REMEDIAL INVESTIGATION WORK PLAN

Former Bunge Foods Facility
6901 Fox Ave South

November 3, 2021

Prepared for:

BRIDGE

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Prepared by:

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CONSULTING, INC.

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Acronyms and Abbreviations

APH	Air-Phase Petroleum Hydrocarbon
ACGIH	American Conference of Governmental Industrial Hygienists
bgs	below ground surface
Bridge	Bridge Industrial
BTEX	benzene, toluene, ethylbenzene, and xylenes
COC	contaminant of concern
COI	constituent of interest
cPAH	carcinogenic polycyclic aromatic hydrocarbon
CSM	conceptual site model
CUL	cleanup level
DOSH	Washington State Division of Occupational Safety and Health
Ecology	Washington Department of Ecology
EPA	United States Environmental Protection Agency
FBI	Friedman & Bruya, Inc
ft	foot
GC/MS	gas chromatography/mass spectrometry
GWCC	Great Western Chemical/Cascade Columbia Distribution Company
HCID	hydrocarbon identification
$\mu g/m^3$	micrograms per cubic meter of air
mg/kg	milligram per kilogram
mS/cm	milliSiemens/centimeter
MTCA	Model Toxics Control Act
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCE	perchloroethylene (tetrachloroethene)
Property	Dawn Food Products facility
PVI	Petroleum Vapor Intrusion
QAPP	Quality Assurance Project Plan
RI/FS	Remedial Investigation/Feasibility Study
RIWP	Remedial Investigation Work Plan
SL	Screening level
SVOC	semivolatile organic compound
TCE	trichloroethene
TEE	Terrestrial Ecological Evaluation
TEQ	toxicity equivalent
TPH	total petroleum hydrocarbons
VI	vapor intrusion
VOC	volatile organic compound
WAC	Washington Administrative Code

1 Introduction

This Remedial Investigation Work Plan (RIWP) describes investigation activities to be conducted as part of efforts to develop a Remedial Investigation / Feasibility Study (RI/FS) report for the former Bunge Foods facility (Property), located at 6901 Fox Ave South in Seattle, Washington (Figure 1; King County Parcel Number 000180-0113). This RIWP was prepared for Bridge Industrial (Bridge) to comply with the requirements of Agreed Order (AO) No. ***AB 12345 (TBD*)**.

Key historical reports are included in Appendix A. Recent soil, groundwater, and vapor data results and summaries are included in Appendix B and initial constituent of interest (COI) screening is included in Appendix C. The supporting Quality Assurance Project Plan (QAPP) and Health and Safety Plan for the field investigations are included in Appendices D and E, respectively. Section 5 of this RIWP provides the field sampling plan.

After finalization of this RIWP, Bridge will implement the RIWP and continue work with Ecology to develop the RI/FS and draft Cleanup Action Plan.

2 Property Location and Description

2.1 Past, Current and Future Conditions

The Property covers 5.4-acres and is located in the Georgetown neighborhood of Seattle adjacent to the Duwamish River. The Property includes a warehouse building built in 1977 that is approximately 128,800 square feet (2.96 acres). The building and the Property are currently leased to Dawn Food Products, Inc. to mix and package dry commercial baking mixes.

2.1.1 Property History/Past Land Use

The history of the Property was determined using information from the Environmental Data Resources, Inc.'s (EDR's) state and federal environmental database searches, King County Assessor's Property Characteristics Report, Polk records, historical aerial photographs, Sanborn maps, USGS topographic maps, and the Washington State Department of Ecology (Ecology) central records.

The Property is located in the Duwamish River Valley and is adjacent to the Duwamish River. The river formerly meandered throughout the area until the 1913 to 1916 dredging program provided a channelized Lower Duwamish Waterway.

The Property was developed around 1929. Previous environmental documents state that operations included metal fabrication and construction, electric thermostat manufacturing plant, paint spraying, general storage and offices (Hart Crowser 1996a). Records reviewed indicate that National Steel Corporation, which began operations in 1908 on the adjacent southern parcel, expanded operations around 1929 onto the Property. National Steel Corporation was originally a ship building company; operations included metal fabrication, spray painting, and electric thermostat manufacturing (Hart Crowser 1996a).Anderson Ship Building Company was present on the western portion of the Property from 1930 to 1940; operations included ship repair and painting. Records reviewed indicate that ship building activities, such as ship repair, painting, and fabrication, likely occurred between 1929 and 1966 after which time the Property was leased and used by Emerson GM Diesel, a sheet metal fabrication and generator manufacturing company, to the mid 1970's.

Tax records from the Emerson GM Diesel operations indicate that the existing warehouse was constructed in 1977 with all other buildings demolished at that time. Records indicate that the current warehouse was used by various food companies, such as Bunge Foods (1988 to 2003), Ener-G Foods, Oroweat Foods Company, and Sam Wylde Flour Company (EPA 2008).

2.1.2 Current Conditions and Land Use

In 2020 Bridge purchased the Property from Guimont Fox Avenue LLC. Currently the Property is leased to Dawn Food Products, Inc. which uses the Property to store, produce, and ship dry food products, such as cake and brownie mixes. Bulk oils such as canola oil

were previously received by truck or rail, until the facility changed operations to focus on dry food products. Dry bulk items, such as sugar and flour, are received by truck. The warehouse is divided into areas that mix products with some offices (the western half), food product storage (middle and eastern half), and additional office space (very eastern end). A small quantity of cleaning solvents are stored and used on site for equipment maintenance and facility cleaning.

There are five silos along the western end of the warehouse and three above ground storage tanks. These contain dry products (flour and sugar) and formerly contained cooking oils (such as canola oil [Hart Crowser 1996a]). A secondary containment system is present around the silos. There is a carbon dioxide tank (80,000-pound storage) which is used to cool agents in the mixes. A propane tank was formerly located at the south end of the warehouse used to fuel the forklifts, but it was removed when the operation converted to electric forklifts.

There are several stormwater drain lines along the southern portion of the Property, as shown on Figure 2. Discharge from the Property occurs via a single outfall to the Duwamish Waterway. The outfall is located on the west end of the Property and crosses the northwest corner of the adjacent property to the south, known as the Seattle Boiler Works property (00180-0091), prior to discharge.

Dawn Foods manages stormwater in compliance with Industrial Stormwater General Permit (ISGP) No. No. WAR011560. In 2020, Dawn Foods was required to implement a Level 3 Corrective Action for total zinc and a Level 2 corrective action for total copper. Based on historical water quality data which showed consistent total copper benchmark exceedances, Dawn Foods elected to implement a treatment BMP that will address both total copper and total zinc pollutant concentrations. An Engineering Design Report describing the proposed treatment technology to be implemented to meet permit discharge benchmarks and limits has been submitted to Ecology (Clear Water and Landau 2021).

2.1.3 Great Western Chemical/Cascade Columbia Distribution Co.

Great Western Chemical/Cascade Columbia Distribution Company (GWCC) is located upgradient to the east of the Property (Figure 1). GWCC operated a chemical and petroleum repackaging and distribution facility on the upgradient property. Groundwater flows from GWCC towards the Property (in an east to west direction) with eventual discharge to the Duwamish Waterway.

In 1990, releases on the GWCC property were reported from multiple USTs of unspecified petroleum products, halogenated organics, and non-halogenated solvents. In 2012, Ecology entered into an Agreed Order with the current property owner, Fox Ave Building LLC, to require implementation of the Cleanup Action Plan.

Based on information reported by Ecology,[1] contaminants of concern in the soil and groundwater originating from the GWCC property are:

- Chlorinated volatile organic compounds (cVOCs)
- Petroleum hydrocarbons
- Semi-volatile organic compounds (SVOCs), including polycyclic aromatic hydrocarbons (PAHs)
- Dioxins and furans

Documents for the GWCC cleanup show the "Northwest Corner Plume CAA" and the "Loading Dock Area" overlapping with the Property, as shown on Figure 3. Data from the 2012 Cleanup Action suggest that offsite contamination includes tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene, and vinyl chloride which are present in groundwater on the south-east corner of the Property.

In 2019, groundwater sampling was completed at the GWCC site that indicated CVOCs in the shallow groundwater bearing zone are present immediately upgradient from the Property at concentrations between 63.2 and 144 ug/L, as shown on Figure 3 of the Technical Memorandum Summarizing June 2019 Sampling for the Fox Avenue Site (Calibre 2019).

2.1.4 Duwamish Waterway

The western Property boundary is adjacent to the Duwamish Waterway. This portion of the Duwamish is within the Lower Duwamish Waterway (LDW) Superfund Site which is a 5-mile stretch of the channelized river that flows north into Elliot Bay. LDW was added to the Superfund National Priorities List by the U.S. Environmental Protection Agency (EPA) in 2001. Sediment in the LDW contains a wide range of contaminants due to decades of industrial activity and runoff from urban areas. EPA is leading efforts to clean up the sediment, while Ecology maintains control of the upgradient properties along the LDW.

2.2 Previous Field Investigations

In 1996 Hart Crowser completed a limited subsurface investigation for the Property (Figure 4; Hart Crowser 1996). Results of this report include field observations of metal debris and petroleum like odor in one location (sample location HC-4), and TPH and metals detected at two locations in the western portion of the Property (in sample locations HC-4 and HC-5). Lead was detected above MTCA direct contact values at one location (HC-4). Volatile organic compounds were detected in several sample locations, but Hart Crowser concluded that insufficient data was available to determine the source of the solvents. Sample locations are shown on Figure 4 and sample results are summarized in Table 1. Appendix A includes a copy of the 1996 Hart Crowser report.

[1] https://apps.ecology.wa.gov/gsp/Sitepage.aspx?csid=5082

On January 2, June 9, and December 1, 5, and 12, 2020, CRETE conducted a focused environmental investigation at the Property. This work was done to confirm the 1996 Hart Crowser data, verify that chlorinated volatile organic compounds (CVOCs) were present along the eastern portion the Property due to upgradient migration from the GWCC site, and to provide additional data to address current site environmental conditions. Soil and groundwater samples were collected using a Geoprobe® coring rig operated by ESN Drillers, a Washington State Licensed driller. Soil samples were collected directly from Geoprobe® soil cores and groundwater samples were collected from temporary wells installed at the boring location using a stainless steel well screen that was decontaminated between each location. At four shoreline locations a pre-packed PVC well screen was used for groundwater sampling. Temporary wells were abandoned after sampling, backfilled with bentonite, and the asphalt surface was patched. Sample locations are shown on Figure 5. The results of these investigation efforts are summarized in Sections 2.2.1 and 2.2.2, below. Appendix B includes copies of the laboratory reports.

Sampling to assess vapor intrusion was conducted at the Property in June 2020 and June 2021. The sampling was conducted based on groundwater data that indicated CVOC releases from the GWCC site may have migrated beneath the Dawn Foods building. The objective of the indoor and ambient air sampling was to determine if potential vapor intrusion from contaminants beneath the building could impact indoor air. The results of this sampling effort are discussed in Section 2.2.3.

2.2.1 Soil Results

Soil samples were analyzed for metals, CVOCs, semivolatile organic compound (SVOCs), benzene, toluene, ethylbenzene, and xylenes (BTEX), polychlorinated biphenyl aroclors® (PCBs), and total petroleum hydrocarbons (TPH). Samples were generally collected from the vadose zone and from the top of the saturated zone. Sample results are summarized on Tables 2 and 3. Sample locations are shown on Figure 5.

Metals

Soil samples were collected for metal analysis from SB-5, SB-6, SB-8 through SB-12, and SB-18 through -31. Soil detections included the following:

- Mercury at GP-SB-5 at 7 feet below ground surface (ft bgs) was detected at the MTCA Method A unrestricted land use value of 2 milligram per kilogram (mg/kg). Mercury was not detected in any other soil sample collected at the site.
- Arsenic was detected above the MTCA protection of surface water, adjusted for natural background, screening level of 7.3 mg/kg at GP-SB-8 (at 8 ft bgs), GP-SB-23 (5 and 11 ft bgs) and GP-SB-24 (at 10 and 12 ft bgs). Concentrations above screening levels ranged from 8.31 mg/kg (SB-23 at 11 ft bgs) to 13.6 mg/kg (GP-SB-23 at 5 ft bgs). All other detections were below screening levels.
- Cadmium was detected in one soil sample, SB-8 (at 8 ft bgs) at a concentration of 2.76 mg/kg, above the MTCA Method A soil unrestricted land use value of 2 mg/kg.

- Chromium was detected in one soil sample, SB-22-07 (at 7 ft bgs) at a concentration of 98.4 mg/kg, above the MTCA Method A soil unrestricted land use value of 19 mg/kg, based on Chromium VI (hexavalent chromium). This detection at SB-22-07 was below the Chromium III MTCA Method A soil unrestricted land use value of 2,000 mg/kg.
- Copper was detected above the MTCA protection of surface water, adjusted for natural background, screening level of 36.4 mg/kg at GP-SB-5-7 (7 ft bgs), GP-SB-8 (9 ft bgs), and GP-SB-11 (4 ft bgs). Concentrations above the screening level ranged from 213 mg/kg (GP-SB-5-7) to 78 mg/kg (GP-SB-8). All other detections were below screening levels.
- Nickel was detected above the MTCA protection of surface water, adjusted for natural background, screening level of 48 mg/kg at GP-SB-8 (9 ft bgs) at 62.1 mg/kg and GP-SB-11 (4 ft bgs) at 174 mg/kg. All other detections were below screening levels.
- Zinc was detected above the MTCA protection of surface water, adjusted for natural background, screening level of 100.9 mg/kg at GP-SB-5-7 (7 ft bgs), GP-SB-8 (9 ft bgs), GP-SB-11 (4 ft bgs) and GP-SB-25 (8 ft bgs). Concentrations above the screening level ranged from 140 mg/kg (GP-SB-25) to 7,110 mg/kg (GP-SB-8). All other detections were below screening levels.

CVOCs, SVOCs, BTEX, PCBs, and TPH compounds

Select soil samples from geoprobe soil borings SB-15 through SB-17 and SB-21 through SB-32 were sampled for CVOCs, SVOCs, BTEX, PCBs, and TPH compounds. cPAH compounds were the only compounds detected above site screening levels. The cPAH concentration exceeded above the Method A unrestricted level of 0.1 mg/kg at GP-SB-25-08 (8 ft bgs) at a concentration of 0.763 mg/kg.

2.2.2 Groundwater Results

Groundwater samples were collected from soil borings GP-SB-1 through GP-SB-32 (Figure 5). Sample locations were selected to assess the potential for offsite groundwater contamination and potential historical onsite activities. Select samples were analyzed for metals (total and dissolved), gasoline range TPH, and volatile organic compounds (VOCs). Results are shown on Table 4; laboratory reports are included in Appendix B. Groundwater detections include the following compounds:

- Dissolved arsenic was detected in groundwater from three locations (GP-SB-3, GP-SB-6 and GP-SB-7) above the surface water screening level (0.14 ug/L) and the MTCA method A groundwater cleanup level (5 ug/L).
- Dissolved nickel was detected above the surface water screening level (8.2 ug/L) in groundwater from GP-SB-6 and GP-SB-7.
- Dissolved zinc was detected above the surface water screening level (81 ug/L) in groundwater from GP-SB-6 and GP-SB-7 and above the MTCA Method B groundwater cleanup level (4,800 ug/L) from GP-SB-7.

- PCE was detected in groundwater at GP-SB-15 above the fresh surface water screening level (2.4 µg/L) but below the marine surface water screening level (2.9 µg/L). The laboratory reporting limit exceeding these screening levels at GP-SB-2.
- Vinyl chloride was detected in groundwater from GP-SB-1, GP-SB-2 and GP-SB-3 above surface water (0.026 ug/L) and Method A cleanup (0.2 ug/L) levels. Detections in GP-SB-1 and GP-SB-2 were also above the MTCA screening level for protection of indoor air (0.32 ug/L).
- Cis-1,2-dichloroethene was detected in groundwater from GP-SB-1, GP-SB-2and GP-SB-15 above the Method B cleanup level (16 ug/L).
- TPH-gasoline was detected in groundwater from GP-SB-15 (detected at 3,300 ug/L) above the MTCA Method A screening level (1,000 ug/L). All other detections were below the MTCA Method A screening level.

2.2.3 Vapor Intrusion

Based on the potential for CVOCs in groundwater from the upgradient GWCC site to impacts indoor air, vapor testing to assess vapor intrusion was performed in June 2020. Follow-up indoor and ambient air sampling was performed in June 2021. Subslab, indoor, and ambient air samples were analyzed using Air-Phase Petroleum Hydrocarbon (APH) analysis and Environmental Protection Agency (EPA) Method TO-15. The APH method detects gasoline and the volatile fraction of diesel fuel oil. The TO-15 method detects volatile organic compounds (VOCs), including CVOCs.

Results are compared to MTCA default and modified screening values as well as limits applicable for worker safety (Washington State Division of Occupational Safety and Health [DOSH] and American Conference of Governmental Industrial Hygienists [ACGIH]). All COCs detected in indoor and outdoor sample results (shown on Tables 5 and 6) were well below DOSH limits, where they exist. Likewise, all detected TPH results in indoor and outdoor sample results were well below ACGIH limits.

June 2020 Subslab, Indoor and Ambient Air Sampling

Samples were collected in accordance with EPA Method TO-15 for VOCs and the APH Method using summa-type evacuated cylinders with regulators calibrated to collect subslab grab samples and indoor and ambient air composite samples over 8 hours. The samples were analyzed by Friedman & Bruya, Inc (FBI) using gas chromatography/mass spectrometry (GC/MS). Appendix B includes the results from the vapor intrusion work completed in 2020.

The subslab and indoor air samples were collected from 2 locations in the office area (BR-SS/IA and OF-SS/IA) and 1 location in the warehouse (WH-SS/IA), all toward the east side of the building. The ambient samples (UP and DOWN) were collected from upwind and downwind locations to estimate background levels of the COCs in the project area.

Table 5 summarizes the data collected during the sampling event. TPH was detected above Method B CULs in the subslab samples and in the corresponding indoor air samples. TCE and PCE were detected above Method B CULs in the subslab samples but were below CULs in indoor air, except for the bathroom (BR) location within the office area. BR-IA had a measured TCE concentration of 0.37 µg/m^3 compared to the Method B CUL of 0.334 µg/m^3. The office (OF-IA) indoor air sample had a measured TCE concentration of 0.33 µg/m^3, just below the CUL. 1,2-dichloroethane (EDC) and benzene were detected in all indoor air samples above Method B but below the modified Method B CULs. Napthalene was also detected in all indoor air samples exceeding both the default and modified Method B CULs. EDC and naphthalene concentrations were corrected for ambient air measurements; Table 5 shows both the detected concentrations and a corrected concentration with the ambient air concentration subtracted. Although the ambient concentrations did not reduce the EDC, benzene, and naphthalene concentrations below CULs, these compounds are commonly found in ambient air, especially in urban and industrial areas.

June 2021 Indoor and Ambient Air Sampling

Air sampling was performed in June 2021 to further assess indoor air quality. Samples were collected in accordance with EPA Method TO-15 for VOCs and the APH Method using six-liter summa-type evacuated cylinders with regulators calibrated to collect composite samples over 24 hours. The field sampling program was carried out during a 24-hour period, over two consecutive days to account for fluctuations in temperature, ambient pressure, surrounding traffic, and other environmental conditions. The samples were analyzed by Friedman & Bruya, Inc (FBI) using gas chromatography/mass spectrometry (GC/MS). Appendix B includes the results from the vapor intrusion work completed in 2021.

A total of six samples were collected inside the Warehouse building (IAI through IA6), with two in the office space on the east end of the building and four in the warehouse space. In addition, two ambient samples were collected outdoors on the south side of the building in the traffic/loading area. The ambient samples were collected from upwind and downwind locations to estimate background levels of the COCs in the project area. Sample locations are shown on Figure 5.

Table 6 summarizes the data collected during the sampling event. The Property is located in an industrial area of Seattle and several VOC compounds were detected in ambient air samples. Table 6 shows both the detected concentrations and a corrected concentration, which removes the average concentration of the VOC compound if it was detected in ambient air. VOCs[2] in the ambient air could be from sources outside of the building such as paints, aerosol sprays, fuels, or from emissions released from industrial uses in the area.

[2] https://www.epa.gov/indoor-air-quality-iaq/volatile-organic-compounds-impact-indoor-air-quality

The warehouse has many truck bay doors and windows that are directly connected to ambient air. During sampling activities the doors were closed.

Similar to the 2020 indoor air results, 1,2-dichloroethane (EDC), benzene, and naphthalene were detected in all indoor air samples and also in ambient air samples. PCE was only detected in the office bathroom (IA1) sample location while TCE was detected in the two office samples (IA1 and IA2) and in the two easternmost warehouse samples (IS3 and IA4). The PCE and TCE results were all below MTCA Method B CULs, except for the office bathroom and office locations where TCE (0.38 and 0.34 µg/L, respectively) slightly exceeded the CUL of 0.334 µg/L.

No indoor air concentrations, when corrected for ambient air concentrations, exceeded the modified MTCA Method B CUL or worker exposure thresholds. The following samples exceeded the default MTCA Method B CULs (which represent a residential exposure):

- Naphthalene in the two office samples (IA1 and IA2) and in the furthest west warehouse sample (IA6)
- 1,2-dichloroethane (EDC) in the three more eastern warehouse samples (IA3, IA4, and IA5)
- TPH in the four warehouse samples (IA3 through IA6).

2.2.4 Sediment

The Property is bordered on the western property boundary by the Duwamish Waterway. The river is part of the Lower Duwamish Waterway (LDW) Superfund Site which is a 5-mile stretch of the Duwamish River that flows north into Elliot Bay. LDW was added to the Superfund National Priorities List by the U.S. Environmental Protection Agency (EPA) in 2001. Sediment contains a wide range of contaminants due to decades of adjacent and upgradient industrial activity and runoff from urban areas.

EPA is leading efforts to clean up sediment while Ecology is leading the upland source control effort. The Property is located between river mile 2.2 and 2.3. Surface and subsurface data available on the LDW Superfund Site website, collected in close proximity to the Property, indicate that sediment is not contaminated (Windward 2010). The Record of Decision for the LDW confirms that sediment adjacent to the Property does not require cleanup (EPA 2014, Figure 18). Sites immediately upstream and downstream of the Property do have contaminated sediment that could migrate to sediment adjacent to the Property. These contaminants include: metals such as arsenic, lead, mercury, and zinc; PAHs, such as fluoranthene and phenanthrene; PCBs, TPH, and SVOCs such as benzyl alcohol (Ecology 2009). The cleanup action proposed for these nearby sites includes removal of contaminated sediment (EPA 2014, Figure 18).

3 Screening Levels and Constituents of Interest

Screening Levels (SLs) were developed in this RIWP to select constituents of interest (COIs) for further evaluation during the RI. The RI/FS report will further evaluate these COIs to develop COCs and Indictor Hazardous Substances, consistent with MTCA. The table below provides a brief description of these terms and how they will be used during the RI/FS process.

Term	How List is Formed
COI	Greater than 5% detection frequency and at least one detected value over the SL. SLs corrected for natural background and practical quantitation limits, as appropriate. Documented in this RIWP.
COC	Detected exceedances of SLs where RI data verify exposure pathway is complete. To be documented in RI/FS report.
Indicator Hazardous Substance	COCs for which effectiveness of remedial alternatives evaluated in the FS will be evaluated. Subject of long-term monitoring, if part of remedy. To be documented in the RI/FS report.

3.1 Soil Screening Levels

Soil SLs are protective of direct human contact and surface water (marine/freshwater aquatic life and human fish consumers in the event that soil leaches to groundwater and the groundwater discharges to surface water). The soil SLs for soil leaching to groundwater were calculated using the MTCA default assumptions. During the RI/FS, multiple lines of evidence related to exposure pathways and additional empirical data will be used to confirm or narrow the list of soil COIs to the COCs or IHSs.

3.1.1 Terrestrial Ecological Evaluation

A simplified TEE was performed for the Property. The following is a scored Simplified TEE according to WAC 173-340-7492(2)(a)(ii).

> The site is located in an industrial area of south Seattle. The Site and the surrounding properties are industrial facilities resulting in less than ¼-acre of contiguous, undeveloped land. The site is adjacent to the Lower Duwamish Waterway; however, the shoreline is comprised of a steeply sloped bank with heavy armor which does not provide any vegetation or other typical habitat features.
> Per Table 749-1:
> **1. Points per contiguous, undeveloped acreage: 4 points**
> 2. The area is industrial or commercial (zoned as rural industrial). 3 points
> 3. Low habitat quality of the site. 3 points
> 4. Undeveloped land is unlikely to attract wildlife. 2 points
> 5. No selective soil detections. 4 point

6. Summation of Items 2 through 5: 12 points
This score (12 points) is not larger than Item 1 score (12 points) and therefore the simplified TEE may be ended under WAC 173-340-7492 (2)(a)(ii).

The simplified TEE indicates that substantial wildlife exposure is unlikely; therefore, potential TEE exposures were not incorporated into the soil SLs and will not be considered further in the RI/FS.

3.2 Groundwater Screening Levels

Groundwater SLs are based on protection of surface water (marine/surface water aquatic life and human health via fish consumption) and on protection of site users via indoor air (from volatilization and inhalation). Where relevant, the SLs have been adjusted upward based on PQLs or natural background concentrations.

As with soil, the data collected in the RI/FS will be used to confirm or narrow the groundwater COI list to the groundwater COCs/IHSs.

3.2.1 Groundwater Non-Potability

Groundwater potability was reviewed for applicability of human consumption of groundwater as a potential exposure pathway. Groundwater beneath the Property satisfies the MTCA non-potability criteria, and therefore, human consumption of groundwater is not an exposure pathway of concern. Protection of drinking water is not applicable because the shallow groundwater is not potable and is expected to remain non-potable in the future under MTCA and local regulations because:

- Neither the Property nor groundwater in its vicinity is a current source of drinking water.
- Under WAC 173-340-720(2)(b), neither the Property nor groundwater in its vicinity is a potential future source of drinking water because groundwater contains natural background levels of specific conductivity above the state and local secondary maximum contaminant level of 0.7 milliSiemens/centimeter (mS/cm) (WAC 246-290-310(3)(a).
- Groundwater beneath the Property will not migrate into groundwater that is a current or potential source of drinking water
- A domestic supply well would not be placed in the vicinity of the Property (WAC-173-340-720(2)(d)). State and local codes prohibit the construction of drinking water wells in the vicinity of the Property via WAC 246-290-130(1) which requires drinking water supplies to come from the highest quality source (which at the Property is the municipal water supply system) and via WAC 290-135(2)(b) which specifies a minimum 100-foot drinking water well setback from surface water, roads, utilities, and buildings.

3.3 Vapor Screening Levels

Defaults vapor SLs are Method B CULs for indoor air based on a residential exposure. To adjust SLs to reflect actual office and warehouse use, the CULs were multiplied by three to more closely approximate a workplace exposure duration of 8 hours as opposed to the 24 hour exposure duration assumed by the Method B calculations.

The Washington State DOSH Permissible Exposure Limits (PELs) and the ACGIH Group Guidance Values (GGVs) are also listed in Tables 5 and 6 for comparison with the MTCA CULs. These levels are three to five orders of magnitude higher than the MTCA CULs. The PELs and GGVs are only applicable to chemical exposures created by the work conducted by tenant activities or by chemical products stored by the tenant at the Property.

During the RI, multiple lines of evidence related to exposure pathways and additional empirical data will be used to confirm or narrow the list of vapor COIs to the COCs/IHSs.

3.4 COIs

The following COIs have been identified based on a greater than 5% detection frequency and at least one detection over a screening level (Appendix C):

Soil:

- Metals (arsenic, cadmium, chromium, copper, nickel, and zinc)
- cPAHs

Water:

- Metals (arsenic, copper, nickel, zinc)
- Vinyl Chloride

Vapor:

- TCE and TPH (office area indoor air)
- TPH (warehouse area indoor air)

4 Conceptual Site Model and Data Gaps

This section presents a brief conceptual site model (CSM) and identifies data gaps for the site. This initial CSM is based on available data summarized in this RIWP. The field sampling planned to address the data gaps is discussed in Section 5.

The exposure pathways at the Property for human health or the environment are:

- Direct contact with soil by maintenance/construction workers
- Leaching of soil contaminants to groundwater and subsequent discharge of groundwater to surface water where aquatic life could be exposed, as well as humans that consume local fish
- Inhalation of indoor air containing contaminants volatilized from groundwater (VI) by onsite office workers and maintenance workers.

4.1 Property Conditions

4.1.1 Physical Habitat Features

The Property is located in the Georgetown neighborhood of Seattle adjacent to the Duwamish Waterway in a predominately industrial/commercial area of Seattle. The Property covers 5.4-acres and includes a 128,800 square feet (2.96 acres) warehouse. The Property is covered in pavement/concrete surfaces except for the rail spur north of the building and a narrow strip of heavily armored shoreline which slopes steeply into the Duwamish Waterway.

4.1.2 Geology and Hydrogeology

Appendix B includes site borehole logs collected during the 2020 field investigations. Geoprobe cores were advanced to a depth of approximately 15 ft bgs. The soil consisted of sand fill with some silt and gravels from around 9 to 12 ft bgs. The fill may consist of sediment dredged during Duwamish River channelization. The fill material may also include debris from former site operations along the Waterway as the Property was raised to current grade. Fill was placed over the nearshore portion of the Property that previously was a slope exposed to tidal variations. A thin layer of silt was occasionally identified at 11 to 14 ft bgs in boreholes advanced within about 150 feet of the shoreline that may be indicative of the pre-filling surface.

Odors were noted in soil samples from GP-SB-2 and GP-SB-5. A layer of wood waste was observed at GP-SB-5 at 6 to 6.5 and 10 to 13 ft bgs.

Groundwater was encountered at between 7.81 (GP-SB-5) and 12.04 (GP-SB-3) ft bgs. Regional groundwater flow direction is generally to the west-southwest with groundwater discharging to the Duwamish Waterway.

4.2 Nature and Extent of Contaminants

Extent of Groundwater Impacts

GWCC Groundwater Impacts

The light blue shaded area on Figure 6 identifies the estimated extent of groundwater contamination due to chlorinated solvent releases from the upgradient GWCC site. This area is primarily the result of vinyl chloride that exceeds both the groundwater screening level for vapor intrusion (0.34 µg/L) and for discharge to surface water, adjusted to the practical quantitation level (0.1 µg/L). The vinyl chloride is the result of anaerobic degradation of chlorinated solvents such as trichlorethene (TCE) and tetrachloroethene (PCE). The presence of cis-1,2-dichloroethene (cis-1,2-DCE) in most of these samples provides support for the biodegradation pathway source. PCE was detected at one location (GP-SB-15), shown on Figure 7.

Gasoline Impacts

Gasoline exceeds the screening level in groundwater at 1 location (GP-SB-15), shown on Figure 8.

Metals Impacts

Groundwater samples were analyzed for both total and dissolved metals (Table 4). Total metal results are biased high due to turbidity in the groundwater samples. As a result, this discussion focusses on the dissolved metals results.

Arsenic, copper, nickel, and zinc exceed screening levels at multiple locations on the Property (Figures 9 through 12). The bulk of these exceedances are concentrated near the waterfront in the vicinity of the former shipways. The isolated exceedances closer to Fox Avenue (GP-SB-30 through SB-31) are likely due to reducing groundwater conditions that are caused by the anaerobic degradation of the GWCC and TPH impacts.

For the waterfront area, arsenic and copper are often quantified in groundwater due to interference from sea water. The analytical methods used for this analysis were intended to account for some level of interference; however, the specific conductance data (7,000 to 24,000 µS/cm) collected at the four temporary wells along the shoreline (GP-SB-20, SB-22, SB-23, and SB-24) indicated that the seawater influence on groundwater was more significant than expected. Specialized analytical testing methods will be used during the remedial investigation to address potential interference from sea water on the metals results.

Extent of Soil Impacts

Soil with contamination exceeding screening levels is focused in the waterfront area (within about 250 feet of the Duwamish) and is primarily due to arsenic, copper, nickel, and zinc, consistent with groundwater impacts. One soil sample exceeded a screening level for each of cadmium, chromium, mercury, and carcinogenic PAHs. These samples also had a

concentration of nickel or zinc that exceeded screening levels except for the sample with chromium (GP-SB-22 along the shoreline).

Extent of Vapor Impacts

Results of the 2021 indoor air sampling program indicated that all contaminants were below both the occupational health standards (DOSH PELs and ACGIH GGVs) and the MTCA Method B CULs modified to reflect an 8 hour per day exposure. The following contaminants exceeded the default MTCA Method B CULs: TCE in the office area, naphthalene in the office area and one warehouse sample, EDC in three warehouse samples, and TPH in all four warehouse samples. Results of the 2020 indoor air sampling indicated that all contaminants were below the occupational health standards (DOSH PELs and ACGIH GGVs) while only naphthalene exceeded the MTCA Method B CULs modified to reflect an 8 hour per day exposure in both the office and warehouse areas. The following contaminants exceeded the default MTCA Method B CULs: TCE in the office area and benzene, naphthalene, EDC, and TPH in all office and warehouse samples. A modified TPH indoor air cleanup level will be evaluated in the RI/FS.

Based on sub-slab vapor sampling in 2020, TCE is likely associated with vapor intrusion from the GWCC CVOC groundwater plume. Benzene, naphthalene, and EDC appear to be associated with ambient air conditions. TPH in the EC5-8 aliphatic range may also be associated with ambient air conditions. TPH in the EC9-12 aliphatic range exceeding the default MTCA Method B CUL was detected in indoor air samples, primarily in the warehouse. There is no obvious source for these detections. It is possible that some of the powdered baking ingredients generated this response but this has not been confirmed.

Extent of Sediment Impacts

Surface and subsurface data available on the LDW Superfund Site website collected in close proximity to the Property indicate that sediment adjacent to the Property is not contaminated (Windward 2010).

4.3 Potential Transport Mechanisms

Contaminant release mechanisms refer to the manner in which contaminants are released from the primary source. Primary release mechanisms associated with the former ship building facility included upland process-related releases and spills. Urban and industrial sources outside the Property, including on-site migration, could also have resulted in releases to sediment, soil, groundwater, stormwater, or air within the Property boundaries. The Property is almost entirely paved, thereby limiting the potential transport mechanisms to the following:

- Soil leaching to groundwater – Soil impacts are limited to metals within about 250 feet of the shoreline. The primary groundwater metals plume is coincident with these soil impacts suggesting that soil leaching to groundwater may be occurring in this area of the Property.

- Groundwater transport and potential discharge to surface water – CVOC impacts have migrated via groundwater transport from the upgradient GWCC site. Groundwater metals in the nearshore area have the potential to migrate to sediment and surface water.
- Groundwater Volatilization to Indoor Air – CVOCs and TPH are present in subslab vapor in the area of the GWCC plume and some indoor air exceedances for TCE and TPH have been measured.

Stormwater is currently managed by the tenant, Dawn Foods, under ISGP No. WAR011560. The majority of the Property is paved and stormwater has been monitored based on the permit.

4.4 Potential Ecological and Human Receptors

Potential human exposure scenarios are described qualitatively below. If required, subsequent quantitative analysis may occur as part of the RI.

Ecological and human receptors could be directly or indirectly exposed to contaminants in soil, sediment, and surface water as follows:

- Ecological – Organisms using the LDW for habitat, including benthic invertebrates, fish, birds, and mammals
    - Direct exposure – Contact with or ingestion of pore water, surface water, or sediment
    - Indirect exposure – Consumption of benthic invertebrates or fish
- Human – People using the LDW for recreation or food, including fishermen (tribal and recreational) and kayakers
    - Direct exposure – Incidental ingestion or dermal contact with sediment, soil, or surface water
    - Indirect exposure – Consumption of seafood
- Direct contact or ingestion with soil – Direct contact (incidental ingestion and dermal contact) could occur in areas where soil is uncapped, such as on the bank, or where soil could become exposed during construction.

There is no direct contact with groundwater at the Property (i.e., groundwater is not currently being used for drinking water), nor is there any reasonable expectation of direct contact in the future.

4.5 Data Gaps

Based on historical operations and data previously collected at the Property, the following data gaps have been identified for evaluation during the RI:

- **GWCC CVOC Impacts:** Reconnaisance groundwater data from GP-SB-1 through GP-SB-3 and GP-SB-15, indicate that a CVOC plume is located on the eastern portion of the Property, including beneath the office portion of the structure. The CVOCs are from the upgradient Great Western Chemical Company (GWCC) site (6900 Fox Avenue South – Ecology Cleanup Site ID #5082). Cleanup of the GWCC site is being performed under an Agreed Order with Ecology. No investigation has previously been performed by GWCC on the Dawn Foods property. Groundwater monitoring wells will be installed to collect groundwater data to confirm temporary well results and further assess the extent of the CVOC plume and potential for vapor intrusion.
- **Potential On-site Gasoline Source:** The reconnaissance groundwater sample collected at GP-SB-15 identified SL exceedances for gasoline and PCE. PCE interferes with the NWTPH-G analytical method and may have resulted in the gasoline exceedance. Groundwater monitoring wells will be installed at this location and at the upgradient property boundary to confirm the reconnaissance groundwater results and evaluate potential sources.
- **Extent of Metals Contamination:** Based on soil data (GP-SB-5, GP-SB-6, GP-SB-8 and GP-SB-11 and GP-SB-25) and groundwater data (GP-SB-5 through GP-SB-7 and GP-SB-24, GP-SB-29) historical shipbuilding operations at the site appear to have resulted in soil and groundwater contamination, primarily with metals (nickel and zinc, Figures 11 and 12). Nickel and zinc are above the cleanup level at the sample location closest to the Duwamish (GP-SB-6 and GP-SB-9). Additional investigation in this area is likely required to fully delineate the extent of contamination.
- **Groundwater Discharge to Surface Water:** Reconnaissance groundwater data indicates that metals (arsenic, copper, nickel, and zinc) may be discharging to surface water at concentrations that pose a risk to aquatic organisms or humans. Groundwater monitoring wells will be installed along the shoreline to assess this pathway. Due to potential interference from sea water, groundwater samples will be analyzed by specialized methods to accurately quantify metals concentrations in groundwater. Depending on those results, an evaluation of the attenuation of metals in groundwater between the upland and the mudline, using either empirical sediment pore water sampling or attenuation modelling, may be needed to confirm the extent of metal contamination in site groundwater.
- **Indoor Air Quality and Sources:** Indoor air quality has been tested on two occasions at the building. Indoor air quality with be further assessed to verify that there is not an elevated risk to site workers. In addition, the source of indoor air TPH in the warehouse has not been determined. Soil and groundwater quality beneath the warehouse will be assessed to verify that soil and groundwater are not a potential source of TPH to indoor air.
- **Groundwater Flow Direction and Gradient:** Groundwater monitoring wells will be spaced throughout the Property to better assess groundwater flow conditions.

These wells will also be located in areas to help define the extent of groundwater contamination.

- **Tidal influence:** A tidal study will be performed for wells installed within about 100 to 200 feet of the shoreline to determine if wells are tidally influenced and if so, to determine appropriate tidal lag times for groundwater sampling and average groundwater flow conditions for contaminant fate and transport assessment.

5 RI Field Sampling Plan

Based on data gaps identified in Section 4.5 additional soil, groundwater, and vapor data collection is proposed in this RIWP. Additional environmental samples are shown on Figure 13. Table 7 summarizes sample locations. Specific sampling protocols are described in the QAPP (Appendix D) and health and safety protocols are included in the project Health and Safety Plan (Appendix E).

Table 7 Summary of Proposed RIWP Field Work

Data Gap	Sample Type and Sample ID	Analysis
GWCC CVOC Impacts & Potential On-site Gasoline Source: Install two groundwater monitoring wells, one at the upgradient property and another immediately downgradient of the first and in the vicinity of GP-SB-15. Confirm presence of contaminants and assess potential for cVOCs to be causing the gasoline exceedance.	Groundwater samples from monitoring wells MW-8 and MW-9.	Groundwater – cVOCs, NWTPH-Gx.
Extent of Metals Contamination: Additional soil and groundwater samples from soil boreholes along the northern and southern property boundaries and within the warehouse.	Soil and groundwater samples from geoprobe locations RI-SB-01 through RI-SB-06. Monitoring wells MW-4, MW-5, and MW-6.	Groundwater and soil – metals, select locations for cVOCs .
Groundwater Discharge to Surface Water: Install 3 nearshore groundwater monitoring wells to determine groundwater metals concentrations at the shoreline.	Groundwater samples from monitoring wells MW-1, MW-2, and MW-3. Vadose and smear zone soil samples from MW-2 and MW-3.	Groundwater and soil – metals.
Indoor Air Quality and Sources: From the three interior metals contamination boreholes collect TPH soil and groundwater samples to evaluate potential subslab sources of elevated TPH indoor air concentrations.	Soil and groundwater samples from geoprobe locations RI-SB-04 through RI-SB-06.	Groundwater and soil – NWTPH-Gx and Dx, possibly EPH/VPH. Indoor Air – TO-15 and APH.
Groundwater Flow Direction and Gradient & Tidal Study: Install one monitoring well for site coverage. Gauge all wells and perform tidal study on the six nearshore wells.	Soil and groundwater samples from monitoring well MW-7.	Groundwater and soil – metals.

The soil and groundwater investigation will be performed using standard operating procedures that are consistent with MTCA and EPA requirements. Soil boreholes will be

advanced using direct-push drilling equipment. Groundwater monitoring well boreholes will be completed using hollow stem auger.

Soil samples will be collected from multiple depth intervals at each borehole and sample locations will include areas with elevated PID readings or other olfactory evidence of contamination. Many of these soil samples will be archived and may be analyzed depending on the results of other soil sample analyses.

Groundwater grab samples will be collected from temporary wells at all direct push borehole locations to provide an indication of groundwater quality. The groundwater monitoring wells will be sampled and tested after installation and development. The subset of groundwater COIs to be analyzed at each temporary or permanent well is based on previous data and nearby sources.

The nearshore tidally-influenced groundwater monitoring wells will be sampled during a negative low tide cycle at a predetermined lag time from low tide. A tidal study will be performed for a subset of the permanent monitoring wells (MW-1 through MW-6) to establish the appropriate lag time at which to sample each well such that the groundwater in the well at the time of sampling is close to its lowest elevation during the tidal cycle (thus representing groundwater discharge). Wells further than 200 feet away from the shoreline are not included in the tidal study. A pressure transducer will be installed in the nearshore monitoring wells for 48 to 72 hours to observe water level response to tidal variation. A stilling well may be installed by the dock in the Duwamish to provide actual tidal data rather than tidal station gauge data.

All groundwater sampling will include measurement of pH, specific conductance, temperature, ORP, and dissolved oxygen to ensure proper purging of wells, and in support of fate and transport analyses. For monitoring wells with low-flow stabilized specific conductivity values greater than 2,000 microSiemens per centimeter, salt water influence is likely. For these monitoring wells, split groundwater samples will be submitted to Friedman and Bruya, Inc. (FBI) and Brooks Applied Labs (BAL) for chemical analysis under chain of custody. Groundwater samples submitted to BAL will be analyzed for dissolved copper (Cu), lead (Pb), and zinc (Zn) following Environmental Protection Agency (EPA) Method 1640. This method uses inductively coupled plasma mass spectrometry (ICP-MS) with a column chelation pre-concentration procedure, which allows for method detection limits below 1 µg/L even with saline interferences. Groundwater samples submitted to BAL will be analyzed for dissolved arsenic (As), cadmium (Cd), and chromium (Cr) following EPA Method 1638. EPA Method 1638 uses inductively coupled plasma dynamic reaction cell mass spectrometry (ICP-DRC-MS). This method allows for low detection limits even with dilution. The split samples submitted to FBI will be analyzed for total and dissolved arsenic, cadmium, chromium, copper, lead, and zinc by EPA Method 6020B with triple quadrupole (QQQ) mass spectrometry. The purpose of this split sample methodology is to evaluate if

representative future metals results can be obtained by the more common and cost-effective QQQ method. Dissolved metals samples will be field filtered.

All monitoring wells will be surveyed to the nearest 0.01-ft vertical at the top of casing and less than 1-ft horizontal accuracy. All other sampling locations will be located to 1-ft horizontal and vertical accuracy.

A minimum of one additional indoor air sampling event will occur in June 2022 to continue the indoor air monitoring that has occurred to-date.

6 References

Hart Crowser 1996. Limited Subsurface Investigation Fox Avenue Property 6901 Fox Avenue South, Seattle Washington. November 12, 1996.

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Hart Crowser 1996a. Phase I Environmental Site Assessment Frozen Food Warehouse 6901 Fox Avenue South, Seattle Washington. June 19, 1996.

Hart Crowser 1996b. Limited Subsurface Investigation Fox Avenue Property 6901 Fox Avenue South, Seattle Washington. November 12, 1996.

Windward 2010. Lower Duwamish Waterway Remedial Investigation. July 9, 2010.

Tables

Table 1 Summary of 1996 Hart Crowser Soil Data
Bridge - Former Bunge Foods

Sample ID	Screening Level (mg/kg)	HC-1, S-2	HC-1, S-3	HC-2, S-1	HC-2, S-2	HC-3, S-1	HC-3, S-2	HC-4, S-3	HC-4, S-4	HC-5, S-1	HC-5, S-2	
Date Sample		9/6/1996	9/6/1996	9/6/1996	9/6/1996	9/6/1996	9/6/1996	9/6/1996	9/6/1996	9/6/1996	9/6/1996	
Depth ft. bgs		7.5-9.0	12.5-14.0	2.5-4.0	7.5-9	2.5-4.0	7.5-9.0	7.5-9.0	12.5-14.0	2.5-4.0	7.5-9	
PID Reading		1	5	0	0	0	0	NA	1.5	0	0	MDL
Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
TPH												
Gasoline Range	100[A]	ND	ND	ND	NA	ND	ND	ND	ND	ND	NA	10
Stoddard Solvent	4000	ND	ND	ND	ND	ND	ND	20	ND	ND	NA	10
Diesel	2000	ND	ND	ND	ND	ND	ND	ND'	85	ND	NA	20
Oil	2000	ND	ND	ND	ND	ND	ND	170	800	110	NA	50
PCBs												
Total Aroclors	1	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	0.5
VOCs												
Acetone	29/2.1 [2]	NA	0.013	NA	ND	NA	0.049	0.038	0.046 B	NA	NA	0.0019
Methylene Chloride	---	NA	0.0032 B	NA	0.003 B	NA	0.003 B	0.0038	0.0031 B	NA	NA	0.0028
cis-1,2-Dichloroethene	0.078/0.0052 [2]	NA	0.0037	NA	ND	NA	ND	0.08	ND	NA	NA	0.0014
Trichloroethene	0.025/0.0015 [2]	NA	0.014	NA	ND	NA	ND	0.068	ND	NA	NA	0.0014
Tetrachloroethene	0.05/0.0028 [2]	NA	0.12	NA	0.0091	NA	ND	0.33	ND	NA	NA	0.0014
Carbon Disulfide	---	NA	ND	NA	ND	NA	ND	0.0029	0.0019	NA	NA	0.0014
trans-1,2-Dichloroethene	0.52/0.032 [2]	NA	ND	NA	ND	NA	ND	0.0034	ND	NA	NA	0.0014
Isoproplybenzene	---	NA	ND	NA	ND	NA	ND	0.0014	ND	NA	NA	0.0014
1,3,5-Trimethylbenzene	800	NA	ND	NA	ND	NA	ND	0.016	ND	NA	NA	0.0014
12,4-Trimethylbenzene	800	NA	ND	NA	ND	NA	ND	0.035	ND	NA	NA	0.0014
sec-Butylbenzene	---	NA	ND	NA	ND	NA	ND	0.005	ND	NA	NA	0.0014
4-Isoproplyltoluene	---	NA	ND	NA	ND	NA	ND	0.0062	ND	NA	NA	0.0014
n-Butylbenzene	---	NA	ND	NA	ND	NA	ND	0.0028	ND	NA	NA	0.0014
Naphthalene	4.5/0.24 [2]	NA	ND	NA	ND	NA	ND	0.0089	ND	NA	NA	0.0069
Metals												
Aluminum	80000	NA	8180	NA	12400	NA	12000	12300	9620	NA	16000	3
Arsenic	7.3 [1]	NA	ND	NA	ND	NA	ND	26	ND	NA	ND	7
Iron	56000	NA	3100	NA	4400	NA	4000	28000	8200	NA	8200	2.5
Cadmium	1.10/0.055 [2]	NA	ND	NA	ND	NA	ND	1.8	ND	NA	ND	0.5
Chromium	19	NA	3.2	NA	5.9	NA	4.4	44	4.5	NA	8.5	1.5
Lead	250	NA	ND	NA	ND	NA	ND	580	36	NA	ND	5
Mercury	0.07 [1]	NA	ND	NA	ND	NA	ND	0.41	0.29	NA	ND	0.05
Copper	36.4 [1]	NA	7.1	NA	8.5	NA	8.8	360	47	NA	24	1
Nickel	48 [1]	NA	1.6 J	NA	4.9	NA	4.5	76	9.7	NA	11	5
Zinc	85 [1]	NA	9.4	NA	9.6	NA	11	6400	55	NA	32	0.25

Notes:
Bold = detection
Shading denotes an exceedance of a screening level
feet bgs = feet below ground surface
mg/kg = milligrams per kilograms
U = laboratory detection limit
J = reported concentration is an estimate.
MTCA - Model Toxics Control Act
[A] - No benzene present in soil
B = analyte detected in method blank
1. Indicates that the calculated screening level has been adjusted up to natural background
2 Screening Level MTCA Soil Protective of Groundwater Vadose/Saturated (based on protection of surface water)

Table 2 Summary Soil Data - Metals
Bridge - Former Bunge Foods

Sample ID	Date Sampled	Sample Depth (feet bgs)	Vadose or Saturated	Units	Aluminum	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
GP-SB-5-7	1/2/20	7	Vadose	mg/kg	NA	**5.09**	1 U	NA	**213**	**222**	**2**	**6.84**	**180**
GP-SB-5-12	1/2/20	12	Saturated	mg/kg	NA	**2.48**	1 U	NA	**19.1**	**3.09**	1 U	**9.08**	**24.9**
GP-SB-6-4	1/2/20	4	Vadose	mg/kg	NA	**4.98**	1 U	NA	**26.9**	**25**	1 U	**10.6**	**78.7**
GP-SB-6-10	1/2/20	10	Saturated	mg/kg	NA	**2.37**	1 U	NA	**12.7**	**2.17**	1 U	**5.32**	**26.7**
GP-SB-08	6/9/2020	9 to 10	Vadose	mg/kg	NA	**11.6**	**2.76**	NA	**78**	**227**	1 U	**62.1**	**7110**
GP-SB-09	6/9/2020	9 to 10	Vadose	mg/kg	NA	**5.32**	1 U	NA	25 U	**4.23**	1 U	**11.8**	**71.9**
GP-SB-10	6/9/2020	8 to 10	Vadose	mg/kg	NA	5 U	1 U	NA	**35**	**18.6**	1 U	**14.2**	**57.6**
GP-SB-11	6/9/2020	4 to 5	Vadose	mg/kg	NA	5 U	1 U	NA	**83.1**	**48.2**	1 U	**174**	**459**
GP-SB-12	6/9/2020	8.5 to 9.5	Saturated	mg/kg	NA	5 U	1 U	NA	25 U	**1.04**	1 U	**5.40**	**34.5**
GP-SB-18-03	12/1/2020	2 to 3	Vadose	mg/kg	NA	**4.81**	1 U	**15.9 J / 15.7**	NA	**13.5**	1 U	**4.71 J / 5.05**	**46.3 J / 55.3**
GP-SB-18-09.5	12/1/2020	9 to 9.5	Vadose	mg/kg	NA	1 U	1 U	**7.66**	NA	**1 U**	1 U	**3.00**	**24.2**
GP-SB-19-03.5	12/1/2020	3 to 3.5	Vadose	mg/kg	**6790**	**3.56**	1 U	**9.41**	NA	**49.1**	1 U	**5.04**	**40.1**
GP-SB-19-08.5	12/1/2020	8 to 8.5	Vadose	mg/kg	**14500**	**3.48**	1 U	**9.91**	NA	**2.27**	1 U	**9.19**	**57.1**
GP-SB-20-04.5	12/1/2020	3.5 to 4.5	Vadose	mg/kg	NA	**3.41**	1 U	**8.53**	NA	**6.36**	1 U	**8.16**	**29.7**
GP-SB-20-09	12/1/2020	7 to 9	Vadose	mg/kg	NA	**2.49**	1 U	**8.34**	NA	**2.96**	1 U	**6.79**	**26.8**
GP-SB-21-05	12/1/2020	3 to 5	Vadose	mg/kg	NA	**1.75**	1 U	**9.89**	NA	**2.04**	1 U	**11.5**	**19.3**
GP-SB-21-10	12/1/2020	7.5 to 10	Saturated	mg/kg	NA	**6.11**	1 U	**7.63**	NA	**5.41**	1 U	**5.18**	**27.7**
GP-SB-22-07	12/1/2020	5 to 7	Vadose	mg/kg	NA	**4.87**	1 U	**98.4**	NA	**3.41**	1 U	**17.4**	**30.2**
GP-SB-22-09	12/1/2020	9 to 10	Saturated	mg/kg	NA	**2.09**	1 U	**9.35**	NA	**2.42**	1 U	**12.4**	**19.4**
GP-SB-23-05	12/1/2020	3 to 5	Vadose	mg/kg	NA	**13.6**	1 U	**11.6 J / 12.8**	NA	**7.66**	1 U	**15.2 J / 17.1**	**67.1 J / 77.5**
GP-SB-23-11	12/1/2020	10 to 11	Saturated	mg/kg	NA	**8.31**	1 U	**12.2**	NA	**7.16**	1 U	**14.2**	**55.4**
GP-SB-24-10	12/1/2020	7.5 to 10	Saturated	mg/kg	NA	**10.4**	1 U	**11.2**	NA	**6.27**	1 U	**15.0**	**51.7**
GP-SB-24-12	12/1/2020	10 to 12	Saturated	mg/kg	NA	**8.53**	1 U	**11.7**	NA	**4.35**	1 U	**12.4**	**43.3**
GP-SB-25-08	12/5/2020	6 to 8	Vadose	mg/kg	NA	**5.44**	1 U	**9.67**	NA	**48.3**	1 U	**6.49**	**140**
GP-SB-25-13.5	12/5/2020	12 to 13.5	Saturated	mg/kg	NA	**5.07**	1 U	**9.10**	NA	**3.37**	1 U	**11.4**	**29.2**
GP-SB-26-06	12/5/2020	4 to 6	Vadose	mg/kg	NA	**4.13**	1 U	**20.3**	NA	**20.0**	1 U	**14.7**	**39.8**
GP-SB-26-12	12/5/2020	10 to 12	Vadose	mg/kg	NA	**2.48**	1 U	**8.91**	NA	**3.01**	1 U	**9.48**	**22.8**
GP-SB-27-08	12/5/2020	6 to 8	Vadose	mg/kg	NA	**2.03**	1 U	**6.61**	NA	**1.08**	1 U	**5.45**	**18.5**
GP-SB-27-12	12/5/2020	11 to 12	Vadose	mg/kg	NA	**3.05**	1 U	**9.13**	NA	**6.60**	1 U	**7.43**	**32.3**
GP-SB-27-14.5	12/5/2020	12 to 14.5	Saturated	mg/kg	NA	**4.79**	1 U	**11.3**	NA	**3.83**	1 U	**7.00**	**20.7**
GP-SB-28-04	12/5/2020	2 to 4	Vadose	mg/kg	NA	**2.31**	1 U	**18.4**	NA	**34.0**	1 U	**22.9**	**36.9**
GP-SB-28-08	12/5/2020	6 to 8	Vadose	mg/kg	NA	**1.81**	1 U	**6.53**	NA	**1.04**	1 U	**5.68**	**17.5**
GP-SB-28-12	12/5/2020	11.2 to 12	Saturated	mg/kg	NA	**6.91**	1 U	**11.6**	NA	**5.49**	1 U	**12.8**	**39.5**
GP-SB-28-13	12/5/2020	12 to 13	Saturated	mg/kg	NA	**3.26**	1 U	**11.3**	NA	**2.81**	1 U	**7.09**	**16.5**
GP-SB-29-06.5	12/5/2020	5.2 to 6.5	Vadose	mg/kg	NA	**3.87**	1 U	**9.71**	NA	**3.31**	1 U	**6.13**	**19.9**
GP-SB-29-10.5	12/5/2020	9.5 to 10.5	Vadose	mg/kg	NA	**1.85**	1 U	**10.6**	NA	**1.83**	1 U	**3.88**	**28.1**
GP-SB-29-12	12/5/2020	11 to 12	Saturated	mg/kg	NA	**1.33**	1 U	**8.60**	NA	**1.42**	1 U	**3.93**	**18.4**
GP-SB-30-05.5	12/12/2020	4 to 5.5	Vadose	mg/kg	NA	**6.06**	1 U	**9.67**	NA	**24.8**	1 U	**7.62**	**58.6**
GP-SB-30-08	12/12/2020	7 to 8	Vadose	mg/kg	NA	**1.40**	1 U	**5.74**	NA	1 U	1 U	**4.2**	**12.1**
GP-SB-30-13.3	12/12/2020	12.5 to 13.3	Saturated	mg/kg	NA	**3.56**	1 U	**17.5**	NA	**5.90**	1 U	**12.4**	**54.6**
GP-SB-31-06	12/12/2020	4.5 to 6	Vadose	mg/kg	NA	**4.50**	1 U	**9.68**	NA	**16.5**	1 U	**6.97**	**99.8**
GP-SB-31-08	12/12/2020	7 to 8	Vadose	mg/kg	NA	**3.85**	1 U	**12.9**	NA	**2.50**	1 U	**6.59**	**22.8**
GP-SB-31-14	12/12/2020	12.5 to 14	Saturated	mg/kg	NA	**1.08**	1 U	**9.36**	NA	**1.79**	1 U	**4.82**	**23.2**
Screening Level MTCA Soil Method A/B					80000	20	2	19	3,200	250	2	1600	24,000
Screening Level MTCA Soil Protective of Groundwater Vadose (based on protection of surface water)					NC	7.3[1]	1.10	180	36.4[1]	1620	0.07[1]	48[1]	100.9
Screening Level MTCA Soil Protective of Groundwater Saturated (based on protection of surface water)					NC	7.3[1]	0.055	48.2[1]	36.4[1]	81	0.07[1]	48[1]	85[1]

Notes:
Bold = detection
Shading indicates an exceedance of a screening level
MTCA Soil Protective of Groundwater Vadose/Saturated screening levels based on MTCA Eqn. 747-1 and the surface water values shown on Table 2.
1. Indicates that the calculated screening level has been adjusted up to natural background
feet bgs = feet below ground surface
mg/kg = milligrams per kilograms
U = laboratory detection limit
J = reported concentration is an estimate.

Table 3 Summary of Soil Data - Non Metal Compounds
Bridge - Former Bunge Foods

Sample ID	Screening Level	GP-SB-15	GP-SB-1510 (Duplicate)	GP-SB-16-07	GP-SB-16-11	GP-SB-17-05	GP-SB-17-10	GP-SB-21-05	GP-SB-21-10	GP-SB-22-07	GP-SB-22-09	GP-SB-23-05	GP-SB-23-11	GP-SB-24-10	GP-SB-24-12	GP-SB-25-08	GP-SB-25-13.5	GP-SB-26-06
Date Sample	MTCA Soil Method A/B Unrestricted	6/9/2020	6/9/2020	12/1/2020	12/1/2020	12/1/2020	12/1/2020	12/1/2020	12/1/2020	12/1/2020	12/1/2020	12/1/2020	12/1/2020	12/1/2020	12/1/2020	12/5/2020	12/5/2020	12/5/2020
Depth ft. bgs		10 to 11	10 to 11	6 to 7	10 to 11	4 to 5	9 to 10	3 to 5	7.5 to 10	5 to 7	9 to 10	3 to 5	10 to 11	7.5 to 10	10 to 12	6 to 8	12 to 13.5	4 to 6
		Saturated	Saturated	Vadose	Saturated	Vadose	Saturated	Vadose	Saturated	Vadose	Saturated	Vadose	Saturated	Saturated	Saturated	Vadose	Saturated	Vadose
Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
BTEX/GRO				BTEX/GRO														
Benzene	Not Detected	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	Not Detected	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl Benzene	Not Detected	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Xylenes	Not Detected	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range	100[A]	5 U	6 U	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CVOCs				CVOCs														
Vinyl chloride	Not Detected	0.05 U	0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	Not Detected	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	Not Detected	0.05 U	0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	Not Detected	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	Not Detected	0.05 U	0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	Not Detected	0.05 U	0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	Not Detected	0.05 U	0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane (EDC)	Not Detected	0.05 U	0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	Not Detected	0.05 U	0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	Not Detected	0.05 U	0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	Not Detected	0.02 U	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	Not Detected	0.025 U	0.025 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs				SVOCs														
Naphthalene	Not Detected	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
2-Methylnaphthalene	320	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.28**	<0.01	<0.01
1-Methylnaphthalene	34	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**1.8**	<0.01	<0.01
Acenaphthylene	Not Detected	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
Acenaphthene	4800	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.43**	<0.01	<0.01
Fluorene	3200	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.67**	<0.01	<0.01
Phenanthrene	No Criterion	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**1.0**	<0.01	<0.01
Anthracene	Not Detected	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01
Fluoranthene	3200	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.21**	<0.01	**0.016**
Pyrene	2400	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	**0.062**	<0.05	<0.05	<0.05	<0.05	**0.24**	<0.01	**0.017**
Benz(a)anthracene	see CPAH	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.11**	<0.01	<0.01
Chrysene	see CPAH	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	**0.14**	<0.01	**0.012**
Benzo(a)pyrene	see CPAH	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05 J	<0.05	<0.05	<0.05 J	<0.05 J	**0.15**	<0.01	**0.015**
Benzo(b)fluoranthene	see CPAH	NA	NA	NA	NA	NA	NA	<0.05	<0.01	**0.060**	**0.12 J**	<0.05	<0.05	**0.064 J**	**0.060 J**	**0.19**	<0.01	**0.019**
Benzo(k)fluoranthene	see CPAH	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05 J	<0.05	<0.05	<0.05 J	<0.05 J	**0.063**	<0.01	<0.01
Indeno(1,2,3-cd)pyrene	see CPAH	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05 J	<0.05	<0.05	<0.05 J	<0.05 J	**0.11**	<0.01	**0.010**
Dibenz(a,h)anthracene	see CPAH	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	<0.05 J	<0.05	<0.05	<0.05 J	<0.05 J	<0.05	<0.01	<0.01
Benzo(g,h,i)perylene	---	NA	NA	NA	NA	NA	NA	<0.05	<0.01	<0.05	**0.01 J**	<0.05	<0.05	**0.064 J**	**0.051 J**	**0.10**	<0.01	**0.010**
Total CPAHs	0.1	NA	NA	NA	NA	NA	NA	<0.05	<0.01	**0.006**	**0.012**	<0.05	<0.05	**0.0064**	**0.006**	**0.763**	<0.01	**0.018**
PCBs				PCBs														
Aroclor 1221	See Aroclors	NA	NA	NA	NA	NA	NA	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Aroclor 1232	See Aroclors	NA	NA	NA	NA	NA	NA	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Aroclor 1016	See Aroclors	NA	NA	NA	NA	NA	NA	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Aroclor 1242	See Aroclors	NA	NA	NA	NA	NA	NA	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Aroclor 1248	See Aroclors	NA	NA	NA	NA	NA	NA	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Aroclor 1254	See Aroclors	NA	NA	NA	NA	NA	NA	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Aroclor 1260	See Aroclors	NA	NA	NA	NA	NA	NA	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Aroclor 1262	See Aroclors	NA	NA	NA	NA	NA	NA	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Aroclor 1268	See Aroclors	NA	NA	NA	NA	NA	NA	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Total Aroclors	1	NA	NA	NA	NA	NA	NA	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U

Notes:
Bold = detection
Shading denotes an exceedance of a screening level
feet bgs = feet below ground surface
mg/kg = milligrams per kilograms
U = laboratory detection limit
J = reported concentration is an estimate.
MTCA - Model Toxics Control Act
[A] - No benzene present in soil

Table 3 Summary of Soil Data - Non M
Bridge - Former Bunge Foods

Sample ID	Screening Level	GP-SB-26-12	GP-SB-27-08	GP-SB-27-12	GP-SB-28-08	GP-SB-28-13	GP-SB-29-10.5	GP-SB-30-05.5	GP-SB-30-13.3	GP-SB-31-06	GP-SB-31-14	GP-SB-32-04	GP-SB-32-12
Date Sample	MTCA Soil Method	12/5/2020	12/5/2020	12/5/2020	12/5/2020	12/5/2020	12/5/2020	12/12/2020	12/12/2020	12/12/2020	12/12/2020	12/12/2020	12/12/2020
Depth ft. bgs	A/B Unrestricted	10 to 12	6 to 8	11 to 12	6 to 8	12 to 13	9.5 to 10.5	4 to 5.5	12.5 to 13.3	4.5 to 6	12.5 to 14	2 to 4	10.3 to 12
		Vadose	Vadose	Vadose	Vadose	Saturated	Vadose	Vadose	Saturated	Vadose	Saturated	Vadose	Vadose
Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
BTEX/GRO		BTEX/GRO								BTEX/GRO			
Benzene	Not Detected	NA	NA	NA	NA	NA	NA	NA	NA	0.02 U	0.02 U	0.02 U	0.02 U
Toluene	Not Detected	NA	NA	NA	NA	NA	NA	NA	NA	0.02 U	0.02 U	0.02 U	0.02 U
Ethyl Benzene	Not Detected	NA	NA	NA	NA	NA	NA	NA	NA	0.02 U	0.02 U	0.02 U	0.02 U
Total Xylenes	Not Detected	NA	NA	NA	NA	NA	NA	NA	NA	0.06 U	0.06 U	0.06 U	0.06 U
Gasoline Range	100[A]	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	**5.6**	5 U
CVOCs		CVOCs								CVOCs			
Vinyl chloride	Not Detected	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	Not Detected	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	Not Detected	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	Not Detected	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	Not Detected	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	Not Detected	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	Not Detected	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane (EDC)	Not Detected	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	Not Detected	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	Not Detected	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	Not Detected	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	Not Detected	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs		SVOCs								SVOCs			
Naphthalene	Not Detected	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	320	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1-Methylnaphthalene	34	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	Not Detected	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	4800	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	3200	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	No Criterion	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	Not Detected	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	3200	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	2400	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benz(a)anthracene	see CPAH	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	see CPAH	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	see CPAH	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	see CPAH	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	see CPAH	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	see CPAH	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	see CPAH	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	---	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total CPAHs	0.1	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs		**PCBs**								PCBs			
Aroclor 1221	See Aroclors	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NA	NA
Aroclor 1232	See Aroclors	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NA	NA
Aroclor 1016	See Aroclors	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NA	NA
Aroclor 1242	See Aroclors	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NA	NA
Aroclor 1248	See Aroclors	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NA	NA
Aroclor 1254	See Aroclors	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NA	NA
Aroclor 1260	See Aroclors	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	**0.057**	0.02 U	0.02 U	NA	NA
Aroclor 1262	See Aroclors	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NA	NA
Aroclor 1268	See Aroclors	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NA	NA
Total Aroclors	1	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	**0.057**	0.02 U	0.02 U	NA	NA

Notes:
Bold = detection
Shading denotes an exceedance of a screening level
feet bgs = feet below ground surface
mg/kg = milligrams per kilograms
U = laboratory detection limit
J = reported concentration is an estimate.
MTCA - Model Toxics Control Act
[A] - No benzene present in soil

Table 4 Direct Push Borehole Groundwater Samples - Detected Compounds Only
Bridge - Former Bunge Foods

Sample ID	Screening Level	Marine Water Screening Level	Fresh Water Screening Level	Screening Level Source	GP-SB-1	GP-SB-2	GP-SB-3	GP-SB-5	GP-SB-6	GP-SB-7	GP-SB-08	GP-SB-09	Dup (GP-SB-09	GP-SB-10	GP-SB-11	GP-SB-12	GP-SB-13	GP-SB-14
Date Sampled					1/2/2020	1/2/2020	1/2/2020	1/2/2020	1/2/2020	1/2/2020	6/9/2020	6/9/2020	6/9/2020	6/9/2020	6/9/2020	6/9/2020	6/9/2020	6/9/2020
Sample results are in ug/L																		
Metals Total/Dissolved																		
Aluminum - total	See dissolved			See dissolved	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic - total	See dissolved			See dissolved	NA	NA	**7.22**	**29**	**23**	**37.9**	**14.0**	**10.2**	**10.7**	**48.7**	**3.68**	1 U	NA	NA
Cadmium - total	See dissolved			See dissolved	NA	NA	1 U	**2.87**	10 U	1 U	1 UJ	1 UJ	1 U	1 UJ	1 U	1 U	NA	NA
Chromium - total	See dissolved			See dissolved	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper - total	See dissolved			See dissolved	NA	NA	25 U	**1,460**	**66.1**	5 U	**8.84**	**4.65**	**3.68 J**	**53.5**	**4.01**	2.4 UJ	NA	NA
Lead - total	See dissolved			See dissolved	NA	NA	**24.2**	**632**	10 U	1 U	**12.6**	1 U	1 U	**63.9**	**1.11**	1 U	NA	NA
Mercury - total	See dissolved			See dissolved	NA	NA	1 U	**4.29**	1 U	1 U	0.2 UJ	0.2 U	0.2 U	0.2 UJ	0.2 U	0.2 U	NA	NA
Nickel - total	See dissolved			See dissolved	NA	NA	5 U	**66**	**42.4**	**24**	**6.11**	**4.24**	**4.74 J**	**18.2**	**10.8**	**2.23 J**	NA	NA
Zinc - total	See dissolved			See dissolved	NA	NA	25 U	**1,070**	**3770**	**22,800**	**562**	**342**	**502**	**104**	**32.2**	**17.9 J**	NA	NA
Aluminum - dissolved	NC	NC	NC	No Criteria	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic - dissolved	5	0.14	0.018	MTCA Method A - Natural Background	NA	NA	**6.92**	1 U	**10.6**	**29.7**	**13.1**	**10.2**	**10.7**	**25.2**	**4.61 ca**	1 Uca	NA	NA
Cadmium - dissolved	1	7.9	0.72	Practical Quantitation Limit	NA	NA	1 U	1 U	5 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U	NA	NA
Chromium - dissolved	10	50	10	Surface Water Aquatic Life Fresh/Chronic 173-201A WAC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper - dissolved	3.1	3.1	11	Surface Water Aquatic Life Marine/Chronic CWA §306	NA	NA	25 U	25 U	5 U	5 U	**7.00**	**5.58**	**2.97**	**5.29**	**2.73**	2.4 UJ	NA	NA
Lead - dissolved	2.5	8.1	2.5	Surface Water Aquatic Life Fresh/Chronic CWA §304	NA	NA	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	NA
Mercury - dissolved	0.2	0.025	0.012	Practical Quantitation Limit	NA	NA	1 U	1 U	5 U	1 U	0.2 U	0.2 U	**2 J**	0.2 UJ	0.2 U	0.2 U	NA	NA
Nickel - dissolved	8.2	8.2	52	Surface Water Aquatic Life Marine/Chronic 173-201A WAC	NA	NA	5 U	5 U	**8.71**	**22.7**	**6.35**	**4.88**	**4.14**	**5.74**	**10.9**	**2.37 J**	NA	NA
Zinc - dissolved	81	81	100	Surface Water Aquatic Life Marine/Chronic 173-201A WAC	NA	NA	25 U	25 U	**3,110**	**22,300**	**574**	**378**	**317**	5 U	**18.8**	**16.5 J**	NA	NA
Gasoline Range Organics	1,000	---	---	MTCA Method A	100 U	**800**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**100**	**380**
Volatile Organic Compounds																		
Benzene	0.44	1.6	0.44	Surface Water Human Health Fresh/Chronic 173-201A WAC	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	16	NC	NC	MTCA Method B	**16**	**400**	1 U	1 U	1 U	NA	1 U	1 U	1 U	NA	NA	1 U	NA	NA
Ethylbenzene	29	31	29	Surface Water Human Health Fresh/Chronic 173-201A WAC	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	NA	NA	NA	1 U	**3.1**
Phenanthrene	NC	NC	NC	No Criteria	NA	NA	NA	NA	0.04 U	NA	NS	0.02 U	**0.039**	NA	NA	NA	NA	NA
Methyl t-butyl ether	600	NC	NC	Groundwater Vapor Intrusion Method B	**1.1**	10 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	NA	NA	1 U	NA	NA
m, p-Xylene	330	NC	NC	Groundwater Vapor Intrusion Method B	2 U	2 U	2 U	2 U	2 U	NA	2 U	2 U	2 U	NA	NA	NA	1 U	**5.6**
Tetrachloroethene	2.4	2.9	2.4	Surface Water Human Health Fresh/Chronic CWA §304	1 U	10 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	NA	NA	1 U	NA	NA
Toluene	57	130	57	Surface Water Human Health Fresh/Chronic CWA §304	1 U	1 U	1 U	1 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl chloride	0.1	0.18	0.02	Practical Quantitation Limit	**44**	**72**	**0.31**	0.2 U	0.2 U	NA	0.1 U	NA	NA	NA	NA	NA	NA	NA
Xylenes, Total	330	NC	NC	Groundwater Vapor Intrusion Method B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
Bold = detection
Shading denotes an exceedance of a screening level
ug/L - microgram per liter
MTCA - Model Toxics Control Act
NC - No Criterion
NA - Not Analyzed
U = concentration below laboratory detection limit (non-detect value)
J = reported concentration is an estimate.
Ca = The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

Table 4 Direct Push Borehole Groundwater Samples - Detected Compounds Only
Bridge - Former Bunge Foods

Sample ID	Screening Level	Marine Water Screening Level	Fresh Water Screening Level	Screening Level Source	GP-SB-15	GP-SB-16	GP-SB-17	GP-SB-18	GP-SB-19	GP-SB-20	GP-SB-21	GP-SB-22	GP-SB-23	GP-SB-24	GP-SB-25	GP-SB-27	GP-SB-28	GP-SB-29	GP-SB-30	GP-SB-31	GP-SB-32
Date Sampled					6/9/2020	12/1/2020	12/1/2020	12/1/2020	12/1/2020	12/1/2020	12/1/2020	12/1/2020	12/1/2020	12/1/2020	12/5/2020	12/5/2020	12/5/2020	12/5/2020	12/12/2020	12/12/2020	12/12/2020
Aluminum - total	See dissolved			See dissolved	NA	NA	NA	NA	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic - total	See dissolved			See dissolved	NA	NA	NA	**16.3**	**10 U**	**21.6**	**25**	**20**	**38.4**	**26.6**	**15.7**	**2.76**	**5.07**	**1.15**	**15.1**	**17.5**	NA
Cadmium - total	See dissolved			See dissolved	NA	NA	NA	1 U	1 U	1 UJ	5 UJ	1 UJ	5 UJ	5 UJ	1 U	1 U	1 U	1 U	1 U	1 U	NA
Chromium - total	See dissolved			See dissolved	NA	NA	NA	**12.1**	**4.25**	**13.7**	10 U	10 U	**13.8**	10 U	**18.6**	10 U	**23.7**	1 U	**11.4**	**3.19**	NA
Copper - total	See dissolved			See dissolved	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead - total	See dissolved			See dissolved	NA	NA	NA	**1.55**	**1.08**	**5.85**	10 U	1 U	**11.1**	10 U	**12.4**	10 U	10 U	1 U	**3.44**	1 U	NA
Mercury - total	See dissolved			See dissolved	NA	NA	NA	1 U	1 U	1 U	10 U	1 U	10 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	NA
Nickel - total	See dissolved			See dissolved	NA	NA	NA	**9.65**	**6.54**	**8.30**	**12.8**	10 U	**15.4**	10 U	**18.6**	10 U	**12.2**	**3.10**	**12.0**	**5.77**	NA
Zinc - total	See dissolved			See dissolved	NA	NA	NA	50 U	50 U	50 U	50 U	50 U	**52.7**	50 U	**95.5**	50 U	**91.9**	**210**	**67.6**	**17.4**	NA
Aluminum - dissolved	NC	NC	NC	No Criteria	NA	NA	NA	NA	429	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic - dissolved	5	0.14	0.018	MTCA Method A - Natural Background	NA	NA	NA	**14.8**	**1.85**	**11.9**	**20**	**18.4**	**27.2**	**27.1**	**5.05**	1 U	1 U	1 U	**11.3**	**16.4**	NA
Cadmium - dissolved	1	7.9	0.72	Practical Quantitation Limit	NA	NA	NA	1 U	1 U	1 U	1 UJ	1 U	1 UJ	1 UJ	1U	1 U	1 U	1 U	1 U	1 U	NA
Chromium - dissolved	10	50	10	Surface Water Aquatic Life Fresh/Chronic 173-201A WAC	NA	NA	NA	**1.72**	10 U	**4.06**	10 U	**2.14**	10 U	10 U	1 U	1 U	1 U	1 U	1 U	**1.19**	NA
Copper - dissolved	3.1	3.1	11	Surface Water Aquatic Life Marine/Chronic CWA §306	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead - dissolved	2.5	8.1	2.5	Surface Water Aquatic Life Fresh/Chronic CWA §304	NA	NA	NA	1 U	1 U	1 U	1 UJ	1 U	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	NA
Mercury - dissolved	0.2	0.025	0.012	Practical Quantitation Limit	NA	NA	NA	1 U	1 U	1 U	1 UJ	1 U	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	NA
Nickel - dissolved	8.2	8.2	52	Surface Water Aquatic Life Marine/Chronic 173-201A WAC	NA	NA	NA	**5.30**	10 U	**4.26**	**14.8**	10U	10 U	**11.3**	**1.62**	**2.33**	**3.28**	**3.41**	**2.96**	**4.49**	NA
Zinc - dissolved	81	81	100	Surface Water Aquatic Life Marine/Chronic 173-201A WAC	NA	NA	NA	**7.01**	50U	5 U	50U	5 U	50U	50U	**14.6**	5 U	**6.36**	**209**	**33.0**	**12.3**	NA
Gasoline Range Organics	1,000	---	---	MTCA Method A	**3300**	100 U	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U
Benzene	0.44	1.6	0.44	Surface Water Human Health Fresh/Chronic 173-201A WAC	1 U	1 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U
cis-1,2-Dichloroethene	16	NC	NC	MTCA Method B	**11**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	29	31	29	Surface Water Human Health Fresh/Chronic 173-201A WAC	**5.1**	1 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U
Phenanthrene	NC	NC	NC	No Criteria	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl t-butyl ether	600	NC	NC	Groundwater Vapor Intrusion Method B	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m, p-Xylene	330	NC	NC	Groundwater Vapor Intrusion Method B	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	2.4	2.9	2.4	Surface Water Human Health Fresh/Chronic CWA §304	**2.5**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	57	130	57	Surface Water Human Health Fresh/Chronic CWA §304	**8.1**	1 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U
Vinyl chloride	0.1	0.18	0.02	Practical Quantitation Limit	**1.8**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes, Total	330	NC	NC	Groundwater Vapor Intrusion Method B	**8.3**	3 U	3 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3 U	3 U

Notes:
Bold = detection
Shading denotes an exceedance of a screening level
ug/L - microgram per liter
MTCA - Model Toxics Control Act
NC - No Criterion
NA - Not Analyzed
U = concentration below laboratory detection limit (non-detect value)
J = reported concentration is an estimate.
Ca = The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

Table 5 - Summary of 2020 Vapor Intrusion Assessment Results
Bridge - Former Bunge Foods

	MTCA Screening Level (indoor air) Method B	MTCA Screening Level (indoor air) Method B Modified[a]	ACGIH GGVs for Hydrocarbons[b]	Indoor Air Samples				Ambient		Method B Screening Level (sub slab)	Sub slab Samples			
				WH-IA-0620	Duplicate (WH-IA-100)	BR-IA-0620	OF-IA-0620	UP-0620	DOWN-0620		BR-SS-0620	OF-SS-0620	Duplicate (OF-SS-100)	WH-SS-0620
				Warehouse	Warehouse	Restroom	Office	Upgradient	Down-gradient		Restroom	Office	Office	Warehouse
				6/27/2020	6/27/2020	6/27/2020	6/27/2020	6/27/2020	6/27/2020		6/27/2020	6/27/2020	6/27/2020	6/27/2020
Compounds	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3
1,1-Dichloroethane	1.6	4.8	NV	<0.4	<0.4	<0.57	<0.4	<0.4	<0.4	52	<16	<17	<16	**14**
1,1,1-Trichloroethane	2,300	6,900	NV	<0.55	<0.55	<0.76	<0.55	<0.55	<0.55	76000	<21	<22	<21	**29**
1,1,2-Trichloroethane	0.16	0.48	NV	<0.11	<0.11	<0.15	<0.11	<0.11	<0.11	3	<4.3	<4.5	<4.3	<0.88
1,2-Dichloroethane (EDC)	0.096	0.288	NV	**0.33**	**0.31**	**0.24**	**0.25**	**0.065**	**0.065**	3.2	<1.6	<1.7	<1.6	<0.33
1,2-Dichloroethane (EDC) corrected for Ambient	0.096	0.288	NV	***0.265***	***0.245***	***0.175***	***0.185***	---	---	*NA*	---	---	---	---
cis-1,2-Dichloroethene	NV	NV	NV	<0.4	<0.4	<0.56	<0.4	<0.4	<0.4	NV	**150**	**29**	**29**	<3.2
Tetrachloroethene	9.6	28.8	NV	<6.8	<6.8	<9.5	<6.8	<6.8	<6.8	320	**5,900**	**2,100**	**2,100**	**570**
Trichloroethene	0.334	1.0	NV	<0.27	<0.27	**0.37**	**0.33**	<0.27	<0.27	11	**810**	**290**	**290**	**220**
Vinyl chloride	0.284	0.84	NV	<0.26	<0.26	<0.36	<0.26	<0.26	<0.26	9.5	<10	<10	<10	<2.1
Benzene	0.321	0.96	NV	**0.75**	**0.81**	**0.63**	**0.68**	<0.32	<0.32	11	<12	<13	<12	<2.6
Toluene	2,286	6,900	NV	<19	<19	<26	<19	<19	<19	76000	<730	<770	<730	<150
Ethylbenzene	457	1,380	NV	<0.43	<0.43	<0.61	<0.43	<0.43	<0.43	15000	<17	<18	<17	<3.5
m,p-Xylene	46	138	NV	**1.1**	**1.1**	**1.2**	**1.1**	<0.87	<0.87	1500	<34	<36	<34	<7
o-Xylene	46	138	NV	**0.44**	<0.43	<0.61	**0.46**	<0.43	<0.43		<17	<18	<17	<3.5
Naphthalene	0.074	0.222	NV	**0.35**	**0.27**	**0.37**	**0.46**	**0.12**	**0.12**	2.5	<10	<11	<10	<2.1
Naphthalene corrected for Ambient	0.074	0.222	NV	***0.23***	***0.15***	***0.25***	***0.34***	---	---	*NA*	---	---	---	---
Chloroethane	NV	NV	NV	<2.6	<2.6	<3.7	<2.6	<2.6	<2.6	NV	<100	<110	<100	<21
1,1-Dichloroethene	91	273	NV	<0.4	<0.4	<0.56	<0.4	<0.4	<0.4	3000	<15	<16	<15	<3.2
trans-1,2-Dichloroethene	NV	NV	NV	<0.4	<0.4	<0.56	<0.4	<0.4	<0.4	NV	<15	<16	<15	<3.2
1,1,1-Trichloroethane	2,300	6,900	NV	<0.55	<0.55	<0.76	<0.55	<0.55	<0.55	76000	<21	<22	<21	**29**
1,1,2-Trichloroethane	0.091	0.27	NV	<0.11	<0.11	<0.15	<0.11	<0.11	<0.11	3	<4.3	<4.5	<4.3	<0.88
Analysis For Volatile Compounds By Method MA-APH														
APH EC5-8 aliphatics/ACGIH C5-8 aliphatics	NV	NV	1,500,000	**140**	**140**	**120**	**130**	<30	<30	NV	**6,400**	**2,000**	**2,000**	**990**
APH EC9-12 aliphatics/ACGIH C9-15 aliphatics	NV	NV	1,200,000	**130**	**120**	**130**	**110**	<35	<35	NV	<1,400	<1,400	<1,400	**580**
APH EC9-10 aromatics/ACGIH C9-15 aromatics	NV	NV	1,200,000	<25	<25	<35	<25	<25	<25	NV	<970	<1,000	<970	<200
TPH[c]	177.45	NA	NV	**270**	**260**	**250**	**240**	ND	ND	4700	**6,400**	**2,000**	**2,000**	**1,570**

Notes:
YELLOW shade = detection exceeds indoor air modified Method B screening level or default Method B for TPH
BLUE shade = detection exceeds sub slab screening level
ug/m3 = micrograms per cubic meter
Bold = detected compound
TPH = Total Petroleum Hydrocarbons
$\mu g/m^3$ = micrograms per cubic meter of air
a MTCA Method B has been modified to reflect a more realistic duration of exposure. The standard MTCA Method B formula assumes an exposure duration of 24 hours per day. The CUL has been multiplied by three to reflect a more realistic 8 hour per day exposure duration for a commercial operation.
b The GGVs listed in Table 1 are reproduced from Column B of the ACGIH Table 1 Group Guidance Values found in Appendix H of the ACGIH publication, 2019 Threshold Limit Values and Biological Exposure Indices.
c TPH is based on Petroleum Vapor Intrusion (PVI): Updated Screening Levels, Cleanup Levels, and Assessing PVI Threats to Future Buildings Implementation Memorandum No. 18, dated January 10, 2018. This TPH limit assumes compounds not detected are not present.

Table 6 - Summary of 2021 Indoor and Ambient Air Sample Results
Bridge - Former Bunge Foods

					Sample Location Sample ID Sample Duration														
	MTCA Screening Level (indoor air) Method B	MTCA Screening Level (indoor air) Method B Modified[a]	DOSH PEL (8hr TWA)[b]	ACGIH GGVs for Hydrocarbons[c]	Indoor Office Women's Bath IA1-061221 21:14 - 20:29	*corrected for ambient*	Indoor Office IA2-061221 21:18 - 20:28	*corrected for ambient*	Indoor Warehouse SE Corner IA3-061221 21:23 - 20:27	*corrected for ambient*	Indoor Warehouse E Center IA4-061221 21:27 - 20:40	*corrected for ambient*	Indoor Warehouse Stairs to Office IA5-061221 21:34 - 20:39	corrected for ambient	Indoor Warehouse Center IA6-061221 21:37 - 20:38	corrected for ambient	Ambient East AE-061221 21:02 - 20:15	Ambient West AW-061221 21:07 - 20:24	Average of Detected Ambient Values
Analytes	*all values in units of µg/m³*																		
Analysis for Volatile Compounds By EPA Method TO-15																			
1,1-Dichloroethane	**1.6**	**4.8**	***none***	NV	<0.4	---	<0.53	---	<0.4	---	<0.4	---	<0.53	---	<0.4	---	<0.4	<0.4	---
1,1,1-Trichloroethane	**2,300**	**6,900**	**1,900,000**	NV	<0.55	---	<0.71	---	<0.55	---	<0.55	---	<0.71	---	<0.55	---	<0.087	<0.087	---
1,1,2-Trichloroethane	**0.091**	**0.27**	**54,560**	NV	<0.055	---	<0.071	---	<0.055	---	<0.055	---	<0.071	---	<0.055	---	<0.55	<0.55	---
1,2-Dichloroethane (EDC)	**0.096**	**0.288**	**4,050**	NV	**0.16**	**0.09**	**0.15**	**0.08**	**0.27**	**0.2**	***0.33***	**0.26**	**0.18**	**0.11**	**0.13**	**0.06**	**0.077**	**0.065**	**0.071**
cis-1,2-Dichloroethene	***none***	***none***	**793,000**	NV	<0.4	---	<0.53	---	<0.4	---	<0.4	---	<0.53	---	<0.4	---	<0.4	<0.4	---
Tetrachloroethene	**9.6**	**28.8**	**169,560**	NV	**7.1**	---	<8.8	---	<6.8	---	<6.8	---	<8.8	---	<6.8	---	<11	<11	---
Trichloroethene	**0.334**	**1.0**	**268,710**	NV	**0.38**	---	**0.34**	---	**0.13**	---	**0.15**	---	<0.14	---	<0.11	---	<0.17	<0.17	---
Vinyl Chloride	**0.28**	**0.84**	**2,560**	NV	<0.26	---	<0.33	---	<0.26	---	<0.26	---	<0.33	---	<0.26	---	<0.26	<0.26	---
Benzene	**0.321**	**0.96**	**3,190**	NV	***0.39***	neg	<0.42	<0.42	***0.50***	**0.06**	***0.50***	**0.06**	***0.43***	neg	***0.41***	neg	***0.50***	***0.38***	**0.44**
Toluene	**2,286**	**6,900**	**376,810**	NV	<19	<19	<24	<24	<19	<19	<19	<19	<24	<24	<19	<19	<30	<30	---
Ethylbenzene	**457**	**1,380**	**434,190**	NV	<0.43	<0.43	<0.56	<0.56	<0.43	<0.43	<0.43	<0.43	<0.56	<0.56	<0.43	<0.43	<0.43	<0.43	---
m,p-Xylene	**46**	**138**	**434,190**	NV	<0.87	<0.87	<1.1	<1.1	<0.87	<0.87	<0.87	<0.87	<1.1	<1.1	<0.87	<0.87	<0.87	<0.87	---
o-Xylene	**46**	**138**	**434,190**	NV	<0.43	<0.43	<0.56	<0.56	<0.43	<0.43	<0.43	<0.43	<0.56	<0.56	<0.43	<0.43	<0.43	<0.43	---
Naphthalene	**0.074**	**0.222**	**52,430**	NV	***0.3***	**0.08**	***0.35***	**0.13**	***0.26***	**0.04**	***0.24***	**0.02**	***0.22***	0	***0.31***	**0.09**	***0.19***	***0.24***	**0.215**
Analysis For Volatile Compounds By Method MA-APH																			
APH EC5-8 aliphatics/ACGIH C5-8 aliphatics	NV	NV	NV	**1,500,000**	**140**	**31**	**130**	**21**	**120**	**11**	**130**	**21**	**120**	**11**	**140**	**31**	**98**[d]	**120**[d]	**109**
APH EC9-12 aliphatics/ACGIH C9-15 aliphatics	NV	NV	NV	**1,200,000**	**73**	**73**	**91**	**91**	**200**	**200**	**240**	**240**	**320**	**320**	**310**	**310**	<25	<25	---
APH EC9-10 aromatics/ACGIH C9-15 aromatics	NV	NV	NV	**1,200,000**	<25	<25	<32	<32	<25	<25	<25	<25	<32	<32	**27**	**27**	<25	<25	---
TPH[e]	**177.45**	NA	NV	NV	**213**	**104**	**221**	**112**	**320**	**211**	**370**	**261**	**440**	**331**	**450**	**341**	**98**	**120**	---

Notes:

TPH = Total Petroleum Hydrocarbons

µg/m³ = micrograms per cubic meter of air

YELLOW shade = detection exceeds indoor air default Method B screening level

[a] MTCA Method B has been modified to reflect a more realistic duration of exposure. The standard MTCA Method B formula assumes an exposure duration of 24 hours per day. The CUL has been multiplied by three to reflect a more realistic 8 hour per day exposure duration for a commercial operation.

[b] DOSH PELs are cited in units of parts per million for the analytes listed. The PELs have been converted to units of µg/m³ for the purpose of this report.

[c] The GGVs listed in Table 1 are reproduced from Column B of the ACGIH Table 1 Group Guidance Values found in Appendix H of the ACGIH publication, 2019 Threshold Limit Values and Biological Exposure Indices.

[d] The internal standard associated with the analyte is out of control limits. The value reported is an estimate.

[e] TPH is based on Petroleum Vapor Intrusion (PVI): Updated Screening Levels, Cleanup Levels, and Assessing PVI Threats to Future Buildings Implementation Memorandum No. 18, dated January 10, 2018. This TPH limit assumes compounds not detected are not present.

Figures

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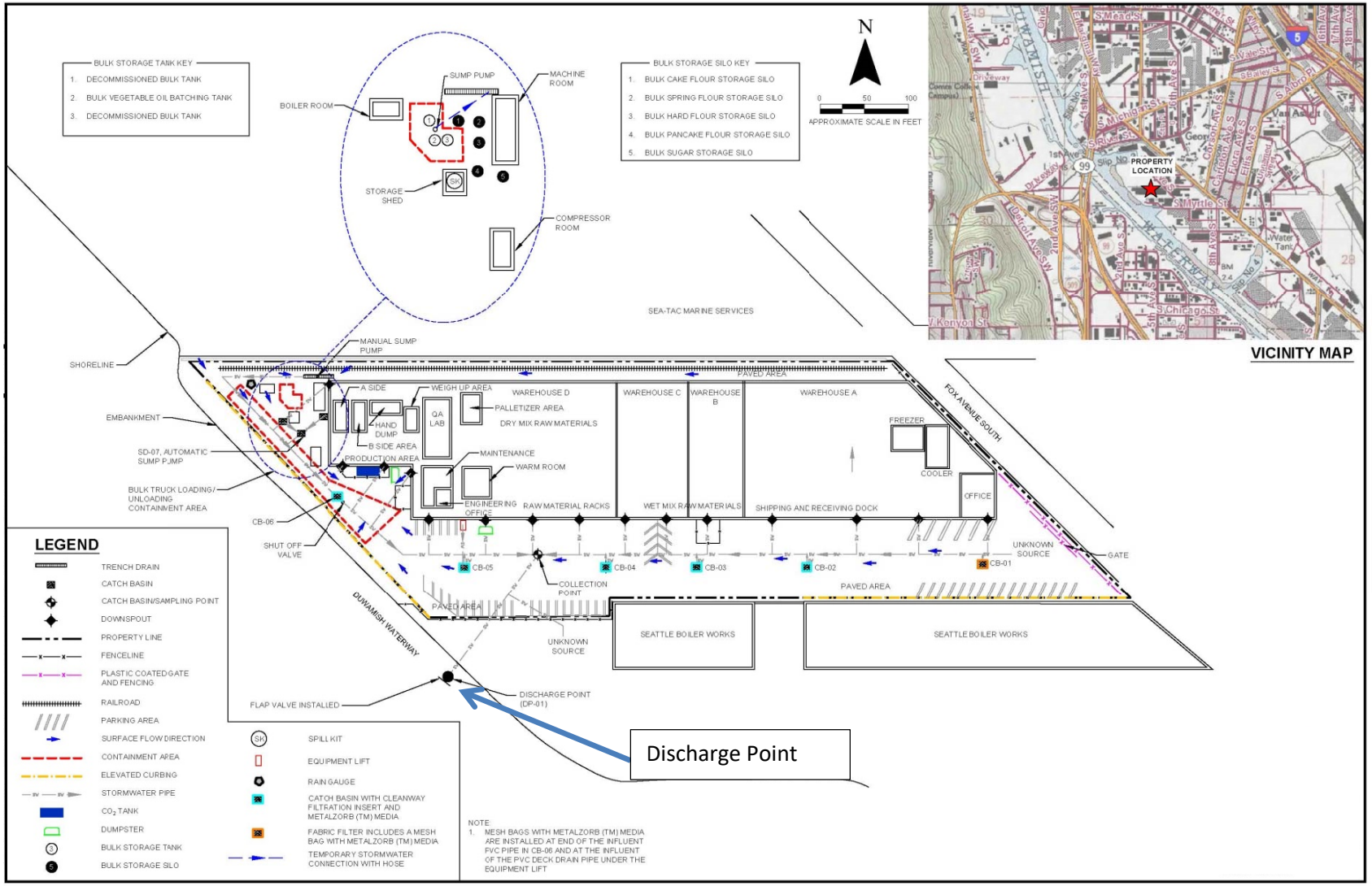
Former Bunge Foods Facility Bridge Industrial October 13, 2021	Figure 1 Site Location Map



Source of Figure –Stormwater Treatment Engineering Design Report. Perpared by Clear Water Services and Landau Assoicates, Inc. May 2021.

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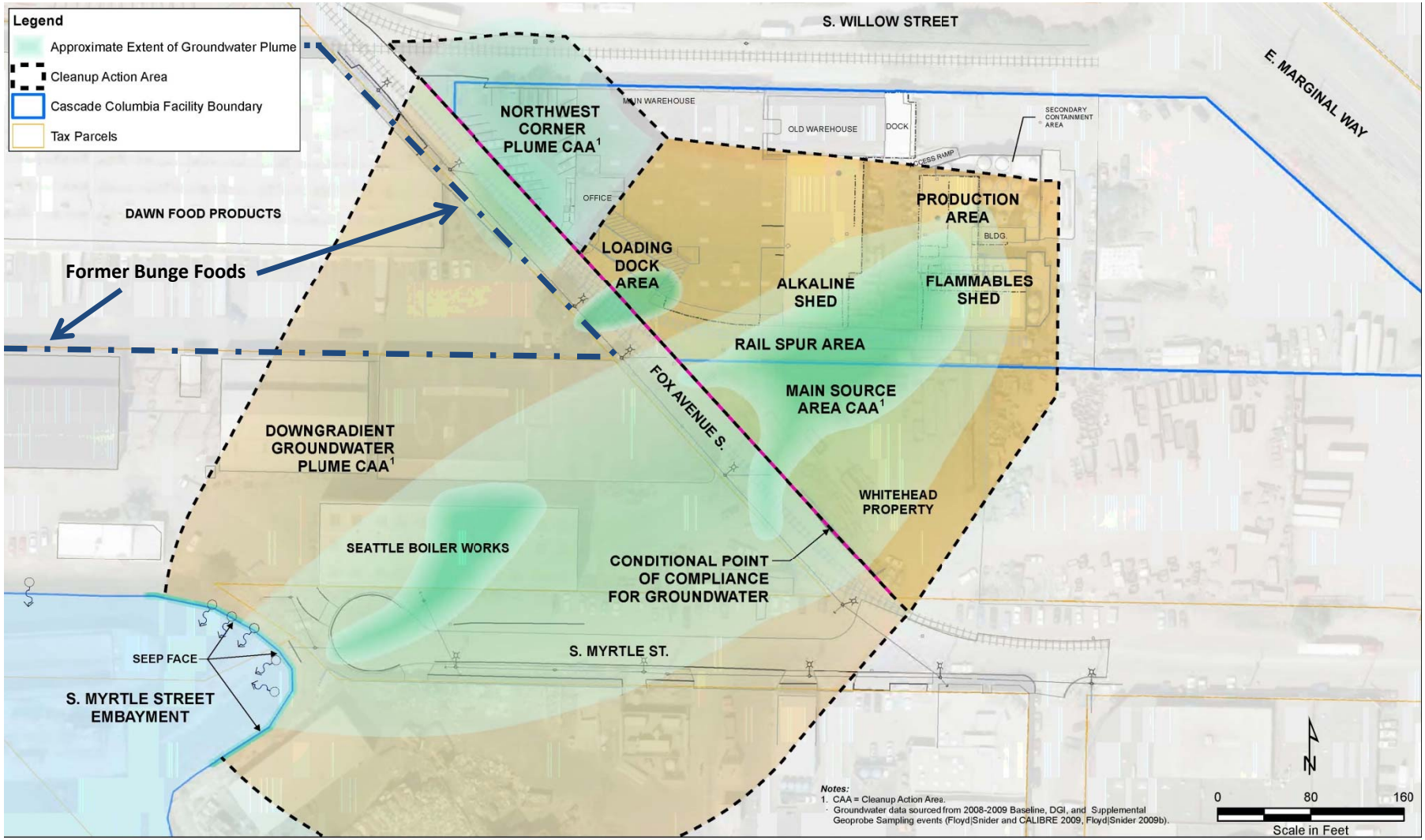
Former Bunge Foods Facility Bridge Industrial October 13, 2021	Figure 2 Stormwater Facility Site Map



Source of Figure: Floyd Snider, 2012. Cleanup Action Plan. Figure 2.3 Cleanup Action Areas.

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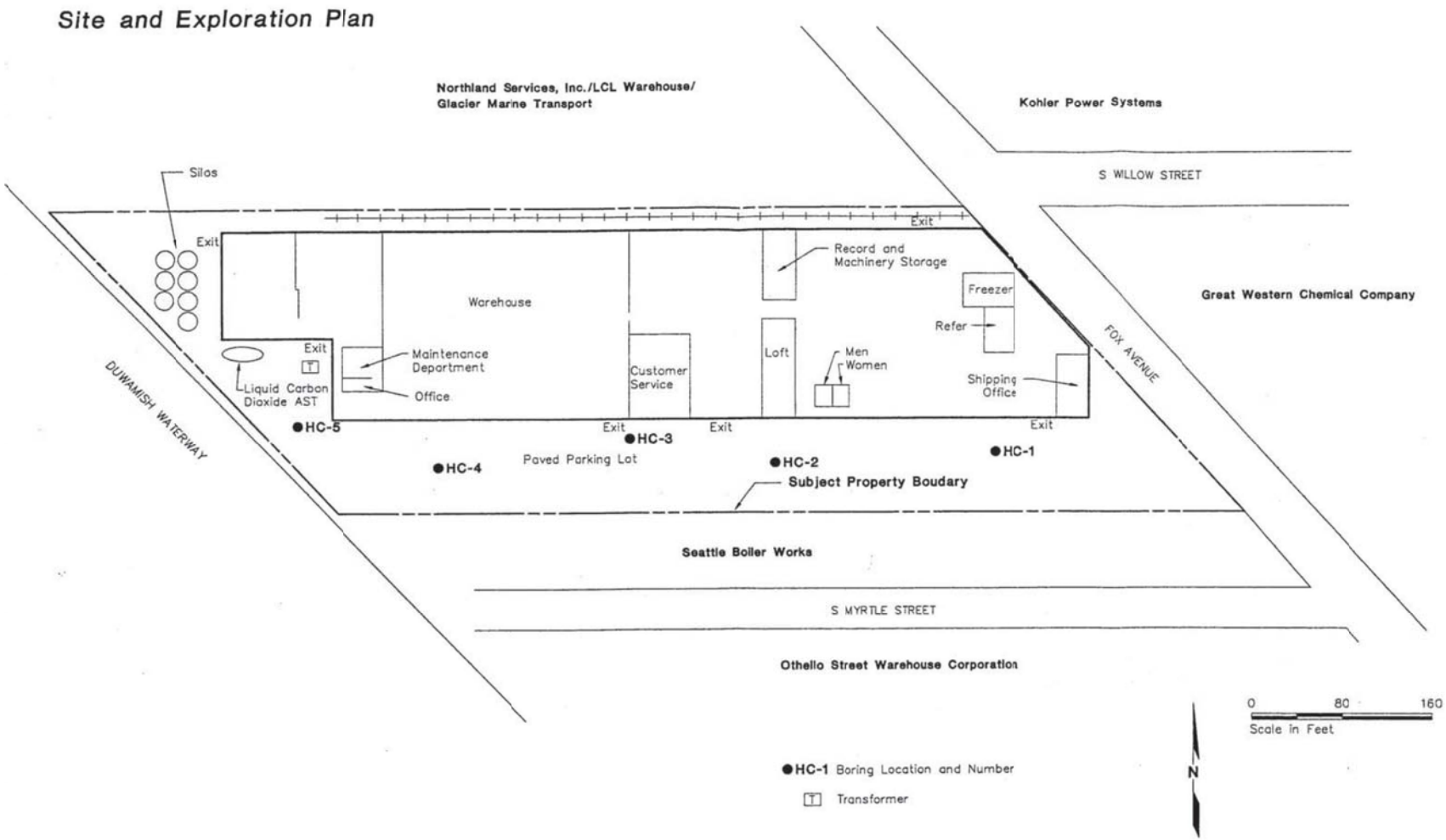
Former Bunge Foods Facility Bridge Industrial October 13, 2021	Figure 3 Upgradient Groundwater Plume



Source: Figure 2 from Limited Subsurface Investigation Fox Avenue property, 6901 Fox Avenue, Seattle, Washington. Prepared by Hart Crowser, November 12, 1996.

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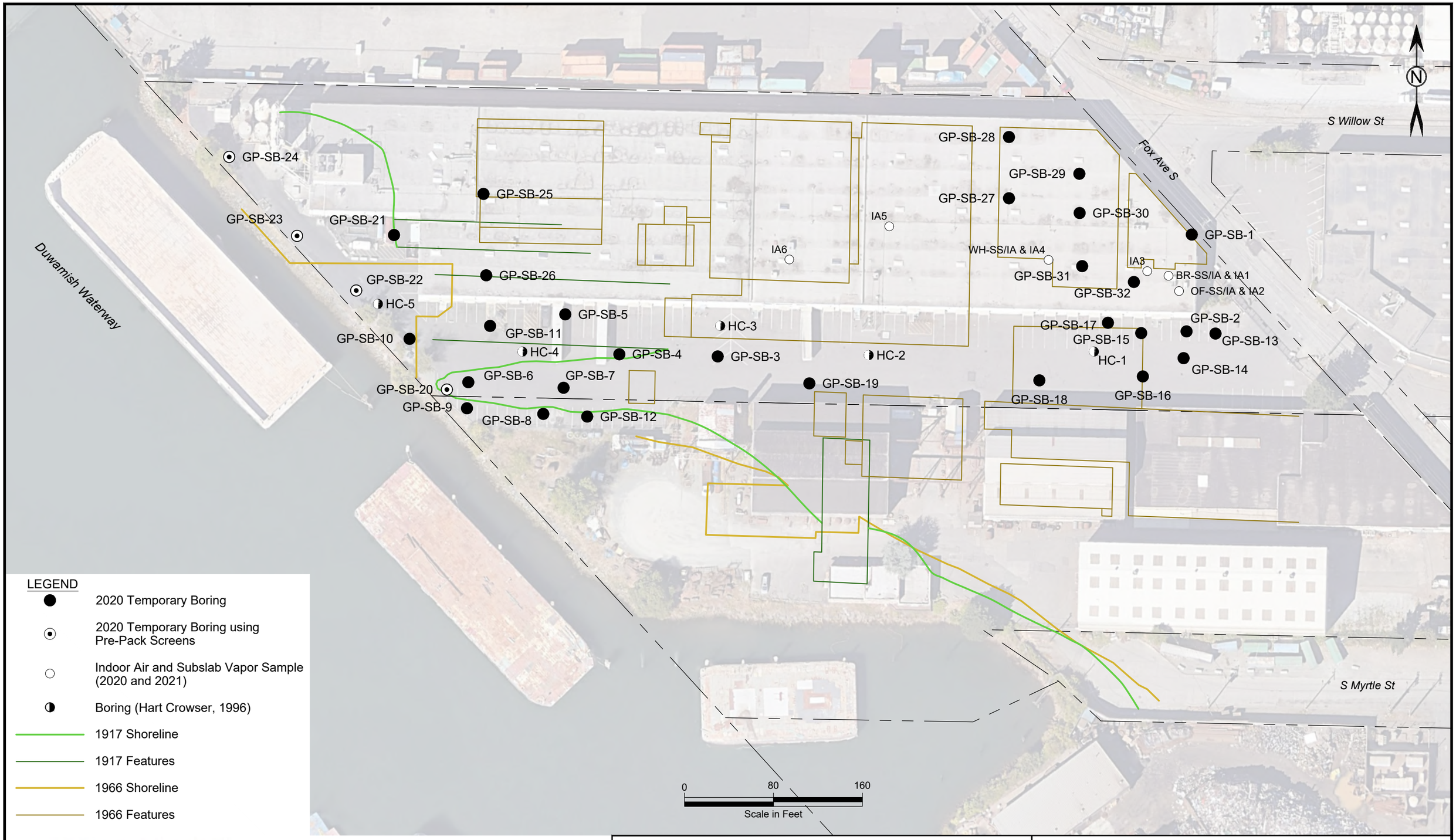
Former Bunge Foods Facility Bridge Industrial October 13, 2021	Figure 4 1996 Soil and Groundwater Sample Locations



LEGEND

- 2020 Temporary Boring
- 2020 Temporary Boring using Pre-Pack Screens
- Indoor Air and Subslab Vapor Sample (2020 and 2021)
- Boring (Hart Crowser, 1996)
- 1917 Shoreline
- 1917 Features
- 1966 Shoreline
- 1966 Features

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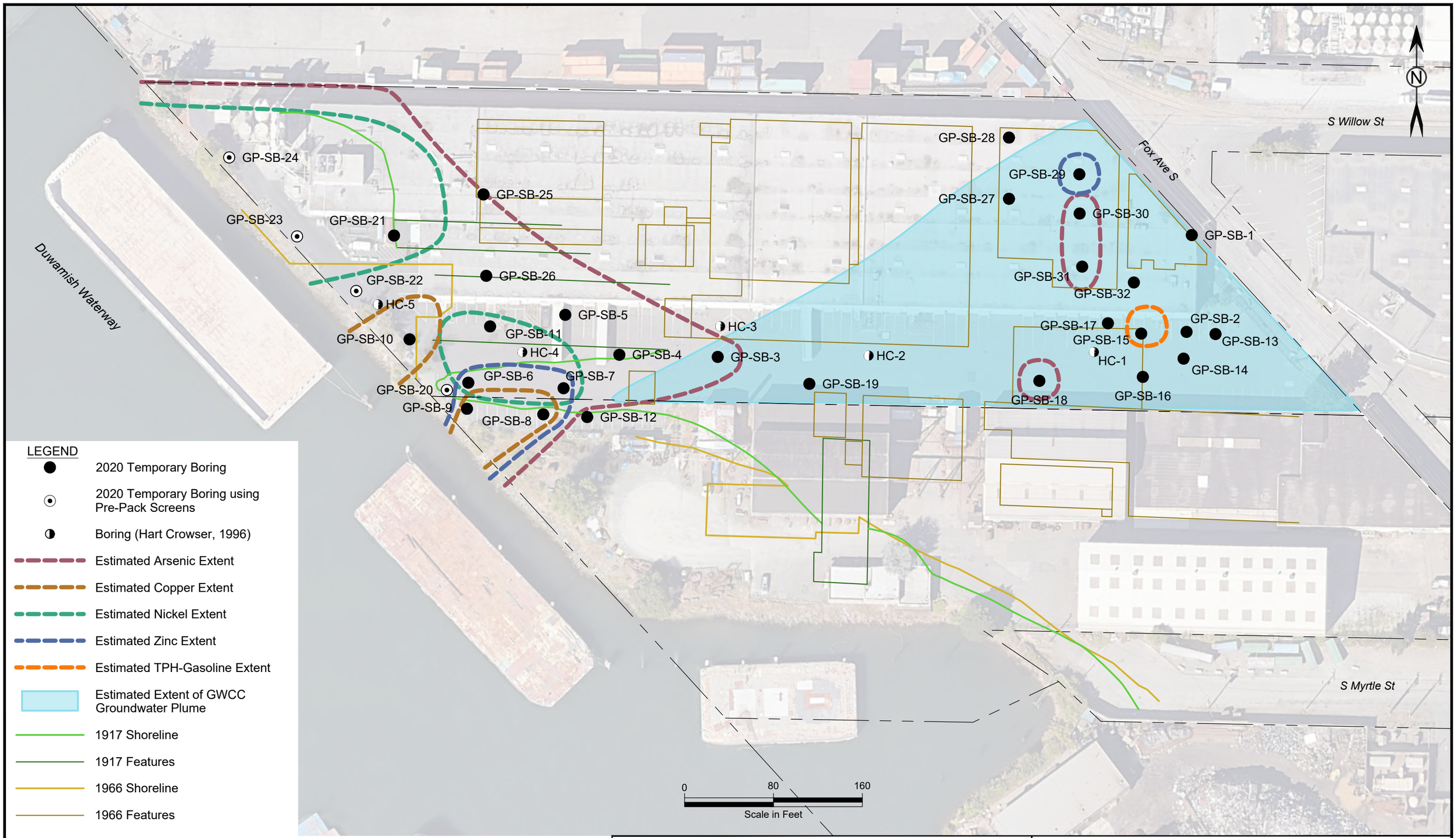
Figure 5
Previous Investigation Locations



LEGEND

- 2020 Temporary Boring
- 2020 Temporary Boring using Pre-Pack Screens
- Boring (Hart Crowser, 1996)
- Estimated Arsenic Extent
- Estimated Copper Extent
- Estimated Nickel Extent
- Estimated Zinc Extent
- Estimated TPH-Gasoline Extent
- Estimated Extent of GWCC Groundwater Plume
- 1917 Shoreline
- 1917 Features
- 1966 Shoreline
- 1966 Features

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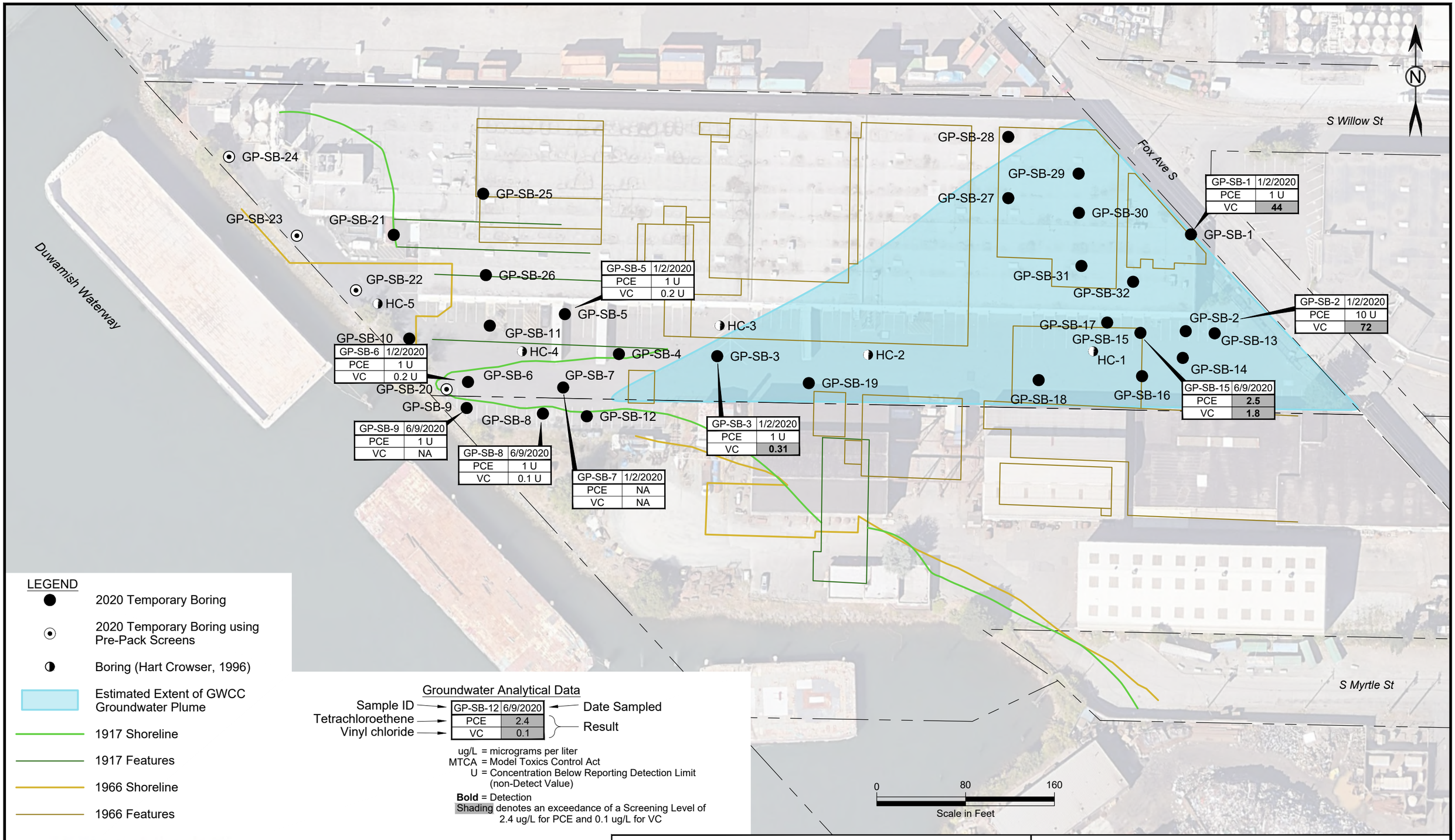
Figure 6
Estimated Extent of Groundwater Exceeding Screening Levels



LEGEND

- 2020 Temporary Boring
- 2020 Temporary Boring using Pre-Pack Screens
- Boring (Hart Crowser, 1996)
- Estimated Extent of GWCC Groundwater Plume
- 1917 Shoreline
- 1917 Features
- 1966 Shoreline
- 1966 Features

Groundwater Analytical Data

Sample ID	GP-SB-12	6/9/2020	← Date Sampled
Tetrachloroethene	PCE	2.4	← Result
Vinyl chloride	VC	0.1	← Result

ug/L = micrograms per liter
MTCA = Model Toxics Control Act
U = Concentration Below Reporting Detection Limit (non-Detect Value)
Bold = Detection
Shading denotes an exceedance of a Screening Level of 2.4 ug/L for PCE and 0.1 ug/L for VC

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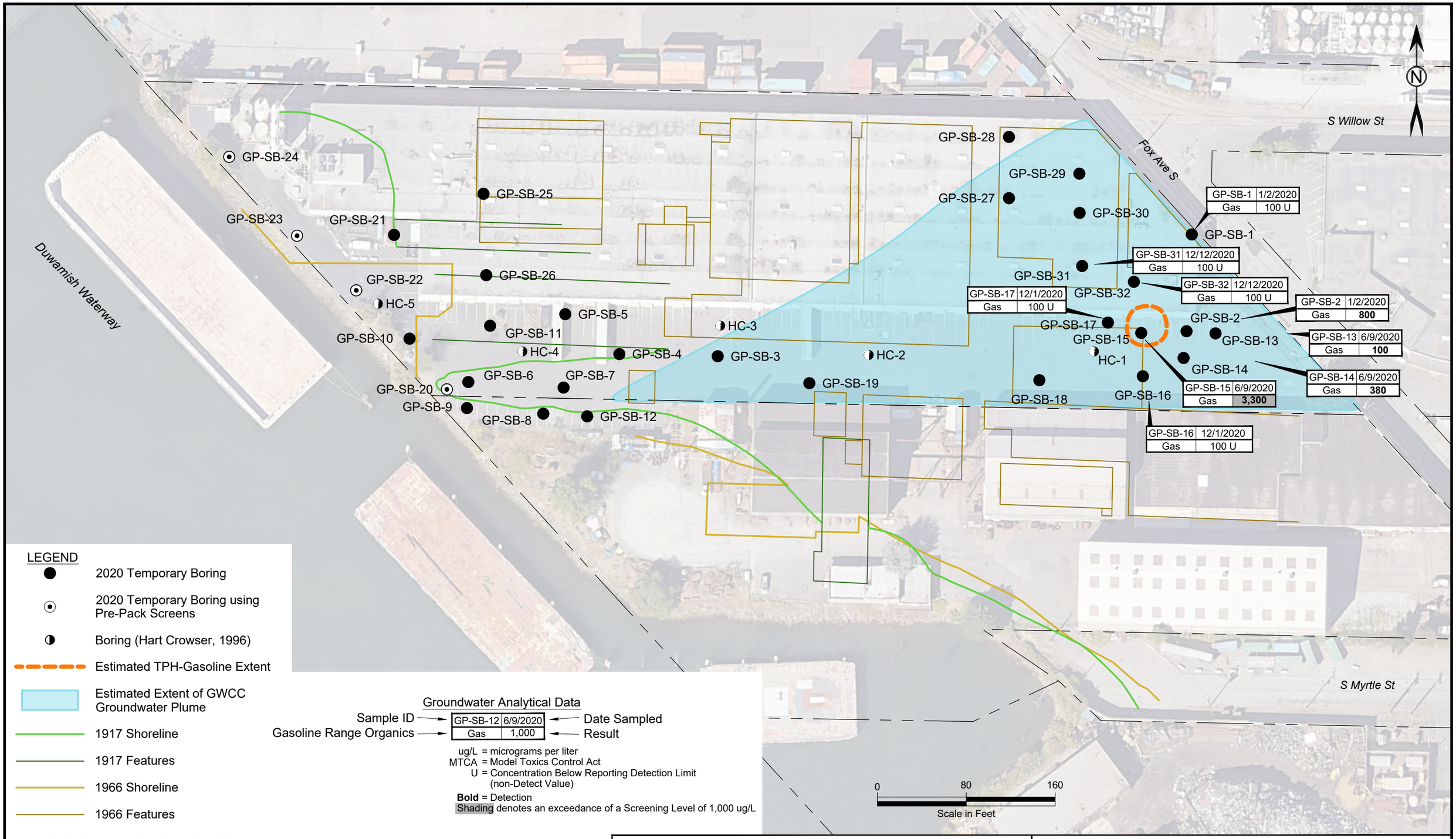
October 14, 2021

Figure 7
Estimated Extent of VOCs in Soil and Groundwater



LEGEND

- 2020 Temporary Boring
- 2020 Temporary Boring using Pre-Pack Screens
- Boring (Hart Crowser, 1996)
- Estimated TPH-Gasoline Extent
- Estimated Extent of GWCC Groundwater Plume
- 1917 Shoreline
- 1917 Features
- 1966 Shoreline
- 1966 Features

Groundwater Analytical Data

Sample ID	GP-SB-12	6/9/2020
Gasoline Range Organics	Gas	1,000

(Sample ID → Date Sampled; Gasoline Range Organics → Result)

ug/L = micrograms per liter
MTCA = Model Toxics Control Act
U = Concentration Below Reporting Detection Limit (non-Detect Value)
Bold = Detection
Shading denotes an exceedance of a Screening Level of 1,000 ug/L

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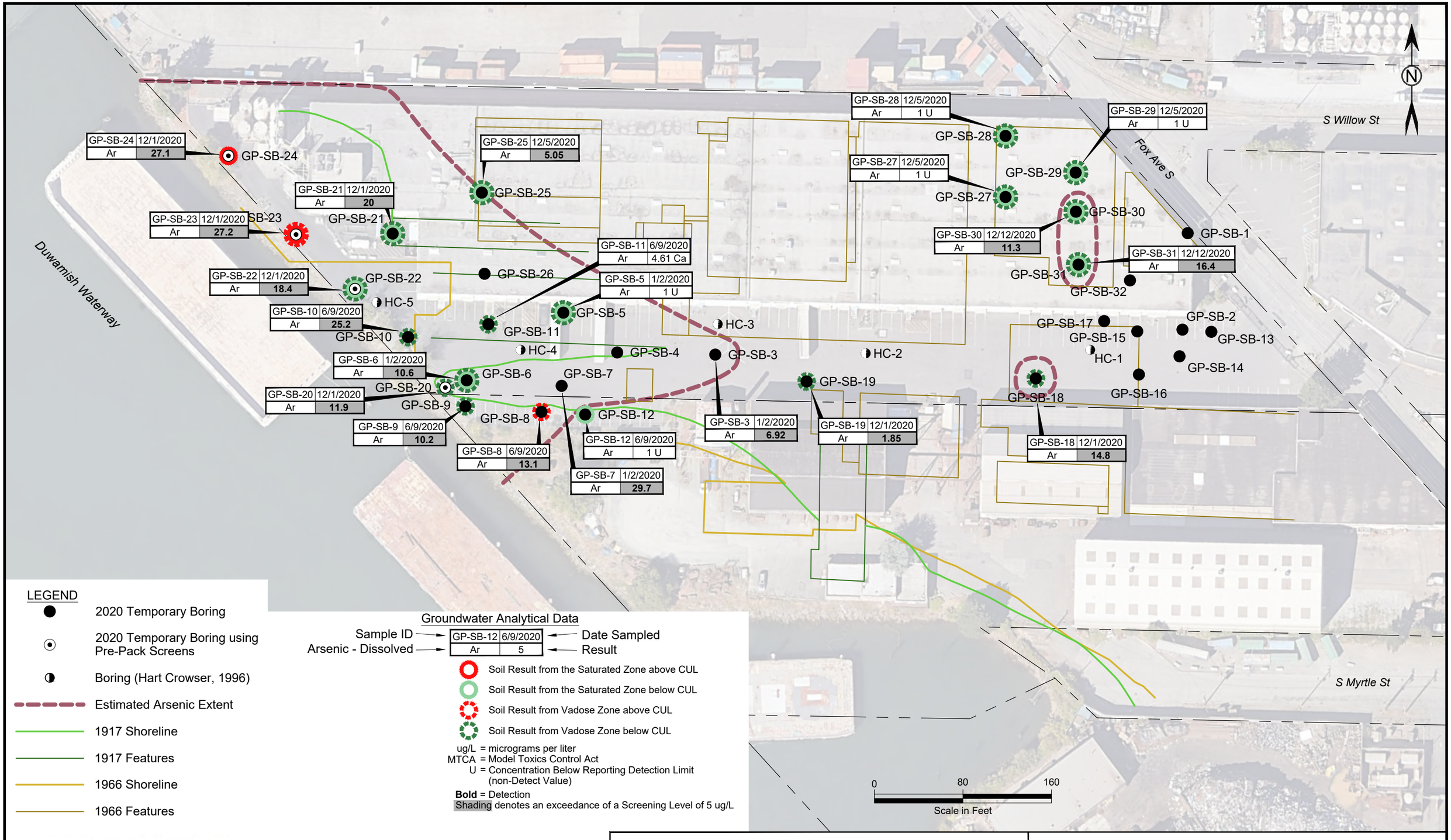
Figure 8
Estimated Extent of Gasoline in Groundwater



LEGEND

- 2020 Temporary Boring
- 2020 Temporary Boring using Pre-Pack Screens
- Boring (Hart Crowser, 1996)
- Estimated Arsenic Extent
- 1917 Shoreline
- 1917 Features
- 1966 Shoreline
- 1966 Features

Groundwater Analytical Data

Sample ID	GP-SB-12	6/9/2020	← Date Sampled
Arsenic - Dissolved	Ar	5	← Result

- Soil Result from the Saturated Zone above CUL
- Soil Result from the Saturated Zone below CUL
- Soil Result from Vadose Zone above CUL
- Soil Result from Vadose Zone below CUL

ug/L = micrograms per liter
MTCA = Model Toxics Control Act
U = Concentration Below Reporting Detection Limit (non-Detect Value)
Bold = Detection
Shading denotes an exceedance of a Screening Level of 5 ug/L

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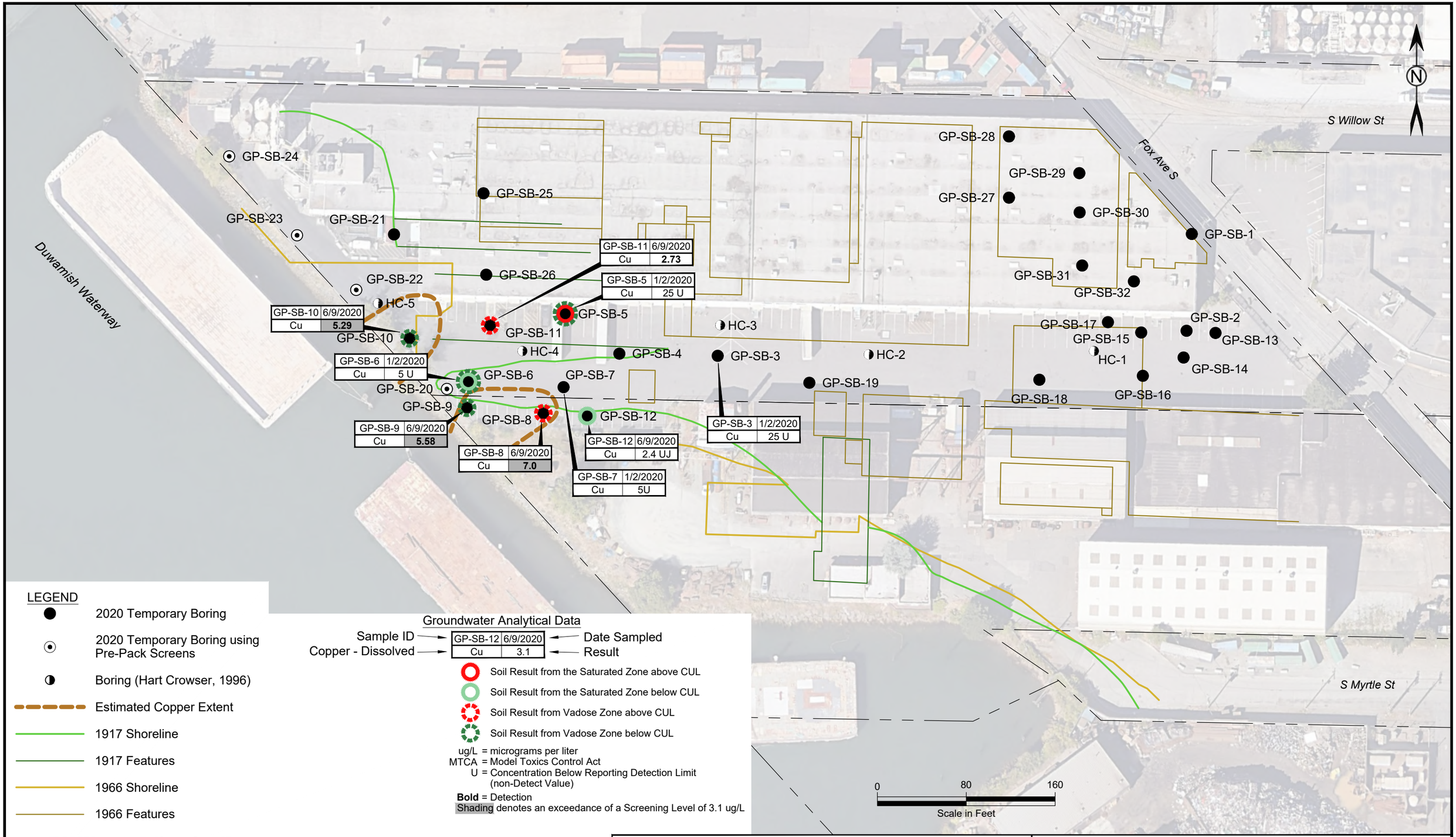
Figure 9
Estimated Extent of Arsenic in Soil and Groundwater



LEGEND

- 2020 Temporary Boring
- 2020 Temporary Boring using Pre-Pack Screens
- Boring (Hart Crowser, 1996)
- Estimated Copper Extent
- 1917 Shoreline
- 1917 Features
- 1966 Shoreline
- 1966 Features

Groundwater Analytical Data

Sample ID	GP-SB-12	6/9/2020 (Date Sampled)
Copper - Dissolved	Cu	3.1 (Result)

- Soil Result from the Saturated Zone above CUL
- Soil Result from the Saturated Zone below CUL
- Soil Result from Vadose Zone above CUL
- Soil Result from Vadose Zone below CUL

ug/L = micrograms per liter
MTCA = Model Toxics Control Act
U = Concentration Below Reporting Detection Limit (non-Detect Value)
Bold = Detection
Shading denotes an exceedance of a Screening Level of 3.1 ug/L

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Figure 10
Estimated Extent of Copper in Soil and Groundwater

GP-SB-24	12/1/2020
Ni	**11.3**

GP-SB-25	12/5/2020
Ni	**1.62**

GP-SB-28	12/5/2020
Ni	**3.28**

GP-SB-29	12/5/2020
Ni	**3.41**

GP-SB-27	12/5/2020
Ni	**2.33**

GP-SB-21	12/1/2020
Ni	**14.8**

GP-SB-23	12/1/2020
Ni	10 U

GP-SB-30	12/12/2020
Ni	**2.96**

GP-SB-31	12/12/2020
Ni	**4.49**

GP-SB-32	12/12/2020
Ni	NA

GP-SB-11	6/9/2020
Ni	**10.9**

GP-SB-22	12/1/2020
Ni	10 U

GP-SB-5	1/2/2020
Ni	5 U

GP-SB-10	6/9/2020
Ni	**5.74**

GP-SB-6	1/2/2020
Ni	**8.71**

GP-SB-20	12/1/2020
Ni	**4.26**

GP-SB-9	6/9/2020
Ni	**4.88**

GP-SB-8	6/9/2020
Ni	**6.35**

GP-SB-12	6/9/2020
Ni	**2.37 J**

GP-SB-7	1/2/2020
Ni	**22.7**

GP-SB-3	1/2/2020
Ni	5 U

GP-SB-19	12/1/2020
Ni	10 U

GP-SB-18	12/1/2020
Ni	**5.3**

GP-SB-24 GP-SB-25 GP-SB-28 GP-SB-29 GP-SB-21 GP-SB-23 GP-SB-27 GP-SB-30 GP-SB-1 GP-SB-31 GP-SB-32 GP-SB-22 GP-SB-26 GP-SB-11 GP-SB-5 GP-SB-2 GP-SB-17 GP-SB-15 GP-SB-13 GP-SB-10 GP-SB-4 GP-SB-3 GP-SB-19 GP-SB-14 GP-SB-6 GP-SB-7 GP-SB-20 GP-SB-18 GP-SB-16 GP-SB-9 GP-SB-8 GP-SB-12

HC-5 HC-3 HC-4 HC-2 HC-1

Duwamish Waterway

S Willow St

Fox Ave S

S Myrtle St

N

0 80 160

Scale in Feet

LEGEND

- 2020 Temporary Boring
- 2020 Temporary Boring using Pre-Pack Screens
- Boring (Hart Crowser, 1996)
- Estimated Nickel Extent
- 1917 Shoreline
- 1917 Features
- 1966 Shoreline
- 1966 Features

Groundwater Analytical Data

Sample ID → GP-SB-12 | 6/9/2020 ← Date Sampled
Nickel - Dissolved → Ni | 8.2 ← Result

- Soil Result from the Saturated Zone above CUL
- Soil Result from the Saturated Zone below CUL
- Soil Result from Vadose Zone above CUL
- Soil Result from Vadose Zone below CUL

ug/L = micrograms per liter
MTCA = Model Toxics Control Act
U = Concentration Below Reporting Detection Limit (non-Detect Value)

Bold = Detection
Shading denotes an exceedance of a Screening Level of 8.2 ug/L

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Figure 11
Estimated Extent of Nickel in Soil and Groundwater

GP-SB-24	12/1/2020
Zn	50 U

GP-SB-25	12/5/2020
Zn	**14.6**

GP-SB-28	12/5/2020
Zn	**6.36**

GP-SB-29	12/5/2020
Zn	**209**

GP-SB-21	12/1/2020
Zn	14.8

GP-SB-27	12/5/2020
Zn	5 U

GP-SB-23	12/1/2020
Zn	50 U

GP-SB-30	12/12/2020
Zn	**33**

GP-SB-11	6/9/2020
Zn	**18.8**

GP-SB-31	12/12/2020
Zn	**12.3**

GP-SB-22	12/1/2020
Zn	5 U

GP-SB-5	1/2/2020
Zn	25 U

GP-SB-10	6/9/2020
Zn	5 U

GP-SB-6	1/2/2020
Zn	**3,110**

GP-SB-20	12/1/2020
Zn	5 U

GP-SB-9	6/9/2020
Zn	**378**

GP-SB-8	6/9/2020
Zn	**574**

GP-SB-12	6/9/2020
Zn	**16.5 J**

GP-SB-7	1/2/2020
Zn	**22,300**

GP-SB-3	1/2/2020
Zn	25 U

GP-SB-19	12/1/2020
Zn	50 U

GP-SB-18	12/1/2020
Zn	**7.01**

GP-SB-24 GP-SB-25 GP-SB-28 GP-SB-29 GP-SB-21 GP-SB-27 GP-SB-23 GP-SB-30 GP-SB-1 GP-SB-31 GP-SB-22 GP-SB-26 GP-SB-11 GP-SB-5 GP-SB-32 HC-5 GP-SB-10 HC-3 GP-SB-17 GP-SB-2 GP-SB-15 GP-SB-13 HC-4 GP-SB-4 GP-SB-3 HC-2 HC-1 GP-SB-14 GP-SB-6 GP-SB-7 GP-SB-19 GP-SB-20 GP-SB-18 GP-SB-16 GP-SB-9 GP-SB-8 GP-SB-12

Duwamish Waterway

S Willow St

Fox Ave S

S Myrtle St

N

0 80 160

Scale in Feet

LEGEND

- 2020 Temporary Boring
- 2020 Temporary Boring using Pre-Pack Screens
- Boring (Hart Crowser, 1996)
- Estimated Zinc Extent
- 1917 Shoreline
- 1917 Features
- 1966 Shoreline
- 1966 Features

Groundwater Analytical Data

Sample ID →	GP-SB-12	6/9/2020	← Date Sampled
Zinc - Dissolved →	Zn	81	← Result

- Soil Result from the Saturated Zone above CUL
- Soil Result from the Saturated Zone below CUL
- Soil Result from Vadose Zone above CUL
- Soil Result from Vadose Zone below CUL

ug/L = micrograms per liter
MTCA = Model Toxics Control Act
U = Concentration Below Reporting Detection Limit (non-Detect Value)

Bold = Detection
Shading denotes an exceedance of a Screening Level of 81 ug/L

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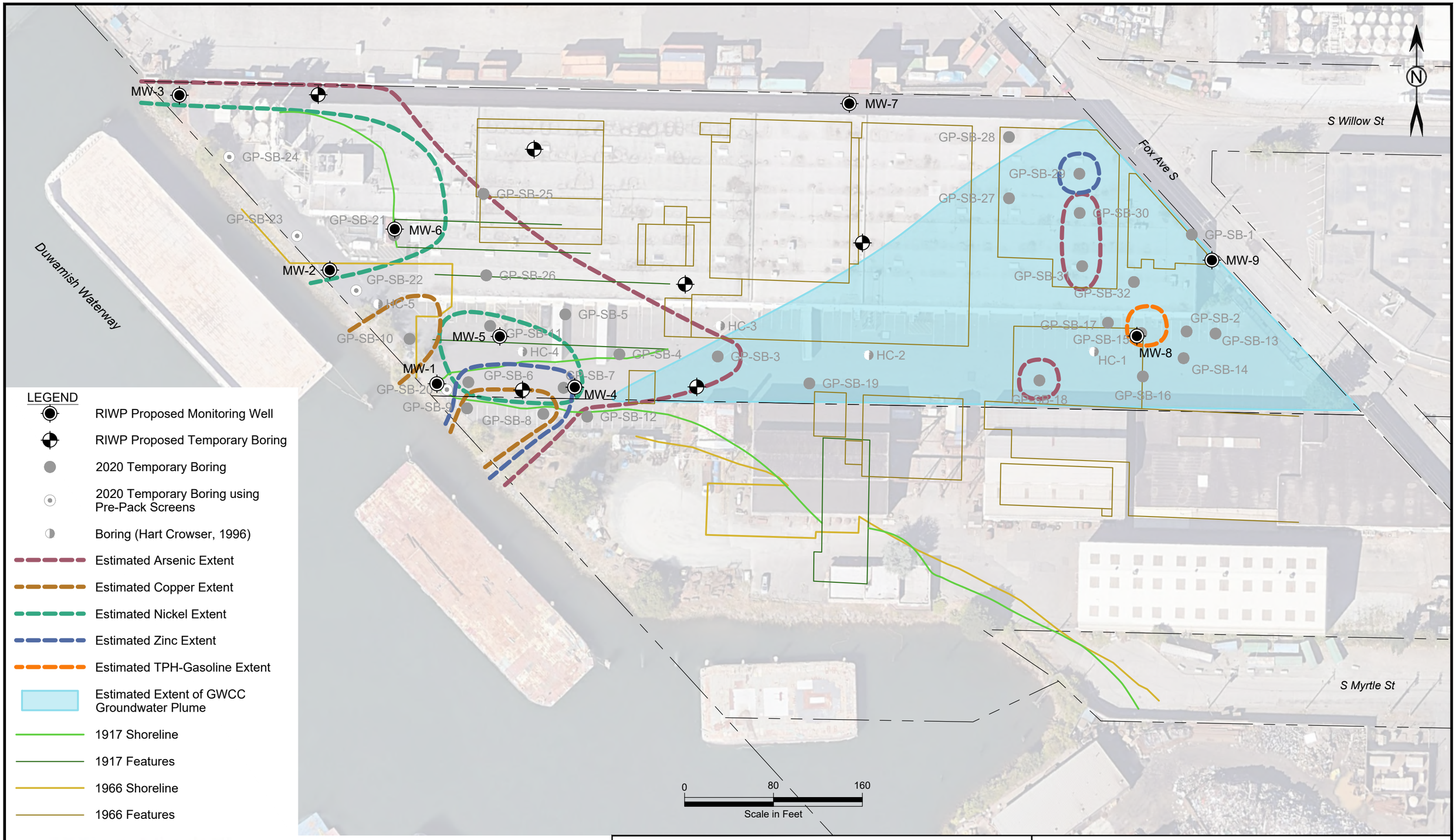
October 14, 2021

Figure 12
Estimated Extent of Zinc
in Soil and Groundwater



LEGEND

- RIWP Proposed Monitoring Well
- RIWP Proposed Temporary Boring
- 2020 Temporary Boring
- 2020 Temporary Boring using Pre-Pack Screens
- Boring (Hart Crowser, 1996)
- Estimated Arsenic Extent
- Estimated Copper Extent
- Estimated Nickel Extent
- Estimated Zinc Extent
- Estimated TPH-Gasoline Extent
- Estimated Extent of GWCC Groundwater Plume
- 1917 Shoreline
- 1917 Features
- 1966 Shoreline
- 1966 Features

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Bridge Industrial
October 14, 2021

Figure 13
Proposed Soil and Groundwater Sample Locations

Appendix A Historical Reports

Appendix B 2020 Soil, Groundwater, and Vapor Reports

Appendix C COI Backup

Appendix D Quality Assurance Project Plan

Appendix E Health and Safety Plan