. Map of South UST sample locations, Provided by DH Environmental (2024)



4.2 TOTE STORAGE AREA

The Project consisted of the demolition of the Tote Storage building. The building location is shown in (Figure 4-4), Earthwork on this day included the tearing apart of a building foundation, asphalt slab, and a concrete slab, removal of the concrete, and soil scrape for sampling.

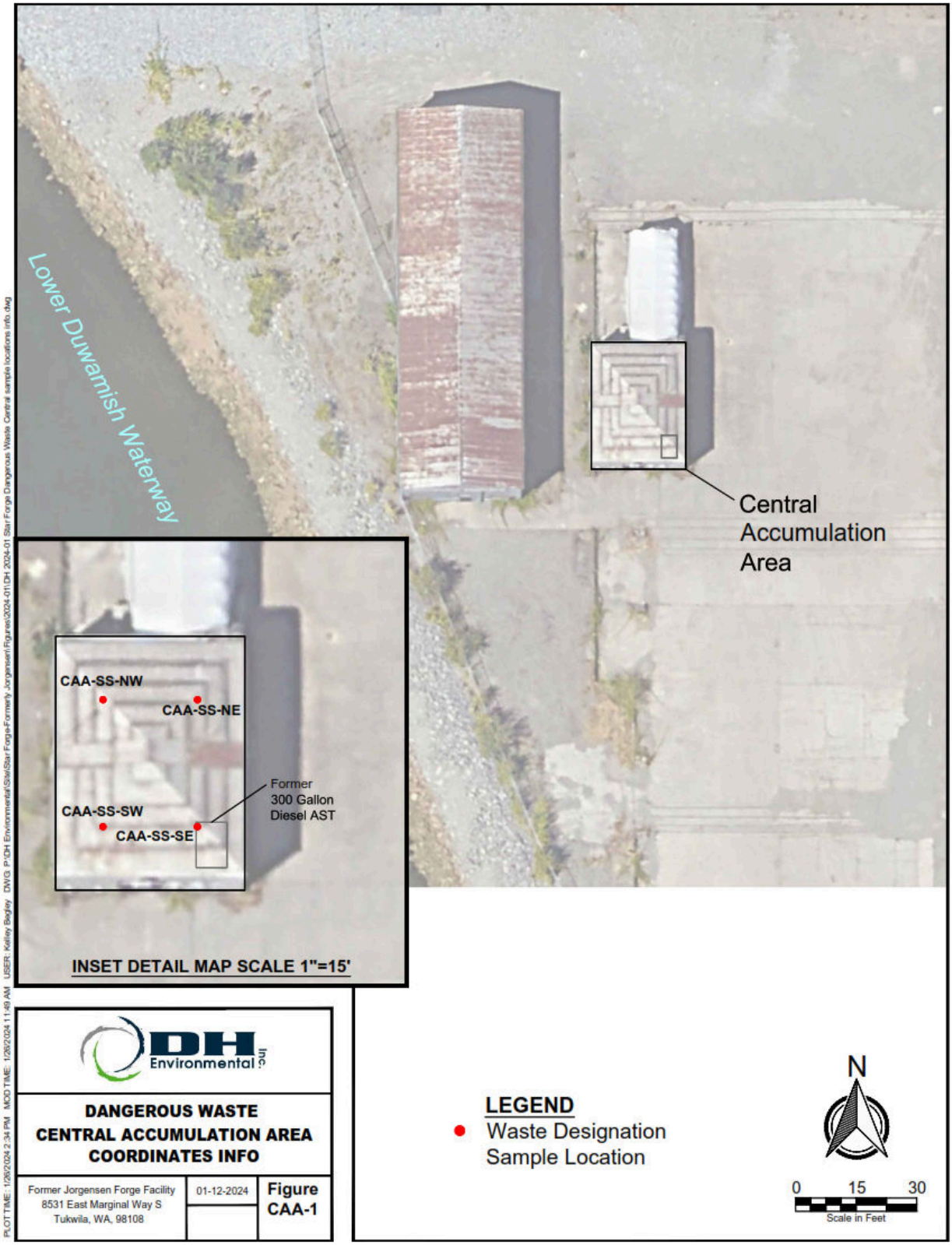
Figure 4-4. Map Tote Storage Sampling locations, Provided by DH Environmental (2024)



4.3 CENTRAL ACCUMULATION AREA/OIL AREA

The Project consisted of the demolition of the Central Accumulation Area/Oil Shed building. The building location is shown in (Figure 4-5), The ground disturbing activity of the day was excavation of a building foundation and sampling of the soil. Earthwork on this day included the tearing apart of a concrete building foundation, removal of the concrete, and soil scrape for sampling.

Figure 4-5. Map Central Accumulation Area/Oil Shed Sampling locations, Provided by DH Environmental (2024)



5. RESULTS

Archaeological monitoring was conducted on August 21, 22, 24, 28–30, and October 11 and 24, 2023, for a total of eight days of monitoring over two months. Monitoring efforts were concentrated on the North and Southern Tanks. Monitoring was also done within the Tote Storage Building and Central Accumulation Area/ Oil Shed. Monitoring was not a daily occurrence. Monitoring was conducted by Stell archaeologists Dana Chandler, BA; Jordan Cooper, BA; and Nichole Padovano, BA, as needed. Field notes and photos were recorded in daily monitoring logs (**Appendix B** [complete copies]) as partial fulfillment of the monitoring plan (**Table 5-1**). See **Appendix A** for the MIDP.

Table 5-1. Monitoring Log Summary

Date	Monitor	Cultural Materials (Yes/No)	Cultural Materials Description	Work Undertaken
08/21/2024	Jordan Cooper	No	N/A	Tearing apart of a concrete building foundation; Removal of the concrete; Soil scrape for sampling.
08/22/2024	Nichole Padovano	No	N/A	Tearing apart of a concrete building foundation; Removal of the concrete; Soil scrape for sampling.
08/24/2024	Dana Chandler	No	N/A	Tearing apart of a concrete building foundation; Removal of the concrete; Soil scrape for sampling.
08/28/2024	Jordan Cooper	No	N/A	Tearing apart of a concrete building foundation; Removal of the concrete; Soil scrape for sampling.
08/29/2024	Nichole Padovano	No	N/A	Tearing apart of a concrete building foundation; Removal of the concrete; Soil scrape for sampling.
08/30/2024	Nichole Padovano	No	N/A	Tearing apart of a concrete building foundation; Removal of the concrete; Soil scrape for sampling.
10/11/2024	Jordan Cooper	No	N/A	Tearing apart of a concrete building foundation; Removal of the concrete; Soil scrape for sampling.
10/24/2024	Dana Chandler	No	N/A	Tearing apart of a concrete building foundation; Removal of the concrete; Soil scrape for sampling.

See **Figure 5-3–Figure 5-13** for archaeological monitoring site photos.

No significant cultural resources were identified during archaeological monitoring.



Figure 5-1. Western wall of Aluminum building foundation with soil pile, facing northwest



Figure 5-2. Soil sample example, NT-SS-2



Figure 5-3. North Vault concrete wall removed, facing northwest.



Figure 5-4. North Vault soil sample, facing plan.



Figure 5-5. North Vault sampling example of modern brick found, facing plan



Figure 5-6. North and South UST Systems, facing northwest



Figure 5-7. North and South UST Systems, facing plan



Figure 5-8. Overview Tote Storage Area, facing west



Figure 5-9. Overview Central Accumulation Area/Oil Shed, facing south



Figure 5-10. Overview Central Accumulation Area/Oil Shed, facing east



Figure 5-11. Finding of non diagnostic copper pipe in Central Accumulation Area/Oil Shed, facing plan



Figure 5-12. Finding of non-diagnostic copper pipe in Central Accumulation Area/Oil Shed, facing plan



Figure 5-13. Finding of yellow brick with "PFB" lettering Central Accumulation Area/Oil Shed, facing plan

5.1 SOIL SAMPLE RESULTS

5.1.1 UST TANK FARM AREA

A total of 42 soil samples (SS) between the NT and ST systems were collected on-site by the DH Hydrogeologist and brought back to a lab for chemical analysis. Twenty-three samples were collected from the NT system (**Table 5-2**; **Figure 4-1**) and 19 samples were collected from the ST system (**Table 5-3**, **Figure 4-2**). Of note, the NT-SS collection began at number NT-SS-11 and numbers NT-SS-24 and NT-SS-25 were not included.

Table 5-2. UST North Tank Soil Sample Description

SS No.	Cultural Materials (Positive/Negative)	Soil Description	Location
NT-SS-11	Negative	Very dark gray fine silty sand, poorly sorted, loose, damp; Very dark gray very fine sandy silt, poorly sorted, slightly cemented, wet, many fine roots (undisturbed/native Duwamish soil), trace charcoal present; Trace orange-brown coarse silty sand, dry, poorly sorted.	UST-26 North Wall
NT-SS-12	Negative	Brown and gray fine sand, very loose, poorly sorted; Trace orange-brown clayey silt, very well sorted, very cemented, wet. Some fine roots, no gravels or wood	UST-27 East Wall
NT-SS-13	Negative	Brown and gray fine sand, very loose, poorly sorted; Trace orange-brown clayey silt, very well sorted, very cemented, wet; Gray; Very dark gray sandy silt, well sorted, slightly cemented, has diesel smell. No gravels or wood present.	UST-29 East Wall

SS No.	Cultural Materials (Positive/Negative)	Soil Description	Location
NT-SS-14	Negative	Gray and Gray-brown fine silty sand, loose, damp, poorly sorted, diesel smell. Slag present, no gravels or wood	UST-31 East Wall
NT-SS-15	Negative	N/A	UST-33 East Wall
NT-SS-16	Negative	N/A	UST-34/35 East Wall
NT-SS-17	Negative	N/A	South Wall
NT-SS-18	Negative	N/A	UST-35 West Wall
NT-SS-19	Negative	N/A	UST-34/33 West Wall
NT-SS-20	Negative	Dark gray fine silty sand, loose, damp, poorly sorted, diesel smell (oil); Dark gray/Black sand, very poorly sorted loose, wet (oil), poorly sorted.	UST-31/32 West Wall
NT-SS-21	Negative	Very dark gray silty sand, fine, loose, poorly sorted, damp (no smell). Trace very fine yellow-brown silty sand, poorly sorted, dry. Trace concrete fragments.	UST-29/30 West Wall
NT-SS-22*	Negative	Very dark gray fine silty sand, poorly sorted, loose, slight diesel smell. No wood or gravels present.	UST-28 West Wall
NT-SS-23	Negative	Brown sand, very poorly sorted, loose, damp; Very dark gray fine silty sand, loose, more damp; Slag present, no gravels or wood.	UST-26 West Wall
NT-SS-26	Negative	Brown, Red, and Gray fine silty sand, very loose, poorly sorted, damp. Many pieces of concrete present, some wood debris, some slag.	UST-26 East Floor
NT-SS-27	Negative	Brown, Red, and Gray fine silty sand, very loose, poorly sorted, damp, < 10% find sub-angular gravels throughout. Some concrete debris present, few roots. 1 transparent glass fragment, < 2 in, non-diagnostic.	UST-27 East Floor
NT-SS-28	Negative	Brown and gray fine sand, very loose, poorly sorted; Dark gray very fine silty sand, more cemented but still loose, well sorted; Very dark gray very fine sandy silt, very well sorted, some fine roots present; wood debris, concrete pieces, and slag throughout.	UST-28 East Floor
NT-SS-29	Negative	Black silty sand, loose, gritty, damp, poorly sorted. 10% gravels throughout. Trace slag. Wood and concrete pieces throughout.	UST-29 East Floor
NT-SS-30	Negative	Black silty sand, loose, gritty, damp, poorly sorted; trace very fine sandy silt very cemented, very well sorted. < 10% sub-angular gravels throughout.	UST-30 East Floor
NT-SS-31	Negative	Black very silty sand, loose, gritty, damp, poorly sorted. <10% fine sub-angular gravels throughout. Some wood pieces and concrete pieces throughout. Gasoline smell.	UST-31 East Floor
NT-SS-32	Negative	Black silty sand, loose, gritty, damp, poorly sorted; trace black very fine, very silty sand. 30% fine-medium sub-angular to angular gravels throughout.	UST-32 East Floor

SS No.	Cultural Materials (Positive/Negative)	Soil Description	Location
NT-SS-33	Negative	Black, very silty sand, loose, gritty, damp, poorly sorted. More fine-large broken concrete pieces throughout.	UST-33 East Floor
NT-SS-34	Negative	Black silty sand, loose, gritty, damp, poorly sorted; trace black clayey silt, slightly cemented, very well sorted. Medium-large pieces of wood throughout. Smells heavily of gasoline.	UST-34 East Floor
NT-SS-35	Negative	Black silty sand, loose, gritty, damp, poorly sorted; trace black clayey silt, slightly cemented, very well sorted. ~10% fine sub-angular gravels throughout. Some fine-large broken concrete pieces throughout.	UST-35 East Floor

Note:
NT-SS-22* = Pictured Above, **Figure 5-2**

Table 5-3. UST South Tank Soil Sample Description

SS No.	Cultural Materials (Positive/Negative)	Soil Description	Location
ST-SS-1	Negative	Dark gray clayey silt, very well sorted, slightly cemented, slightly wet, roots present. Black silty sand, loose, gritty, damp, poorly sorted.	UST-15 West Floor
ST-SS-2	Negative	Gray, very fine sandy silt, cemented, very well sorted, dry. Dark gray clayey silt, very well sorted, cemented, fine roots.	UST-16 West Floor
ST-SS-3	Negative	N/A	UST-17 West Floor
ST-SS-4	Negative	N/A	UST-18 West Floor
ST-SS-5	Negative	N/A	UST-19 West Floor
ST-SS-6	Negative	Brown and Dark gray very fine sandy silt, cemented, dry, very well sorted. Brown silty sand, loose, gritty. Some fine roots throughout.	UST-20 West Floor
ST-SS-7	Negative	Organic silty soil, many medium roots. Dark gray fine sandy silt, slightly cemented, slightly wet, well sorted. Gray clayey silt, slightly wet, very well sorted. Brown silty sand, gritty, loose, poorly sorted. No gravels throughout.	UST-21 West Floor
ST-SS-8	Negative	Black silty sand, loose, gritty, damp, poorly sorted; trace black clayey silt, very fine, slightly cemented, damp, well sorted. < 5% fine sub-angular gravels throughout. Some fine-large broken wood pieces throughout. Aggressive fuel smell.	UST-22 West Floor
ST-SS-9	Negative	Gray-brown silty sand, poorly sorted loose, damp; Very dark gray sandy silt, very well sorted, cemented, wet. Wood debris throughout, some gravels and roots	UST-15 North Wall
ST-SS-10	Negative	Very dark gray sandy silt, cemented in very thin layers, well sorted, wet; Very dark gray clayey silt, very well sorted, wet	UST-15 East Wall

SS No.	Cultural Materials (Positive/Negative)	Soil Description	Location
ST-SS-11	Negative	Dark gray silty sand, poorly sorted, loose, damp; Orange-brown silty sand, more coarse, poorly sorted, dry, loose; Dark gray sandy silt, cemented, wet, poorly sorted. Many pieces of slag throughout, some wood and roots in the Dark gray sandy silt and silty sand – undisturbed organics	UST-17/18 East Wall
ST-SS-12	Negative	Dark gray silty sand, poorly sorted, loose, damp; Orange-brown silty sand, more coarse, poorly sorted, dry, loose. Many wooden pieces throughout	UST-20 East Wall
ST-SS-13	Negative	Dark gray silty sand, poorly sorted, loose, damp; Orange-brown silty sand, more coarse, poorly sorted, dry, loose	UST-22 East Wall
ST-SS-14	Negative	Dark gray sandy silt, wet, cemented, many roots and wood debris; Dark gray silty sand, damp, loose	UST-22 South Wall
ST-SS-15	Negative	N/A	UST-22 West Wall
ST-SS-16	Negative	N/A	UST-20/21 West Wall
ST-SS-17	Negative	N/A	UST-18/19 West Wall
ST-SS-18	Negative	N/A	UST-17 West Wall
ST-SS-19	Negative	N/A	UST-15 West Wall

Soil samples were conducted on the first 15 centimeters (6 inches) of exposed soil directly below the removed UST concrete foundation. The exposed soil from the NT was about 2 m (6.5 ft.) below ground surface, while the soil from the South UST System was about 2.6 m (8.5) ft. below ground surface. No cultural resources were identified during the process.

5.1.2 TOTE STORAGE AREA

Earthwork on this day included the tearing apart of a building foundation, asphalt slab, and a concrete slab, removal of the concrete, and soil scrape for sampling. A total of 6 soil samples were collected at the surface, below the removed slab. The sediment observed was yellow-brown silty sand, with some bands of grey silt. Some debris was observed by the archaeologist, including metal pipes and metal rebar. No cultural resources were identified during the process.

5.1.3 CAA/OIL STORAGE AREA

The ground disturbing activity of the day was excavation of a building foundation and sampling of the soil. The archaeologist inspected the soil in between truckloads of concrete being hauled away. A total of 6 soil samples were collected at the surface, below the removed slab. Some debris was observed by the archaeologist, including brick, glass shards, and metal rebar. One brick observed and recorded had lettering embossed, spelling “PFD”. Also recorded was a copper tube. Neither of these items were diagnostic. No cultural resources were identified during the process.

6. INTERPRETATIONS AND CONCLUSIONS

DH contracted Stell to conduct cultural resource monitoring for the Project, at 8531 East Marginal Way South in Tukwila, WA. The APE covers 20.2 acres of land; discrete areas within this APE were used for sampling. Stell conducted archaeological monitoring on August 21, 22, 24, 28–30, and October 11 and 24, 2023, for a total of eight days of monitoring over two months.

The findings of this report concur with prior cultural resource investigations within the vicinity that identified large fill deposits, and any intact precontact or early historic-era cultural resources will be deeply buried. In the next 10–20 years, many of the cultural resources situated around the Project APE will be considered archaeological in nature, most of which would be associated with early industry along the riverway, particularly the development of the Boeing Company.

This report summarizes monitoring activities for DH's environmental assessment for the Star Forge Facility Demolition Project. No significant cultural resources were discovered during monitoring.

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