Interim Action Work Plan

7730 South 202nd Street
Kent, Washington

Former Maralco Property

Project No. 033-012

July 5, 2023
Revised July 25, 2023

Prepared for:

7730 202nd Street, LLC
10655 NE 4th Street, Suite 500
Bellevue, WA 98004

Prepared by:

Crete Consulting Incorporated, PC
16300 Christensen Road, Suite 214
Tukwila, WA 98188

Interim Action Work Plan

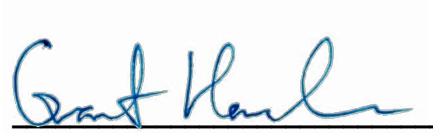
7730 South 202nd Street
Kent, Washington

Former Maralco Property

Prepared by:

Jamie C. Stevens, P.E., Sr. Engineer

Reviewed by



Grant Hainsworth, P.E., Principal

July 5, 2023
Revised July 25, 2023

Table of Contents

List of Tables

List of Figures

List of Appendices

Acronyms and Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
BHD	baghouse dust
Bridge	7730 202nd Street, LLC
CAP	Cleanup Action Plan
CRETE	CRETE Consulting Incorporated
COC	consistent of concerns
COI	constituent of interest
CSM	conceptual site model
CUL	cleanup level
IAWP	Interim Action Work Plan
IHS	Indictor Hazardous Substance
Ecology	Washington Department of Ecology
EPA	United States Environmental Protection Agency
ft	foot
HAZWOPER	Hazardous Waste Operations and Emergency Response
KBI	Kawecki-Berylco, Inc
mg/kg	milligram per kilogram
ug/L	micrograms per liter
MTCA	Model Toxics Control Act
NIOSH	National Institute for Occupational Safety and Health
Property/Site	Maralco Property
OSHA	Occupational Safety and Health Act
QAPP	Quality Assurance Project Plan
RI/FS	Remedial Investigation/Feasibility Study
RCI	Reactivity, Corrosivity, Ignitability
RIWP	Remedial Investigation Work Plan
SCO	sediment cleanup objective
SL	Screening level
TCLP	Toxicity Characteristic Leachate Procedure
TPH	total petroleum hydrocarbons
UST	Underground Storage Tank
USEPA	United States Environmental Protection Agency
VCP	Voluntary Cleanup Program
WAC	Washington Administrative Code

Engineer's Certification

I certify that the Interim Action Work Plan for the Former Maralco Property located at 7730 South 202nd Street in Kent, Washington was completed by me or by a person under my direct supervision.

Work for this project was performed in accordance with generally accepted professional practices for the nature and condition of work completed in the same or similar localities, at the time the work was performed.

No other warranty, express or implied, is made.

Grant Hainsworth P.E., Principal
Washington State PE Number: 33192
Expiration Date: 6/5/2025

1 Introduction

This Interim Action Work Plan (IAWP) describes the proposed environmental cleanup actions at the former Maralco Property located at 7730 South 202nd Street in Kent, Washington. This IAWP was prepared for 7730 202nd Street, LLC (Bridge) for review by the Washington State Department of Ecology (Ecology). The Site is currently enrolled in the Voluntary Cleanup Program (VCP – NW3339).

Crete Consulting Incorporated (CRETE) has been working with Bridge since March 2021 to assess environmental conditions. Data has been collected to confirm prior data and address data gaps, which are summarized in the Remedial Investigation Work Plan (RIWP; CRETE 2022, CRETE 2023). The draft RIWP was submitted to Ecology on March 16, 2022 and an addendum was submitted on June 23, 2023. Since 2021, CRETE has performed the following activities:

- Direct push soil and groundwater sampling, including assessment of soil conditions below the outdoor black dross pile
- Reassessment of the outdoor black dross pile volume
- Assessment of former diesel source area and extent of metals contamination
- Groundwater well sampling
- Off-Property sediment sampling
- Indoor stockpile measurement and sampling
- Sediment sampling including the S. 202nd Right-of-Way ditch and the on-site stormwater pond.

The primary purpose of the interim action is to remove waste materials from the property such that, when combined with a development cap, the remaining contamination will not present a risk to groundwater, surface water, or sediment. In specific areas of the site, some sediment/soil removal will occur to further reduce the risk of surface water or sediment contamination. Parallel to this interim action, RI data collection will continue, followed by preparation of a Remedial Investigation and Feasibility Study (RI/FS) report and a draft Cleanup Action Plan (CAP) to determine the final cleanup action for the site. It is anticipated that the RI/FS and CAP work will be performed under an Agreed Order.

Select logs from boreholes that were advanced through the outdoor dross pile to sample below the dross pile are included in Appendix A. Copies of permit applications are included in Appendix B. A QAPP specific to sampling surfaces after waste and sediment removal is provided in Appendix C.

2 Property Location and Description

The property covers 12.05-acres and includes a 45,000 square foot building near the western boundary that has been largely abandoned since 1986 (Figure 1). Maralco Aluminum operated a secondary aluminum smelter from 1980 to 1986. The smelter produced aluminum ingots from recycled aluminum cans, Kawecki-Berylco, Inc. (KBI) dross, and scrap metal using the molten salt process. The wastes created from this process included black dross (or "salt cake") which was a mixture of salt, aluminum oxide, and impurities from the molten salt smelting process. Several waste piles remain on the property from the smelting operation. Dross (also known as "black dross") typically contains a mixture of aluminum/alloy oxides and slag (a partially amorphous solid by-product of the smelting process), and contains approximately 12 to 18% recoverable aluminum and other metals such as arsenic, barium, copper, and mercury (USEPA 2015). Baghouse dust (BHD) from smelting is generated from particulate air emissions collected in baghouse air pollution control equipment.

The following stockpiles are located at the property and are shown on Figure 2:

- Outdoor stockpile - Approximately 29,300 cubic yards (cy) of primarily black dross and a smaller amount of aluminum oxide (at the northern tip of the pile). The stockpile was covered during interim actions in the 1990s but the cover is damaged and the pile is partially uncovered and exposed.
- The indoor stockpiles include:
  - 500 cubic yards washed aluminum oxide at 1.1 tons per cubic yard (Piles A and E)
  - 200 cubic yards black dross, including oversized screenings and furnace skimming, at 1.1 tons per cubic yard (Piles B, C, and F)
  - 200 cubic yards (250 tons) of KBI dross (Pile D)
  - 200 cubic yards of bag house dust (contained within the bag house filters and adjacent bins)

The property includes a ditch (Christopher Ditch) which conveys stormwater from off-property, collects stormwater from portion of the property, and conveys stormwater to a collection point near the northcentral portion of the property (Figure 3). The water is conveyed under the cul-de-sac at the entrance of the property to the stormwater ditch that runs along S. 202nd Street ROW. Stormwater continues under the BNSF railroad, daylights briefly before traveling through another pipe under 77th Ave South and then finally discharges to a large stormwater pond/wetland managed by King County Drainage District #1. There is a stormwater pond on the western portion of the property in the vicinity of MW-4 (Figure 3). The pond collects stormwater from the warehouse roof and paved areas in the northwest corner of the property. It is assumed that the pond is still connected to the S. 202nd Street ROW ditch through a buried culvert, though the culvert has not been located.

2.1 Property Development

The property is zoned Heavy Industrial I3 and will be redeveloped as a warehouse following the interim cleanup action. Redevelopment will include the following:

- Demolition of all existing structures (some demolition will occur in conjunction with the interim action)
- Construction of an approximate 178,700 square foot warehouse building with concrete and asphalt loading dock, roads, and parking area. It is estimated that 70% of the property will be impervious once the project is completed.
- Installation of new stormwater facility and new utility connections
- Portions of the western wetland and portions of the on-property ditch will be filled and a new wetland will be created along the eastern portion of the property.

The proposed building layout, parking, and the wetland modifications are shown on Figure 4. The footprint of the new warehouse and parking will completely cover the former warehouse and the outdoor dross pile areas.

2.2 Nature and Extent of Contamination

Numerous environmental investigation and previous interim actions have been completed at the property since 1991. Previous work is documented in the RIWP (CRETE 2022). Investigation locations are identified on Figure 5, including historical sampling locations. This section presents the nature and extent of contamination at the site based on the data presented in the RIWP plus soil and groundwater data that were collected in accordance with the RIWP in August and September 2022.

2.2.1 Sources

The primary source of contaminants of interest is the black dross pile, which has leached metals and salt to the subsurface. These compounds then migrate with the groundwater creating contamination observed in the shallow groundwater monitoring wells (Figure 6). Concentrations are highest in the monitoring well (MW-5/5A/5R) located to the north and west and immediately downgradient of the dross pile.

The property is trisected by drainage ditches, portions of which run adjacent to the dross stockpile. Surface water runoff and erosion have transported dross into the ditches adjacent to the pile. Prior to previous interim actions which attempted to cover and stabilize the dross pile, dross material was transported downstream to the ditch and salts may have dissolved into the surface water. These processes may be continuing but to a much more limited extent. Stormwater in the drainage ditch is conveyed off-property to the west along the S.

202nd Street ROW ditch and eventually discharges to an unnamed tributary to Springbrook Creek.

2.2.2 COIs

The RIWP and the RIWP addendum (CRETE 2023) identified the following COIs based on at least one detection over a screening level:

Soil:

- Metals (aluminum, antimony, arsenic, cadmium, chromium, cobalt, copper, iron, nickel, lead, silver, and zinc)
- TPH-Diesel (former UST area)

Water:

- Metals (aluminum, arsenic, cadmium, chromium, cobalt, copper, iron, nickel, lead, and zinc)
- Chloride, fluoride, and ammonia
- TPH-Diesel (former UST area)

Sediment:

- Metals (arsenic, cadmium, chromium, copper, mercury, nickel, and silver)

2.2.3 Extent of Soil, Groundwater, and Sediment Impacts

Soil Impacts

In May 2021, direct push probes DPT-3 through DPT-13 were advanced through the outdoor black dross pile in order to better estimate the dross volume and to assess the extent to which the dross pile may have impacted the underlying soil (Figure 5). The dross pile is visually different than the native soils, the dross is a dark gray soft powder material with pockets of salt (white minerals), gray sand, debris, and other non-typical soil materials. The soil under the dross pile is a silty sand, dark brown in color with some gravel, organic debris with the silt content increasing with depth. Boring logs from DPT-3 through DPT-13 are included in Appendix A. Of the 7 samples collected and analyzed from immediately below the dross, 2 samples exceeded the MTCA Method B direct contact soil cleanup level (Table 1).

Samples collected from 1 to 3 feet below the black dross pile were also analyzed in 5 of the 7 locations (Table 1). Concentrations of all analytes generally decreased in these deeper samples. Arsenic exceeded the MTCA Method B direct contact soil cleanup level in 1 sample.

Outside of the dross pile footprint, additional direct push probes and new monitoring wells (MW-5R, -7, and -8 were installed on August 29 through August 31, 2022) have been installed to further define soil and groundwater conditions throughout the property and off-property.

Data collected at the property line and in off-property areas were below MTCA Method B cleanup levels, except for arsenic at SB-UST-03 (1-2') and MW-8 (4-5') where measured arsenic concentrations of 7.8 and 10.7 milligrams per kilogram (mg/kg) slightly exceeding the natural background soil concentration of 7.3 mg/kg. Table 2 includes soil data collected since the RIWP.

Groundwater Impacts

On September 13 through September 14, 2022, new monitoring wells MW-5R, MW-7, and MW-8 were installed. All of the active wells (MW-1, MW-2, MW-3A, MW-4, MW-5R, MW-6, MW-7, and MW-8) were sampled in September 2022. Table 3 includes monitoring well groundwater data collected since the RIWP.

Reconnaissance groundwater samples were used to supplement the monitoring well data. Metals and ion samples were collected from DPT-1 and DPT-2 on May 24, 2021 and from DPT-14 through DPT-22 and SB-UST-01 through SB-UST-03 on August 29 through 31, 2022. DPT-18 through DPT-22 were collected off-property across the BNSF rail lines to assess downgradient groundwater quality. Table 4 includes reconnaissance groundwater data collected since the RIWP.

Figure 6 illustrates the estimated extent of groundwater that exceeds screening levels based on 2022, 2021, and previously collected data. Fluoride exceeds screening levels throughout the property in areas downgradient (northwest) of the dross pile except for the far northwest corner (MW-4A and DPT-1). Fluoride may extend off the property to the west and the north in the vicinity of DPT-14 and MW-7. Chloride exceeds screening levels in areas limited to the northwest corner of the property. Chloride may extend off the property to the north near MW-4, MW-4A, and MW-7, and it is assumed these exceedances for chloride extend from under the black dross pile.

Of the metals, arsenic, iron, and zinc are the only dissolved phase compounds that exceeded the screening level during the 2022 sampling.

Total metals results exceeded screening levels for arsenic, barium, chromium, copper, lead, mercury, and manganese in at least one location on property. Total metals results exceeded screening levels for arsenic, chromium, copper, and lead in at least one location off of the property, but these results are likely biased high due to turbidity in the samples.

On August 28, 2022, groundwater samples were collected from direct push probe locations SB-UST-01, -02, and -03 to define the extent of TPH-Dx in groundwater. All samples were below screening levels, leaving DPT-2 as the only sample location with a TPH-Dx concentration that exceeds the screening level. Figure 6 provides the estimated extent of diesel in groundwater.

Sediment Impacts

As mentioned above, the property includes a drainage ditch which flows to the S. 202nd ROW stormwater ditch. An on-property stormwater pond is assumed to also discharge to the S. 202nd ROW stormwater ditch. Sediment samples have been collected from the on-property ditch and the on-property pond, the 202nd stormwater ditch, and the King County Drainage District #1 downstream wetland. Figure 5 shows these features and sample locations. Tables 5 and 6 summarize the sampling results.

Property redevelopment will include filling the majority of the on-property ditch, filling the stormwater pond, and creating a new wetland in the eastern portion of the property (Figure 4). The majority of the existing on-property ditch and stormwater pond locations will be located beneath the future building and parking structures. Table 5 summaries the on-property ditch sampling results which are compared to MTCA Method B direct contact soil cleanup levels. Table 5 includes results for all of the soil COIs. One sample from the on-property ditch, adjacent to the outdoor dross stockpile, exceeded the MTCA Method B direct contact soil cleanup level for aluminum and arsenic. This sample location will be removed when dross is removed from the on-site ditches.

The very northern 60 feet of the on-property ditch will remain part of a wetland area, shown on Figure 4. One sample was collected from this portion of the on-property ditch in 1990, SW-4, shown on Figure 5. Results from this sample are compared to sediment screening levels (Table 5). Results indicate that cadmium concentrations at SW-4 exceeded the Sediment Cleanup Screening Level (CSL), while arsenic, nickel, and silver also exceeded the Sediment Cleanup Objective (SCO).

Table 6 summarizes the results from sediment sampling downstream of the on-property ditch. These features, which are not part of property redevelopment, will remain ditches and wetlands and thus Table 6 includes sediment COIs compared to sediment screening levels. The sample from the upstream end of the S, 202nd ditch was below screening levels while the sample from the downstream end of the S. 202nd ditch had metal concentrations (cadmium, chromium, and copper) that exceeded the sediment CSL, while nickel also exceeded the SCO. Further downstream, sediment samples were collected from the upstream (KCDD-S) and downstream (KCDD-N) ends of the by King County Drainage District #1 wetland. All metals were below screening levels at both locations except for arsenic detected at a concentration of 18.9 mg/kg at KCDD-S, slightly above the SCO of 14 mg/kg (Table 6). Since no contaminants unique to Maralco were present above screening levels and since the sample location is located in an area that also collects road and railroad stormwater runoff, the arsenic is likely not associated with the Maralco site.

Additional sampling is planned in the S. 202nd ditches, as documented in the RIWP addendum (CRETE 2023). These data will be used to refine the extent of contamination in the ditch.

Table 1 - Soil Under the Dross Pile Summary
Maralco Property - Kent, WA

Analyte	Sample ID:	DPT-5 0.3-0.9'	DPT-6 1.5-2'	DPT-6 2.6-3.1'	DPT-8 8.2-8.4'	DPT-8 9.4-10'	DPT-9 13.2-13.8'	DPT-9 14.5-15'	DPT-11 2.1-3.1'	DPT-11 4.5-5'	DPT-12 8.6-9.2'	DPT-13 7.2-8.2'	DPT-13 9.3-10'
	Depth Below Dross Pile (ft):	mix of soil and dross	0.5	1.6	0.5	1.7	0.5	1.8	0.5	2.9	0.5	0.5	2.6
	Method B Direct Contact/Method A mg/kg	5/24/21	5/24/21	5/24/21	5/24/21	5/24/21	5/24/21	5/24/21	5/24/21	5/24/21	5/24/21	5/24/21	5/24/21
Aluminum	80,000	**7,460**	**14,500**	**10,800**	**17,400**	**37,500**	**48,100**	**15,400**	**17,100**	**15,400**	**16,500**	**14,700**	**11,800**
Iron	56,000	**9,000**	**12,400**	**11,200**	**15,300**	**37,300**	**19,600**	**21,700**	**18,600**	**16,500**	**18,200**	**16,400**	**9,420**
Antimony	32	2 U	2 U	2 U	2 U	2 U	**4.83**	2 U	2 U	2 U	2 U	2 U	2 U
Arsenic	7.3	5 U	**10.9**	**2.91**	**11.3**	**1.74**	10 U	**7.51**	5 U	**2.1**	5 U	5 U	**3.15**
Cadmium	80	1 U	1 U	1 U	1 U	1 U	**2.37**	1 U	1 U	1 U	1 U	1 U	1 U
Chromium	12000	**12**	**10.6**	**8.31**	**17**	**7.32**	**4,530**	**13.8**	**25.7**	**19.4**	**18.4**	**19.8**	**9.81**
Cobalt	24	5 U	5 U	**3.35**	**6.65**	**2.66**	10 U	**4.97**	**6.3**	**6.59**	**6.21**	**6.1**	**4.59**
Copper	3200	25 U	**43.6**	**33.3**	**56.5**	**7.75**	**1,530**	**19.4**	**58.1**	25 U	**26.7**	**29.3**	**12.2**
Lead	250	**2.19**	**14.5**	**3.69**	**8.28**	**2.95**	**108**	**3.43**	**5.17**	**2.78**	**5.72**	**2.77**	**10.1**
Nickel	1600	**6.38**	**8.46**	**6.25**	**14**	**5.31**	**32.6**	**9.51**	**27.4**	**22.5**	**21.8**	**20.6**	**7.71**
Zinc	24000	25 U	**353**	**47**	**56**	**13.6**	**364**	**26.6**	**60.7**	**32**	**50.8**	**35**	**29.9**
Silver	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
All units in mg/kg.
mg/kg - milligrams per kilogram
Bold - analyte detected
U - not detected above the laboratory reporting limit
NC - no criteria
ND - not detected
NA - not analyzed
Reported concentration exceeds MTCA Method B Direct Contact/Method A cleanup level

Table 2 - 2017-2022 Soil Data Summary (Outside of Dross Pile Footprint)
Maralco Property - Kent, WA

		Aluminum	Iron	Barium	Antimony	Arsenic	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Nickel	Silver	Zinc	Mercury	Selenium	Chloride	Fluoride	Ammonia Nitrogen	TPH-G	TPH-D	TPH-O	TPH-D (with SGC)	TPH-O (with SGC)	SVOCs
Method B Direct Contact/Method A:		80,000	56,000	820	32	7.3	80	12000	24	3200	250	3,700	1600	400	24000	2	400	NC	NC	NC	30	2,000	2,000	2,000	2,000	
Sample ID	Date	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	ug/g	ug/g	ug/g	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MW-3A (5')	7/21/17	**7,800**	NA	5 U	NA	**1.1**	1 U	**1.2**	NA	NA	1 U	NA	NA	NA	NA	0.5 U	2 U	NA	NA	NA	2 U	NA	NA	NA	NA	NA
MW-4A (6.5')	7/21/17	**5,600**	NA	5 U	NA	1 U	1 U	1 U	NA	NA	1 U	NA	NA	NA	NA	0.5 U	2 U	NA	NA	NA	2 U	NA	NA	NA	NA	NA
MW-6 (6.5')	7/21/17	**9,700**	NA	5 U	NA	**1.6**	1 U	**4**	NA	NA	**1.6**	NA	NA	NA	NA	0.5 U	2 U	NA	NA	NA	2 U	NA	NA	NA	NA	NA
DPT-1 5-6'	5/24/21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	50 U	250 U	NA	NA	NA
DPT-2 6-7.5'	5/24/21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	**1,100**	250 U	NA	NA	ND
DPT-14 5-7.5'	8/29/22	**4,340**	**7,910**	NA	1 U	**2.63**	1 U	**6.57**	**2.25**	**7.43**	**1.99**	NA	**5.05**	1 U	**16.9**	NA	NA	10 U	5 U	**162**	NA	NA	NA	NA	NA	NA
DPT-14 10-11.5'	8/29/22	**6,980**	**11,500**	NA	1 U	1 U	1 U	**5.99**	**2.18**	**7.27**	**1.10**	NA	**4.36**	1 U	**15.6**	NA	NA	10 U	5 U	**82.0**	NA	NA	NA	NA	NA	NA
DPT-15 5-6.5'	8/29/22	**4,720**	**8,700**	NA	1 U	**2.05**	1 U	**9.15**	**2.63**	**10.1**	**1.17**	NA	**5.25**	1 U	**16.5**	NA	NA	10 U	5 U	**135**	NA	NA	NA	NA	NA	NA
DPT-15 8.5-10'	8/29/22	**2,640**	**2,960**	NA	1 U	**5.09**	1 U	**6.52**	**7.14**	**15.2**	**2.14**	NA	**8.96**	1 U	**22.6**	NA	NA	**19**	5 U	**123**	NA	NA	NA	NA	NA	NA
DPT-16 6.5-8'	8/30/22	**3,380**	**841**	NA	1 U	**1.17**	1 U	**8.37**	**2.69**	**7.00**	**1.10**	NA	**4.91**	1 U	**15.1**	NA	NA	**12**	5 U	**156**	NA	NA	NA	NA	NA	NA
DPT-16 10-11.5'	8/30/22	**5,260**	**9,480**	NA	1 U	**1.51**	1 U	**5.49**	**2.95**	**7.92**	**1.37**	NA	**5.12**	1 U	**14.2**	NA	NA	10 U	5 U	**74.6**	NA	NA	NA	NA	NA	NA
DPT-17 5.5-8'	8/30/22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.01 U)
DPT-18 5-7.2'	8/30/22	**5,010**	**6,490**	NA	1 U	**2.48**	1 U	**10.0**	**3.64**	**13.0**	**4.04**	NA	**9.26**	1 U	**23.7**	NA	NA	10 U	5U	**165**	NA	NA	NA	NA	NA	NA
DPT-18 14-15'	8/31/22	**5,130**	**6,520**	NA	1 U	**1.26**	1 U	**7.89**	**3.52**	**10.8**	**1.63**	NA	**5.85**	1 U	**18.5**	NA	NA	10 U	5 U	**94.5**	NA	NA	NA	NA	NA	NA
DPT-19 6-8'	8/31/22	**16,900**	**16,900**	NA	1 U	**3.32**	1 U	**11.8**	**6.42**	**24.2**	**3.73**	NA	**11.1**	1 U	**38.1**	NA	NA	**12**	5 U	**156**	NA	NA	NA	NA	NA	NA
DPT-19 12.5-15'	8/31/22	**7,410**	**8,030**	NA	1 U	**2.09**	1 U	**10.0**	**4.34**	**16.6**	**2.84**	NA	**8.24**	1 U	**23.3**	NA	NA	10 U	5 U	**136**	NA	NA	NA	NA	NA	NA
DPT-20 6.5-7.5'	8/31/22	**13,200**	**16,600**	NA	1 U	**4.13**	1 U	**12.3**	**5.73**	**23.5**	**4.22**	NA	**11.2**	1 U	**33.8**	NA	NA	**12**	5 U	**301**	NA	NA	NA	NA	NA	NA
DPT-20 13.5-15'	8/31/22	**7,930**	**10,500**	NA	1 U	**2.33**	1 U	**11.8**	**4.54**	**19.5**	**2.55**	NA	**12.8**	1 U	**24.5**	NA	NA	10 U	5 U	**399**	NA	NA	NA	NA	NA	NA
DPT-21 6-10'	8/31/22	**4,990**	**8,150**	NA	1 U	**1.84**	1 U	**10.2**	**3.19**	**11.0**	**2.79**	NA	**6.01**	1 U	**54.1**	NA	NA	**13**	5 U	**161**	NA	NA	NA	NA	NA	NA
DPT-21 11.5-14'	8/31/22	**5390**	**8220**	NA	1 U	1 U	1 U	**8.02**	**3.21**	**10.1**	**1.46**	NA	**6.25**	1 U	**18.7**	NA	NA	10 U	5 U	**94.1**	NA	NA	NA	NA	NA	NA
DUP01-220831		**3690**	**5520**		1 U	**1.14**	1U	**8.51**	**3.37**	**11.7**	**1.56**		**6.63**	1 U	**20.0**			10 U	5 U	**156**						
DPT-22 3.5-5'	8/31/22	**10,400**	**15,000**	NA	1 U	**6.91**	1 U	**12.9**	**4.94**	**22.3**	**21.7**	NA	**12.3**	1 U	**37.0**	NA	NA	**12**	5 U	**129**	NA	NA	NA	NA	NA	NA
DPT-22 5-7'	8/31/22	**9,160**	**8,310**	NA	1 U	**1.64**	1 U	**10.3**	**3.66**	**20.0**	**2.54**	NA	**7.87**	1 U	**23.6**	NA	NA	**12**	5 U	**155**	NA	NA	NA	NA	NA	NA
DPT-22 11-13.2'	8/31/22	**4,390**	**9,290**	NA	1 U	**3.23**	1 U	**8.39**	**3.70**	**8.74**	**1.19**	NA	**7.24**	1 U	**17.3**	NA	NA	**10**	5 U	**193**	NA	NA	NA	NA	NA	NA
SB-UST-01 5-6'	8/29/22	**6,720**	**8,660**	NA	1 U	**2.05**	1 U	**9.82**	**2.99**	**12.0**	**1.80**	NA	**6.18**	1 U	**17.2**	NA	NA	NA	NA	NA	NA	50 U	250 U	50 U	250 U	NA
SB-UST-02 5-6'	8/29/22	**7,250**	**9,870**	NA	1 U	**2.18**	1 U	**10.7**	**4.29**	**13.6**	**2.16**	NA	**7.98**	1 U	**20.8**	NA	NA	NA	NA	NA	NA	50 U	250 U	50 U	250 U	NA
SB-UST-02 15-16'	8/29/22	**6,690**	**8,940**	NA	1 U	**2.83**	1 U	**9.27**	**4.51**	**19.7**	**2.66**	NA	**8.48**	1 U	**25.7**	NA	NA	NA	NA	NA	NA	50 U	250 U	50 U	250 U	NA
SB-UST-03 1-2'	8/29/22	**5,370**	**7,800**	NA	1 U	**7.81**	1 U	**8.57**	**4.35**	**16.7**	**13.5**	NA	**10.1**	1 U	**28.2**	NA	NA	NA	NA	NA	NA	50 U	250 U	50 U	250 U	NA
MW-5R 5.5-7'	8/30/22	**5,000**	**13,700**	NA	1 U	**1.52**	1 U	**6.98**	**2.15**	**7.60**	**1.09**	NA	**4.49**	1 U	**14.2**	NA	NA	10 U	41	**286**	NA	50 U	250 U	50 U	250 U	NA
MW-5R 11-12'	8/30/22	**7,760**	**7,260**	NA	1 U	**1.93**	1 U	**8.50**	**3.18**	**14.1**	**1.96**	NA	**6.41**	1 U	**20.4**	NA	NA	**22**	5 U	**285**	NA	50 U	250 U	50 U	250 U	NA
MW-7 5-7'	8/30/22	**6,920**	**22,200**	NA	1 U	**12.2**	1 U	**9.13**	**3.93**	**15.9**	**14.7**	NA	**8.80**	1 U	**34.5**	NA	NA	10 U	5 U	**103**	NA	50 U	250 U	50 U	250 U	NA
MW-7 13.5-15'	8/30/22	**8,820**	**27,400**	NA	1 U	**5.27**	1 U	**8.01**	**7.01**	**23.2**	**2.62**	NA	**9.61**	1 U	**31.6**	NA	NA	**950**	5 U	**99.0**	NA	50 U	250 U	50 U	250 U	NA
MW-8 4-5'	8/30/22	**5,340**	**7,000**	NA	1 U	**10.7**	1 U	**6.95**	**3.09**	**19.0**	**21.5**	NA	**5.77**	1 U	**45.2**	NA	NA	**80**	5 U	**189**	NA	50 U	250 U	50 U	250 U	NA
MW-8 12-13'	8/30/22	**8,160**	**9,090**	NA	1 U	**2.99**	1 U	**8.61**	**4.33**	**16.5**	**2.07**	NA	**8.46**	1 U	**22.8**	NA	NA	**1,600**	5 U	**197**	NA	50 U	250 U	50 U	250 U	NA

NOTES:
mg/kg - milligrams per kilogram
ug/g - micrograms per gram
Bold - analyte detected
U - not detected at listed reporting limit
NC - no criteria
ND - not detected
NA - not analyzed
N/A - not applicable (no dross at sample location)
TPH-D - diesel range total petroleum hydrocarbons
TPH-O - motor oil diesel total petroleum hydrocarbons
SGC - silica gel cleanup
Reported concentration exceeds the MTCA Method B Direct Contact/Method A cleanup level.

Table 3 - Monitoring Well Groundwater Data Summary
Maralco Property - Kent, WA

Analyte (ug/L)	Screening Level	MW-1 10/2/90	MW-1 9/14/22	MW-2 10/1/90	MW-2 1/24/03	DUP OF MW-2 1/24/03	MW-2 1/24/03	MW-2 9/14/22	MW-3 10/1/90	MW-3 1/24/03	MW-3A 7/26/17	MW-3A 6/3/21	MW-3A 9/13/22	MW-4 10/1/90	MW-4 1/24/03	MW-4 9/13/22	MW-4A 7/26/17	MW4A 6/3/21	DUP OF MW4A 6/3/21	MW-5 1/24/03	MW5A 7/26/17	MW5A 6/3/21	MW-5R 9/13/22	MW6 7/26/17	MW6 6/3/21	MW-6 9/13/22	MW-7 9/13/22	MW-8 9/14/22
Aluminum, total	16,000	**17,300**	**33.0**	**2,350**	**600**	**860**	**174**	**65.0**	**3,850**	**820**	**5,800**	**2,160**	**993**	**27,500**	**3,600**	**159**	**61**	100 U	100 U	**28,000**	**93,000**	**32,200**	**1,500**	**130**	**273**	**308**	**487 / 1,270**	**13.4**
Antimony, total	5.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2 U	NA	NA	NA	NA	NA	2 U	2 U	NA	NA	4 U	NA	NA	2 U	NA	NA	NA
Arsenic, total	8.0	**7.96**	1 U	**5.3**	ND	ND	10 U	**1.69**	**5.38**	**40**	5 U	1 U	**1.03** U	**17.1**	**19**	**12.9**	5 U	**9.45**	**9.37**	**11**	**6**	**73.2**	**12.6**	5 U	**18.3**	**35.3**	**5.84 / 5.16**	10 U
Barium	1,000	**109**	NA	**33**	ND	ND	**5.65**	NA	**3,530**	**2,500**	50 U	NA	NA	**605**	**77**	NA	50 U	NA	NA	**170**	50 U	NA	NA	50 U	NA	NA	NA	NA
Cadmium, total	1	ND	1 U	ND	ND	ND	2 U	1 U	ND	ND	5 U	1 U	1 U	ND	ND	10 U	5 U	1 U	1 U	ND	5 U	**4.60** U	1 U	5 U	1 U	10 U	1 / 1 U	10 U
Chromium, total	10	**16**	1 U	ND	ND	ND	10 U	1 U	ND	**14**	10 U	1 U	**2.99**	**25**	**22**	**2.99**	10 U	1 U	**1.01**	**38**	**10**	**98.6**	**3.18**	10 U	**2.13**	**2.84**	**2.40 / 2.68**	10 U
Cobalt, total	NC	NA	**1.15**	NA	NA	NA	NA	**2.51**	NA	NA	NA	1 U	1 U	NA	NA	1 U	NA	1 U	1 U	NA	NA	**34.6**	**2.74**	NA	**2.77**	**2.03**	**1.66 / 1.78**	**14.9**
Copper, total	11	NA	5 U	NA	NA	NA	NA	5 U	NA	NA	NA	**6.73**	**12.4**	NA	NA	**5.11**	NA	**8.56**	**9.51**	NA	NA	**589**	5 U	NA	**19.0**	5 U	5 / 5 U	50 U
Iron, total	1,000	NA	**93.6**	NA	NA	NA	NA	**9,430**	NA	NA	NA	**304**	**1,150**	NA	NA	**48,600**	NA	**62,900**	**64,500**	NA	NA	**157,000**	**2,190**	NA	**47,700**	**54,200**	**11,000 / 11,100**	**75,400**
Lead, total	2.5	**5.32**	1 U	**2.0**	**1.2**	**1.4**	**2.59**	1 U	**1.0**	**2.7**	2 U	1 U	1 U	**9.51**	**9.0**	**1.24** U	2 U	1 U	1 U	**8.0**	**2**	**53.7**	1 U	2 U	1 U	1 U	1 / 1 U	10 U
Manganese, total	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**37.5**	NA	NA	NA	NA	NA	**2,660**	**2,750**	NA	NA	**2,510**	NA	NA	**1,590**	NA	NA	NA
Mercury	0.2	**0.12**	NA	ND	ND	ND	0.2 U	NA	**0.11**	ND	0.5 U	NA	NA	**0.077**	ND	NA	0.5 U	NA	NA	ND	0.5 U	NA	NA	0.5 U	NA	NA	NA	NA
Nickel, total	52	NA	**2.97**	NA	NA	NA	NA	**4.97**	NA	NA	NA	1 U	**1.66**	NA	NA	1 U	NA	**1.06**	**1.06**	NA	NA	**76.7**	**5.26**	NA	**2.71**	**1.26**	**2.26 / 2.46**	**20.0**
Silver	3.2	ND	NA	ND	ND	ND	5 U	NA	ND	ND	10 U	NA	NA	ND	ND	NA	10 U	NA	NA	ND	10 U	NA	NA	10 U	NA	NA	NA	NA
Selenium	5	ND	NA	ND	ND	ND	10 U	NA	ND	**43**	50 U	NA	NA	ND	ND	NA	50 U	NA	NA	ND	50 U	NA	NA	50 U	NA	NA	NA	NA
Zinc, total	100	NA	5 U	NA	NA	NA	NA	5 U	NA	NA	NA	5 U	5 U	NA	NA	5 U	NA	5 U	5 U	NA	NA	**431**	5 U	NA	5 U	5 U	5 / 5 U	**130**
Aluminum, dissolved	16,000	NA	**5.84**	NA	NA	NA	NA	1 U	NA	NA	NA	NA	**493**	NA	NA	**8.50**	NA	NA	NA	NA	NA	NA	**72.3**	NA	NA	**61**	**43.0 / 41.2**	1 U
Arsenic, dissolved	8.0	NA	1 U	NA	NA	NA	NA	5 U	NA	NA	NA	NA	5 U	NA	NA	**11.0**	NA	NA	NA	NA	NA	NA	**12.6**	NA	NA	**33.8**	**6.17 / 5.94**	10 U
Cadmium, dissolved	1	NA	1 U	NA	NA	NA	NA	1 U	NA	NA	NA	NA	1 U	NA	NA	1 U	NA	NA	NA	NA	NA	NA	1 U	NA	NA	1 U	1 / 1 U	10 U
Chromium, dissolved	10	NA	1 U	NA	NA	NA	NA	1 U	NA	NA	NA	NA	**1.90**	NA	NA	**3.66**	NA	NA	NA	NA	NA	NA	**3.06**	NA	NA	**3.44**	**2.13 / 2.00**	10 U
Cobalt, dissolved	NC	NA	**1.12**	NA	NA	NA	NA	**2.70**	NA	NA	NA	NA	1 U	NA	NA	1 U	NA	NA	NA	NA	NA	NA	**2.84**	NA	NA	**2.58**	**1.89 / 1.79**	**17.5**
Copper, dissolved	11	NA	5 U	NA	NA	NA	NA	5 U	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	5 / 5 U	50 U
Lead, dissolved	2.5	NA	50 U	NA	NA	NA	NA	1 U	NA	NA	NA	NA	1 U	NA	NA	5 U	NA	NA	NA	NA	NA	NA	1 U	NA	NA	5 U	1 / 1 U	10 U
Nickel, dissolved	52	NA	1 U	NA	NA	NA	NA	**5.02**	NA	NA	NA	NA	**1.13**	NA	NA	1 U	NA	NA	NA	NA	NA	NA	**4.81**	NA	NA	**1.32**	**2.13 / 2.03**	**19.2**
Zinc, dissolved	100	NA	**2.79**	NA	NA	NA	NA	5 U	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	5 / 5 U	**155**
Iron, dissolved	1,000	NA	5 U	NA	NA	NA	NA	**9,410**	NA	NA	NA	NA	**695**	NA	NA	**48,000**	NA	NA	NA	NA	NA	NA	**1,980**	NA	NA	**49,900**	**11,000 / 11,100**	**74,300**
Chloride (mg/L)	230	NA	**20.3**	NA	**9.64**	**8.89**	**3.89**	**12.9**	NA	**9100**	**78**	**14.2**	**17.2**	NA	**92.0**	**350**	**290**	**275**	**280**	**442**	**150**	**81.3**	**145**	**270**	**207**	**156**	**475 / 482**	**3,960**
Fluoride (mg/L)	0.96	NA	0.5 U	NA	ND	ND	**0.0807**	0.5 U	NA	ND	**27**	**19.8**	**14.4**	NA	**6.89**	**1.39**	0.200 U	0.800 U	0.800 U	**2.10**	**0.230**	**1.92**	**0.53**	**4.1**	**16.0**	**22.2**	**7.98 / 6.96**	**0.5** U
Nitrate-Nitrogen (mg/L)	10	NA	NA	NA	ND	ND	NA	NA	NA	ND	NA	NA	NA	NA	ND	NA	NA	NA	NA	**1.50**	NA	NA	NA	NA	NA	NA	NA	NA
Ammonia-Nitrogen (mg/L)	6.11	**0.175**	**0.076**	**0.124**	**1.26**	**0.433**	NA	**0.208**	**14.638**	**33.7**	NA	NA	**493**	**6.683**	**1.71**	**3.99**	NA	NA	NA	**1.52**	NA	NA	**5.01**	NA	NA	**5.91**	**4.75 / 4.90**	**35.4**
TPH-Gasoline	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	NA	NA	NA	NA	NA	100 U	NA	NA	NA
Diesel Range Oil - SGC	3000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	NA	NA	NA	NA	NA	50 U	NA	NA	NA
Residual Range Oil - SGC	3000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	250 U	250 U	NA	NA	NA	NA	NA	250 U	NA	NA	NA
Diesel Range Oil	3000	NA	NA	NA	NA	NA	82.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	20 U	**200** x	**210** x	NA	NA	NA	NA	NA	50 U	NA	NA	NA
Residual Range Oil	3000	NA	NA	NA	NA	NA	165 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	250 U	250 U	NA	NA	NA	NA	NA	250 U	NA	NA	NA

NOTES:
Units - ug/L for except mg/L for chloride, fluoride, nitrate-nitrogen, and ammonia-nitrogen
1990 GW sample data is not included in this table.
Bold - analyte detected
Reported concentration exceeds screening level
SGC - with silica gel cleanup
J - Reported value is an estimate.
U - not detected at listed reporting limit
NA - not analyzed
ND - not detected (reporting limit not readily available)
ug/L - micrograms per liter
mg/L - milligrams per liter
x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

Table 4 - Reconnaissance Grab Groundwater Data Summary
Maralco Property - Kent, WA

Analyte (ug/L)	Screening Level	B-1-GW 10/27/16	B-2-GW 11/2/16	B-3-GW 11/2/16	B-4-GW 11/2/16	B-6-GW 11/2/16	B-5-GW 11/2/16	DPT-1-0521 5/24/21	DPT-2-0521 5/24/21	DPT-14 8/29/22	DPT-15 8/29/22	DPT-16 8/30/22	DPT-17 8/30/22	DPT-18 8/31/22	DPT-19 8/31/22	DPT-20 8/31/22	DPT-21/ DUP02 8/31/22	DPT-22 8/31/22	SB-UST-01 8/29/22	SB-UST-02 8/29/22	SB-UST-03 8/29/22
Aluminum, total	16,000	**151,000**	**159,000**	**11,000**	**363,000** J	**43,500**	**7,880**	**405**	**1,160**	0.3 U	**1,660**	**348**	NA	**553**	**3,720**	**84.5**	**1800 / 632**	**634**	**9,350**	**3,120**	**1,100**
Arsenic, total	8.0	**68.6**	**45.2**	**33.8**	**65.9**	**64**	**43.9**	**13.3**	**13.6**	**8.31**	**22.1**	**3.23**	NA	**5.12**	**17.4**	**6.97**	**3.46 / 3.45**	**1.16**	**3.12**	**35.3**	**20.3**
Barium, total	1,000	**608**	**590**	**164**	**676**	**325**	**3,850**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium, total	1	**1.13** J	**1.5** J	2 U	**1.56** J	2 U	2 U	1 U	1 U	1 U	10 U	1 U	NA	1 U	5 U	1 U	1 U / 1 U	1 U	1 U	1 U	10 U
Chromium, total	10	**86.6**	**124**	**15.4**	**108**	**44.3**	**18.7**	**2.41**	**1.74**	**1.19**	**7.44**	**1.65**	NA	**2.68**	**26.7**	**1.11**	**2.19 / 2.00**	**1.66**	**6.73**	**7.97**	**3.53**
Lead, total	2.5	**41.9**	**49.3**	**6.73**	**28.5**	**40.3**	**9.4**	1 U	1	1 U	**3.47**	1 U	NA	**1.66**	**7.51**	1 U	1 U / 1 U	1 U	**1.94**	**3.09**	**1.62**
Mercury, total	0.2	**0.0726** J	**0.234**	0.2 U	**0.0681** J	**0.338**	**0.0502** J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium, total	5	10 U	10 U	10 U	10 U	10 U	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver, total	3.2	5 U	5 U	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, total	50	NA	NA	NA	NA	NA	NA	**2,720**	**379**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron, total	1,000	NA	NA	NA	NA	NA	NA	**32,200**	**10,300**	**33,900**	**84,700**	**33,800**	NA	**29,800**	**91,000**	**34,100**	**33,200 / 35,300**	**20,000**	**13,500**	**45,500**	**64,900**
Antimony, total	5.6	NA	NA	NA	NA	NA	NA	2 U	2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt, total	NC	NA	NA	NA	NA	NA	NA	**4.29**	1 U	1 U	**5.78**	**1.67**	NA	**1.60**	**21.7**	**1.18**	**1.51 / 1.46**	**1.17**	**1.51**	**4.38**	**1.71**
Copper, total	11	NA	NA	NA	NA	NA	NA	**11.1**	**9.63**	5 U	**22.4**	**6.20**	NA	**9.32**	**57.3**	5 U	5 U / 5 U	5 U	**13.0**	**21.1**	**11.2**
Nickel, total	52	NA	NA	NA	NA	NA	NA	**8.14**	**1.02**	**1.52**	**7.10**	**2.34**	NA	**3.10**	**26.6**	**1.63**	**3.10 / 2.93**	**2.46**	**3.59**	**7.26**	**2.79**
Zinc, total	100	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	**20.4**	5 U	NA	**7.15**	**91.3**	5 U	**6.14 / 5.83**	5 U	**6.65**	**18.3**	**6.30**
Aluminum, dissolved	16,000	NA	NA	NA	NA	NA	NA	NA	NA	1 U	**1.10**	**2.37**	NA	**2.14**	**3.74**	**1.67**	**1.67** / 1 U	1 U	**606**	**15.5**	**7.64**
Arsenic, dissolved	8.0	NA	NA	NA	NA	NA	NA	NA	NA	**7.90**	**18.0**	**1.55**	NA	**3.82**	**8.93**	**6.64**	**2.83 / 2.95**	1 U	5 U	**32.2**	**19.7**
Cadmium, dissolved	1	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U / 1 U	1 U	1 U	1 U	1 U
Chromium, dissolved	10	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	NA	2 U	2 U	2 U	1 U / 1 U	1 U	**4.72**	**1.32**	**1.51** U
Cobalt, dissolved	NC	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	NA	2 U	2 U	2 U	1 U / 1 U	1 U	1 U	1 U	1 U
Copper, dissolved	11	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	10 U	10 U	10 U	5 U / 5 U	5 U	5 U	5 U	5 U
Lead, dissolved	2.5	NA	NA	NA	NA	NA	NA	NA	NA	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U / 1 U	1 U	1 U	1 U	1 U
Nickel, dissolved	52	NA	NA	NA	NA	NA	NA	NA	NA	**1.30**	1 U	**1.67**	NA	2 U	2 U	2 U	**1.09 / 1.17**	**1.60**	**1.62**	1 U	**1.20**
Zinc, dissolved	100	NA	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	10 U	10 U	10 U	5 U / 5 U	5 U	5 U	5 U	5 U
Iron, dissolved	1,000	NA	NA	NA	NA	NA	NA	NA	NA	**32,500**	**50,400**	**27,400**	NA	**24,000**	**29,800**	**32,700**	**27900 / 29,400**	**17,600**	**8,760**	**30,000**	**57,900**
Chloride (mg/L)	230	**265**	**177**	**341**	**109**	**111**	**8,970**	**224**	**51.6**	**20.1**	**183**	**139**	NA	**5.33**	**3.42**	**2.47**	**6.02 / 6.08**	**4.81**	**265**	**271**	**693**
Fluoride (mg/L)	0.96	**0.428**	**0.850**	**0.496**	**5.09**	**52.9**	**7.74**	0.800 U	**1.38**	**1.36**	**0.14**	**0.17**	NA	0.05 U	**0.06**	0.05 U	**0.05 / 0.05**	**0.12**	**16.3**	**0.78**	**0.27**
Nitrate-nitrogen (mg/L)	10	**0.488**	**0.177**	**0.0556** J	**0.363**	0.100 U	0.100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ammonia-nitrogen (mg/L)	6.11	**4.070**	**4.570**	**7.030**	**4.150**	**0.516**	**39.8**	NA	NA	**2.72**	**3.31**	**2120**	NA	**0.182**	**0.286**	**0.072**	**0.077 / 0.086**	**0.088**	**0.304**	**5.21**	**5.40**
TPH-Gasoline	1000	NA	NA	NA	NA	NA	NA	100 U	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diesel Range Oil	3000	**160** J	250 U	**235** J	250 U	250 U	250 U	**850** x	**12,000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	**91 x**	**880 x**	**290 x**
Residual Range Oil	3000	500 U	500 U	500	500 U	500 U	500 U	**370** x	**1,700**	NA	NA	NA	NA	NA	NA	NA	NA	NA	250 U	250 U	250 U
Diesel Range Oil - SGC	3000	NA	NA	NA	NA	NA	NA	**140** x	**4,500**	NA	NA	NA	NA	NA	NA	NA	NA	NA	50 U	50 U	50 U
Residual Range Oil - SGC	3000	NA	NA	NA	NA	NA	NA	250 U	**430** x	NA	NA	NA	NA	NA	NA	NA	NA	NA	250 U	250 U	250 U
Benzene	0.44	NA	NA	NA	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	29	NA	NA	NA	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	57	NA	NA	NA	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Xylenes	1600	NA	NA	NA	NA	NA	NA	3 U	3 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U	0.1 U	NA	NA	NA	NA	NA	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	**0.112**	0.05 U	**0.459**	0.1 U	0.1 U	0.1 U	NA	NA	NA	NA	NA	**0.056**	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	**0.0136** J	0.05 U	**0.0735** J	0.1 U	0.1 U	0.1 U	NA	NA	NA	NA	NA	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(A)Anthracene*	NA	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U	0.1 U	NA	NA	NA	NA	NA	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(A)Pyrene*	0.1 (Method A)	**0.0812**	0.05 U	0.1 U	0.1 U	0.1 U	0.1 U	NA	NA	NA	NA	NA	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(B)Fluoranthene*	NA	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U	0.1 U	NA	NA	NA	NA	NA	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(G,H,I)Perylene	NA	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U	0.1 U	NA	NA	NA	NA	NA	0.04 U	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(K)Fluoranthene*	NA	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U	0.1 U	NA	NA	NA	NA	NA	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene*	NA	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U	0.1 U	NA	NA	NA	NA	NA	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(A,H)Anthracene*	NA	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U	0.1 U	NA	NA	NA	NA	NA	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U	0.1 U	NA	NA	NA	NA	NA	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	**0.0431** J	0.05 U	**0.483**	0.1 U	0.1 U	0.1 U	NA	NA	NA	NA	NA	**0.034**	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-Cd)Pyrene*	NA	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U	0.1 U	NA	NA	NA	NA	NA	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	160 (Method A)	**0.167** J	**0.0429** J	**0.614**	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	0.2 U	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	**0.0124** J	0.05 U	**0.0249** J	0.1 U	0.1 U	0.1 U	NA	NA	NA	NA	NA	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	0.05 U	0.05 U	0.1 U	0.1 U	0.1 U	0.1 U	NA	NA	NA	NA	NA	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA
1-Methylnaphthalene	NA	**0.147** J	**0.0167** J	**2.38**	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	0.2 U	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	**0.0585** J	**0.0165** J	**0.226** J	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	0.2 U	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	0.25 U	0.25 U	0.5 U	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total cPAH concentration (ND = 0)	0.1 (Method A)	**0.0812**	0.05 U	0.05 U	0.05 U	0.05 U	0.1 U	NA	NA	NA	NA	NA	**0.09**	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
All units in ug/L for except mg/L for chloride, fluoride, nitrate-nitrogen, and ammonia-nitrogen.
1990 GW sample data is not included in this table.
Bold - constituent detected
Reported concentration exceeds screening level
SGC - with silica gel cleanup
U - not detected at listed reporting limit
J - Reported value is an estimate.
NA - not analyzed
ug/L - micrograms per liter
mg/L - milligrams per liter
x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
* carcinogenic polycyclic aromatic hydrocarbons

Table 5 - Sediment Data Summary - On Site Areas
Maralco Property - Kent, WA

Sample ID / Dated Collected	COI Media	Method B Direct Contact/ Method A	On-Property Ditches							Stormwater Pond	
			SW-1 5/10/90	SW-2 5/9/90	SW-3 5/10/90	SW-6 5/10/90	SS-1 10/28/16	SS-2 10/28/16	SS-900 (SS-2 Dup) 10/28/16	SW-7 (Removed[1]) 5/10/90	SED-01 6/3/21
Aluminum	Soil	80,000	**39,400**	**9,970**	**25,600**	**77,900**	**55,500**	**22,200**	**81,100**	**132,000**	**46,900**
Iron	Soil	56,000	**10,600**	**18,700**	**19,500**	**17,700**	NA	NA	NA	**21,000**	**12,200**
Antimony	Soil	32	**4.1**	**0.2**	**0.83**	**1.5**	NA	NA	NA	**7.4**	**8.79**
Arsenic	Sediment & Soil	7.3	**3.1**	**2.2**	**3.9**	**4.4**	**6.78**	**4.3 J**	**9.47**	**4.4**	**4.32**
Cadmium	Sediment & Soil	80	**1.4**	**1**	**0.9**	**1**	**0.619 J**	**2.74**	**5.56**	**6**	**5.37**
Chromium	Sediment & Soil	12,000	**54.7**	**15.7**	**27.7**	**87.5**	**36.3**	**54.4**	**112**	**150**	**68.4**
Cobalt	Soil	24	**5.8**	**4.8**	**5.6**	**5.6**	NA	NA	NA	**7.4**	**6.1**
Copper	Sediment & Soil	3,200	**562**	**59**	**231**	**883**	NA	NA	NA	**1330**	**627**
Lead	Soil	250	**61**	**22**	**24**	**61**	**42**	**53.7**	**113**	**246**	**158**
Nickel	Sediment & Soil	1,600	**22**	**13**	**15**	**33**	NA	NA	NA	**65**	**35.1**
Silver	Sediment & Soil	400	**0.9**	0.3 U	0.3 U	**0.5**	1.57 U	**0.776 J**	**3.14**	**1.3**	NA
Zinc	Soil	24,000	**528**	**135**	**203**	**678**	NA	NA	NA	**1150**	**957**

On-Property samples that will remain sediment

Sample ID / Dated Collected	COI Media	Fresh Water Sediment Screening Level		On Property Ditch SW-4 5/10/90
		SCO	CSL	
Arsenic	Sediment	14	120	**53.4**
Cadmium	Sediment	2.1	5.4	**6.9**
Chromium	Sediment	72	88	**58.5**
Copper	Sediment	400	1,200	**183**
Nickel	Sediment	26 (See Note 2)	110	**31**
Silver	Sediment	0.57	1.7	1.5 U
Mercury	Sediment	0.66	0.8	0.27 U

NOTES:

1. SW-7 was collected from the stormwater pond in 1990, prior to sediment removal during the Ecology-led interim action in 1991
2. The SCO for nickel is below the Puget Sound natural background soil concentration 38.2 mg/kg
3. The sediment sample depths for the historical samples (prior to 2021) are not documented; it is assumed that these would have been surficial samples collected from the upper 6 inches. All samples collected after 2021 were collected in the upper 6 inches.

Reported concentration exceeds the MTCA Method B Direct Contact/Method A cleanup level
Reported concentration exceeds the SCO
Reported concentration exceeds the CSL

Bold - analyte detected
mg/kg - milligrams per kilogram dry weight
SCO - fresh water sediment cleanup objective
CSL - fresh water sediment cleanup screening level
NC - no criterion
NA - not analyzed or not available
J - Reported value is an estimate.
U - not detected at reporting limit
ROW - right of way

Table 6 - Sediment Data Summary - Off Site Areas
Maralco Property - Kent, WA

Sample ID	COI Media	Fresh Water Sediment		S. 202nd ROW						KCDD#1 Wetland	
		Screening Level		B-1	SW-8	SED-02	SED-02	SED-03	SED-03	KCDD-S	KCDD-N
Sample depth (ft bgs)				---	---	0-0.5	0.5-1	0-0.5	0.5-1	0.5-1	0.5-1
Dated Collected		SCO	CSL	6/25/87	5/9/90	6/9/21	6/9/21	6/9/21	6/9/21	8/24/21	8/24/21
Aluminum	Soil	NC	NC	NA	**93,700**	**12,000**	**12,100**	**23,200**	**115,000**	**18,400**	**23,600**
Iron	Soil	NC	NC	NA	**40600**	**19,000**	**16,500**	**81,800**	**29,000**	NA	NA
Antimony	Soil	NC	NC	**1.2**	6.6	2 U	2 U	8 U	**55.4**	**2.89**	**2.95**
Arsenic	Sediment	14	120	**19**	**6.8**	**3.79**	**2.18**	**19.2**	**7.21**	**18.9**	**10.8**
Cadmium	Sediment	2.1	5.4	2.0 U	**7.4**	1 U	1 U	2 U	**11.8**	2 U	**2.01**
Chromium	Sediment	72	88	**36**	**127**	**11.6**	**10.1**	**31.4**	**208**	**38.7**	**23.1**
Cobalt	Soil	NC	NC	NA	**5.4**	**4.21**	**2.85**	10 U	10 U	**6.81**	**5.27**
Copper	Sediment	400	1,200	**262**	**1050**	**41.2**	**20.2**	**159**	**1,410**	**64.6**	**98.6**
Lead	Soil	360	>1,300	**64**	**261**	**10.4**	**8.24**	**40.2**	**189**	**60.6**	**54.7**
Nickel (see Note 1)	Sediment	26	110	**31**	**46**	**10.7**	**7.54**	**25.5**	**64.2**	**20.8**	**14.7**
Silver	Sediment	0.57	1.7	3.0 U	**1.2**	NA	NA	NA	NA	2 U	1 U
Mercury	Sediment	0.66	0.8	**0.26**	**0.73**	NA	NA	NA	NA	NA	NA
Zinc	Soil	3,200	>4,200	**365**	**957**	**109**	**58.1**	**325**	**2,190**	NA	NA

NOTES:

1. The SCO for nickel is below the Puget Soud natural background soil concentration 38.2 mg/kg

Bold - analyte detected

Reported concentration exceeds the SCO

Reported concentration exceeds the CSL

mg/kg - milligrams per kilogram dry weight

SCO - fresh water sediment cleanup objective

CSL - fresh water sediment cleanup screening level

NC - no criterion

NA - not analyzed or not available

J - Reported value is an estimate.

U - not detected at reporting limit

ROW - right of way

3 Interim Action

Stockpiled waste material from secondary aluminum smelting operations remains on the property. This waste material, predominantly the large outdoor black dross pile, remains as a source of groundwater contamination. Residual waste dross and contaminated sediment remain in surface water drainage features on the property.

Phase 1 of the interim action will focus on the removal and disposal of the following wastes:

- Outdoor stockpile – Remove and dispose at an offsite disposal facility approximately 29,300 cy of primarily black dross and a smaller amount of aluminum oxide (at the northern tip of the pile).
- Indoor stockpiles – Remove, stabilize (those that require stabilization) and dispose at an offsite disposal facility the following:
  - 500 cubic yards washed aluminum oxide at 1.1 tons per cubic yard (Piles A and E)
  - 200 cubic yards black dross, including oversized screenings and furnace skimming, at 1.1 tons per cubic yard (Piles B, C, and F)
  - 200 cubic yards (250 tons) of KBI dross (Pile D)
  - 200 cubic yards of bag house dust (contained within the bag house filters and bins)
- Remove and dispose at an offsite disposal facility black dross that has eroded from the outdoor stockpile into the on-property drainage ditch.

Phase 2 of the interim action will address contaminated sediment that is located within the stormwater drainage system:

- Excavate and dispose of contaminated sediment/soil where the existing ditch intersects with the drainage/wetland buffer of the development (Figure 7)
- Remove and dispose of sediment that has accumulated in the culvert and manhole under the S. 202nd Street cul-de-sac; the culvert and manhole will remain in service after site development
- Remove and dispose of the culvert, if present, and any contained sediment that conveyed water from the stormwater pond to the S. 202nd ditch. If present, this discharge point will be abandoned.
- Remove and dispose at an offsite disposal facility contaminated sediment from the S. 202nd Street Right-of-Way (ROW) drainage ditch.

Work will be performed in accordance with WAC 173-340-430 and permit requirements. Appendix B includes copies of permit application documents submitted to the City of Kent, which includes SEPA documentation, grading and fill permits, stormwater pollution prevention plans, and wetland mitigation documents.

3.1 Remediation Levels

Groundwater contamination at the site is primarily due to the outdoor black dross stockpile. Groundwater is impacted by metals, fluoride, and chloride. A much smaller TPH-diesel plume is also present. As indicated on Figure 6, these impacts are primarily constrained to within the property boundary, indicating that current conditions may satisfy a conditional point of groundwater compliance at the property boundary. The one off-site exceedance of dissolved arsenic at DPT-19 is 8.93 µg/L, slightly exceeding the natural background level of 8.0 µg/L. Based on these data, following the excavation of the waste stockpiles, contaminated soil/sediment is proposed to be excavated to satisfy MTCA Method B Direct Contact criteria.

There are two areas of sediment contamination where these conditions do not apply: 1) the off-property ditch in the S. 202nd Street ROW; and 2) the last 60 feet of on-property ditch prior to stormwater discharge through the culvert. These two areas will have sediment removed to satisfy the fresh water sediment cleanup objective (SCO) to for protection of benthic habitat.

3.2 Schedule for Implementation of the Interim Action

Phase 1 of the interim action is proposed to be implemented in the summer and fall of 2023. Phase 2 of the interim action will be implemented immediately after Phase 1, depending on the timing of legal and regulatory approvals.

The warehouse may be demolished during Phase 1 of the interim action. Redevelopment will include the demolition of other existing structures, site grading, construction of the new building and supporting infrastructure, and the new wetland. Redevelopment can commence in areas of the property where cleanup is not required or after the required interim action cleanup occurs, pending regulatory approval.

3.3 Permits and Notifications

Phase 1 of the interim action will be conducted with oversight from Ecology under the VCP and will need to satisfy the permit requirements of the City of Kent and the Nationwide Permit for work in the wetlands and streams. Phase 2 may be performed under the VCP or under the future Agreed Order and will also need to satisfy the permit requirements of the City of Kent and the Nationwide Permit for work in the wetlands and streams. Appendix B includes permit application documents filed with the City of Kent. Note that sediment removal activities in the S. 202nd ditch will be added to the permit application documents and will not occur until the appropriate Nationwide Permit and local approvals have been obtained.

The Contractor will be responsible for complying with all local, state, and federal laws. Additional permits or notifications may be required if conditions change during construction from what is listed in this work plan.

3.4 Hazardous Substances to be Contained on Property

The selected remedy relies on complete removal and disposal of waste materials to achieve soil cleanup standards. Section 2 provides a full description of the extent of impacted soil and waste. Hazardous substances will not be contained on site at concentrations that exceed MTCA Method B direct contact cleanup levels.

3.5 Health and Safety and Site Access

All work associated with this interim action will require workers that come into direct contact with contaminated waste and soil to be trained in accordance with OSHA HAZWOPER and Washington State Department of Labor and Industries training requirements. The Contractor will be responsible for developing a site-specific Health and Safety Plan (HASP) that complies with all state and federal standards. The HASP shall be prepared in accordance with all applicable regulations, including, but not limited to, the Occupational Safety and Health Act (OSHA), the National Institute for Occupational Safety and Health (NIOSH), the American Conference of Governmental Industrial Hygienists (ACGIH), and the United States Environmental Protection Agency (USEPA).

Workers involved in waste removal and or excavation and soil handling activities shall be trained and monitored in accordance with Hazardous Waste Operations and Emergency Response (HAZWOPER) requirements, OSHA standard 29 CFR Part 1910.120 (OSHA 40-hour trained). The appropriate level of personnel training and equipment for personnel shall consider OSHA Section 1910.120(e)(3)(i) in making such a determination.

The Contractor will be required to control airborne dust. Engineering controls will be used (such as misting/watering exposed soil in traffic areas and covering stockpiles) as necessary to maintain zero visual dust. If dust is visually detected at any point, work shall stop and the work practices will be altered to eliminate the generation of dust. Construction best management practices (BMPs) must be implemented to minimize generation of dust throughout all handling of contaminated materials, in accordance with applicable state and local laws, regulations, ordinances and permits.

3.6 Stormwater Pollution Prevention Plan

All work shall comply with Washington Water Pollution Control Law (RCW 90.48; WAC 173-216, WAC 173-220) and the National Pollution Discharge Elimination System (CWA Part 402). All stormwater protection and stockpile BMPs shall comply with the most current version of the Stormwater Management Manual for Western Washington. Appendix B includes a Construction Stormwater Pollution Prevention Plan (SWPPP). The SWPPP includes stockpile management and covering, erosion and sedimentation controls including soil track-out on trucks or equipment, and the control of stormwater generated during excavation.

3.7 Waste and Sediment Removal

As stated above, Phase 1 of the interim action will include removal of the following on-property source material:

- Outdoor stockpile – Remove and dispose at an offsite disposal facility approximately 29,300 cy of primarily black dross and a smaller amount of aluminum oxide (at the northern tip of the pile)
- Indoor stockpiles – Remove, stabilize (those that require stabilization) and dispose at an offsite disposal facility the following:
  - 500 cubic yards washed aluminum oxide at 1.1 tons per cubic yard (Piles A and E)
  - 200 cubic yards black dross, including oversized screenings and furnace skimming, at 1.1 tons per cubic yard (Piles B, C, and F)
  - 200 cubic yards (250 tons) of KBI dross (Pile D)
  - 200 cubic yards of bag house dust (contained within the bag house filters)
- Remove and dispose at an offsite disposal facility black dross that has eroded from the outdoor stockpile into the on-property drainage ditch.

Phase 2 of the interim action will address contaminated sediment that is located within the stormwater drainage system:

- Excavate and dispose of contaminated sediment/soil where the existing ditch intersects with the drainage/wetland buffer of the development (Figure 7)
- Remove and dispose of sediment that has accumulated in the culvert under the S. 202nd Street cul-de-sac; the culvert will remain in service
- Remove and dispose of the culvert, if present, and any contained sediment that conveyed water from the stormwater pond to the S. 202nd ditch. If present, this discharge point will be abandoned.
- Remove and dispose at an offsite disposal facility contaminated sediment from the S. 202nd Street Right-of-Way (ROW) drainage ditch.

Figure 7 shows the extent of removal. Waste removal will be based on visual extent confirmed in the field and may vary from what is presented on Figure 7.

All waste will be properly disposed at a permitted landfill. Additional waste characterization is needed to fully profile the waste, but the outdoor stockpile was previously approved for disposal at a permitted Subtitle D landfill (Ecology 2007). Indoor stockpiles may require disposal at either a permitted Subtitle C or Subtitle D landfill and may require stabilization prior to disposal. Sampling of the indoor stockpiles to complete the disposal profiling work was completed in July 2023.

Waste will be shipped to landfills using multiple methods, including:

- Loaded containers that will be picked up and transported to a transload facility for rail shipment to the landfill,

- Dump trucks and trailers that will transport contaminated media directly to the landfill; and,

- Direct loading onto rail gondola cars utilizing the rail spur that runs along the western portion of the property (Figure 5) with rail transport to the landfill.

Prior to use of the rail spur, the tracks will be cleared of all vegetation, defective railroad ties replaced, and track ballast and shoulder ballast added. Spur repairs are required by BNSF. All loads will be subject to the requirements of the BNSF and UPRR, who are responsible for rail shipment.

The property is currently zoned industrial and future use will remain industrial as defined in WAC 173-340-745. Property redevelopment will include installing a building foundation and paved parking/driving lanes which will serve as a permanent cap on the property. All waste will be removed during the Phase 1 interim action. The subsurface beneath the outdoor dross pile and the on-property ditch, (portions that will be filled), will be tested and compared to levels presented in Table 7 to confirm that waste material has been removed. Sediment samples from the on-property ditch are being compared to soil values because the on-property ditch will be filled and this area will become soil as part of redevelopment activities (Figure 5). These remediation levels are based on MTCA Method B cleanup levels for direct contact. Sample concentrations will be compared to remediation levels on a point-by-point basis except for arsenic. Since the arsenic remediation level is based on natural background, compliance with the remediation level will be based on statistical analysis consistent with WAC 173-340-740(7) and Statistical Guidance for Ecology Site Managers (Ecology 1992).

For the off-property ROW and the on-property ditch portion which intersect with the drainage/wetland buffer that will remain a ditch, confirmation samples will be compared to freshwater sediment cleanup criteria (Table 8). If sediment remains above the sediment cleanup objectives (SCOs), additional removal will be completed and new confirmation samples will be collected to demonstrate compliance with the SCOs.

Confirmation sampling is discussed in Section 4.

Table 7 Soil Remediation Levels

Parameter Group	Chemical	Soil Method B Direct Contact Noncancer/Cancer or Method A Cleanup Levels(Eq. 745-1/2) (mg/kg)
Metals (mg/kg)	Aluminum	80,000
	Antimony	32
	Arsenic	7.3 (Natural Background)
	Cadmium	80
	Chromium (III)	12,000
	Cobalt	24
	Copper	3200
	Iron	2,500,000
	Lead	250
	Nickel	1600
	Silver	400
	Zinc	24,000

Notes.
All values are based on June 2023 CLARC tables
mg/kg - milligram per kilogram

Table 8 Sediment Remediation Levels

Chemical	Remediation Level - Sediment (mg/kg)	Fresh Water Sediment SCO (mg/kg)	Fresh Water Sediment CSL (mg/kg)
Arsenic	14	14	120
Cadmium	2.1	2.1	5.4
Chromium	72	72	88
Copper	400	400	1,200
Mercury	0.66	0.66	0.8
Nickel	26	26	110
Silver	0.57	0.57	1.7

NOTES:
SCO - fresh water sediment cleanup objective
CSL - fresh water sediment cleanup screening level
mg/kg - milligram per kilogram

3.8 Backfill and Property Development

Completion of both phases of the interim action will leave the property with a stabilized surface at which point the property will be redeveloped as shown on Figure 4. Backfilling and final surfaces will be completed during redevelopment.

All import material will be sourced from a commercial quarry or gravel pit. It will be naturally occurring and not contain recycled material of any type.

3.9 Post Construction Documentation

Once the interim actions are complete, a completion report will be prepared documenting the work completed and samples received per WAC 173-340-400. This report will include:

- A description of the interim action work completed, including observed conditions of waste removed, excavated soil, and waste characterization results.
- A description of the samples collected, including sample locations and methods; sample analyses performed; analytical results; how the results compare to site remediation levels; and chain of custody records.
- Drawings showing post-interim action site conditions.
- Progress photos collected during the interim action.

The report will be submitted to Ecology within 90 days of completion of the interim actions.

Ecology will be notified of the completion of redevelopment and a final as-built showing site surfaces will be submitted to Ecology. This work is occurring concurrently with the RI/FS and reporting may overlap with the RI/FS efforts.

4 Compliance Monitoring Plan

4.1.1 Overview

Compliance monitoring is one of the threshold requirements for cleanup actions under MTCA (WAC 173-340-360(2)(a)) and confirms the long-term effectiveness of the cleanup action. This compliance monitoring plan is designed in accordance with WAC 173-340-410(1).

The major aspects of a compliance monitoring plan are protection monitoring, performance monitoring, and conformational monitoring. Each of these aspects is described below.

4.1.2 Protection Monitoring

Monitoring during implementation of the remedy will ensure that human health and the environment are protected during construction. This monitoring will be performed in compliance with a health and safety plan and local permits. Protection monitoring will include monitoring the construction workers during excavation activities and air monitoring to ensure that dust and particulates are not migrating out of the work area.

4.1.3 Performance Monitoring

Performance monitoring is used to confirm that the cleanup action has attained the cleanup standard. For the selected remedy, performance monitoring would verify that waste has been removed and the remaining soil is below remediation levels (Tables 7 and 8). Indoor debris piles are located on concrete or in bins, samples will not be collected from the indoor debris piles.

Figure 7 shows the proposed performance monitoring sampling plan. Grab soil samples will be collected every 50 feet by 50 feet grid, with a randomly assigned sample location within each grid cell. Soil samples will be analyzed for the soil COIs which include: aluminum, antimony, arsenic, cadmium, chromium, cobalt, copper, iron, nickel, lead, silver, and zinc. No removal is planned near the former UST; thus TPH-Diesel is not included in the analyte list.

For the off-property ROW and the on-property ditch portion which intersect with the drainage/wetland buffer that will remain a ditch, confirmation samples will be compared to freshwater sediment cleanup criteria (Table 8). Samples will be collected every 50 feet of these ditches, shown on Figure 7. Confirmation sediment samples will be analyzed for the following COIs: arsenic, cadmium, chromium, copper, mercury, nickel, and silver.

Performance soil sampling will conform with the sampling, analysis, and statistical guidelines in WAC 173-340-740(7).

4.1.4 Confirmation Monitoring

Confirmation monitoring is designed to monitor the long-term effectiveness of the remedy. This is an interim action that will be part of a larger action detailed in the RIFS. The RIFS will include confirmation monitoring details.

5 References

CRETE 2022. Remedial Investigation Work Plan, Maralco Property 7730 South 202nd Street, Kent, WA. March 16, 2022.

CRETE 2023. Remedial Investigation Work Plan Addendum – ROW Ditch Sediment Sampling, Maralco Property – 7730 South 202nd Street, Kent WA, Facility/Site No: 2067, Ecology Cleanup Site ID: 5055, VCP Project No.: NW3339. June 23, 2023.

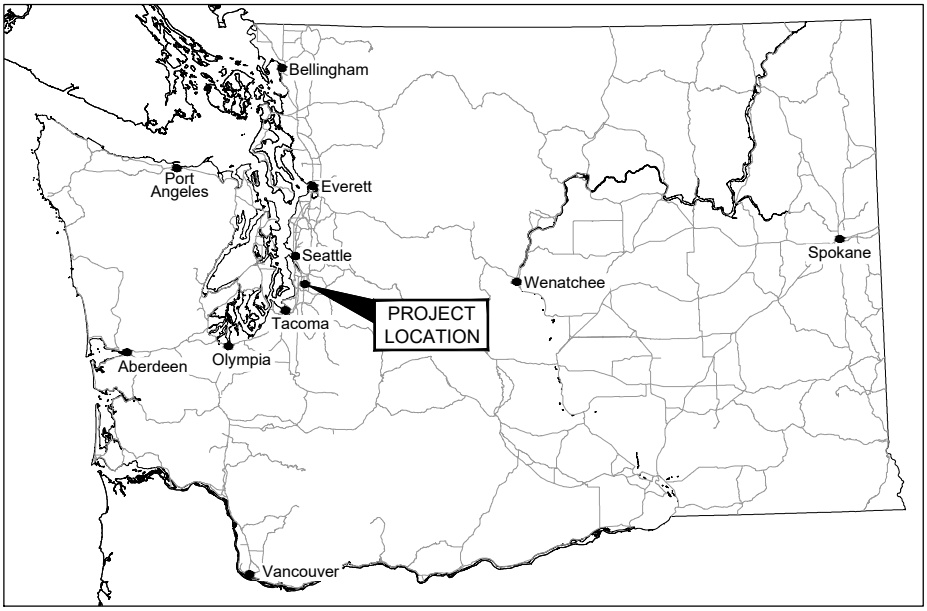
Ecology 2007. Maralco Site Waste Characterization Project, June 2004 to February 2007. Department of Ecology Northwest Regional Office Hazardous Waste and Toxics Reduction Program. August 30, 2007.

Ecology 2022. Opinion pursuant to WAC 173-340-515(5) on Remedial Action for the following Hazardous Waste Site: Maralco, 7730 S 202nd Street, Kent, Washington 98032, Facility/Site No. 2067, Cleanup Site ID No. 5055, VCP Project No. NW3339. August 24

EPA 2015. Secondary Aluminum Processing Waste: Salt Cake Characterization and Reactivity. Office of Research and Development, National Risk Management Research Laboratory, Land Remediation and Pollution Control Division. EPA/600/R-15/109. May 2015.

Stantec 2015. Stantec Phase I Environmental Site Assessment Report, Former Maralco Aluminum Site, Kent, Washington; July 20, 2015.

Figures



WASHINGTON LOCATION MAP

VICINITY MAP

0 300 600

SCALE IN FEET

Source: Google Earth. Image date 8/25/2022

CRETE CONSULTING, INC.

Maralco Property
7730 South 202nd Street
Kent, Washington
June 2023

Figure 1
Vicinity Map

File: Maralco Vicmap.dwg Layout: Vicmap

CRETE CONSULTING, INC.

Maralco Property
7730 South 202nd Street
Kent, Washington
June 2023

Figure 2
Waste Stockpiles

File: Maralco Site_2023.dwg Layout: Dross

S 202nd St

80th Ave S

77th Ave S

BNSF RR

EXISTING BUILDING

EXISTING BUILDING

WETLAND A

50' WETLAND BUFFER

50' WETLAND BUFFER

DP-1 TEST PIT

DP-2 TEST PIT

A-21A

A-21B

A-25A

A-25B

A-25C

A-25D

A-25E

A-25F

A-25G

A-25H

A-25I

A-25J

A-25K

A-25L

A-25M

A-25N

N

LEGEND

- Wetland Flag
- Wetland Boundary
- Wetland Buffer, 50 Feet
- Parcel Boundary
- Approximate Ditch Location

NOTE

Wetland survey provided by Barghausen Consulting Engineers, Inc., dated June 1, 2023.

CRETE CONSULTING, INC.

0 100 200

SCALE IN FEET

Maralco Property
7730 South 202nd Street
Kent, Washington
June 2023

Figure 3
Wetland Survey

File: Maralco Site_2023.dwg Layout: Wetland

S 202nd St

On-Property Ditch

PROPOSED BUILDING

Wetland Creation

80th Ave S

77th Ave S

BNSF RR

N

LEGEND

- Approximate Ditch Location
- Parcel Boundary
- Buffer Restoration
- Wetland Creation
- Wetland Enhancement/Buffer

0 100 200

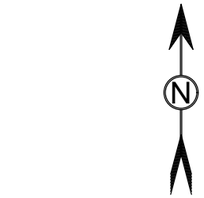
SCALE IN FEET

CRETE CONSULTING, INC.

Maralco Property
7730 South 202nd Street
Kent, Washington
June 2023

Figure 4
Conceptual Site Development Plan

File: Maralco Site_2023.dwg Layout: Concept Plan



LEGEND

- Approximate Ditch Location
- RI Monitoring Well
- RI Direct Push Boring
- RI Groundwater Grab Boring
- Sediment Sample
- DPT Location (Crete, 2021 & 2022)
- Test Pits (Aerotech, 2017)
- Monitoring Well (Aerotech, 2017)
- Monitoring Well (M-K, 1990)
- Former Monitoring Well
- Historical Boring and Sediment Sample Location
- Former UST
- Former Excavation Location
- Parcel Boundary

NOTE

RI monitoring wells and direct push borings installed August-September 2022. Locations approximate.

CRETE CONSULTING, INC.

0 100 200
SCALE IN FEET

Maralco Property
7730 South 202nd Street
Kent, Washington
June 2023

Figure 5
Site Map and Sample Locations

File: Maralco Site_2023.dwg Layout: Site

LEGEND

- Estimated Extent of Diesel in Groundwater
- Estimated Extent of Fluoride in Groundwater
- Estimated Extent of Chloride in Groundwater
- Estimated Extent of Dissolved As in Groundwater
- Approximate Ditch Location
- DPT Locations
- Sediment Sample (Crete, 2021)
- Test Pits (Aerotech, 2017)
- Monitoring Wells
- Former Monitoring Wells
- Historical Boring and Sediment Sample Locations
- Former UST
- Former Excavation Location
- Parcel Boundary
- 91x, 16.3, 265 — TPH-Dx, Fl-, Cl- Concentrations in mg/kg

NOTE

MW-5R, MW-7, MW-8 are approximate locations.

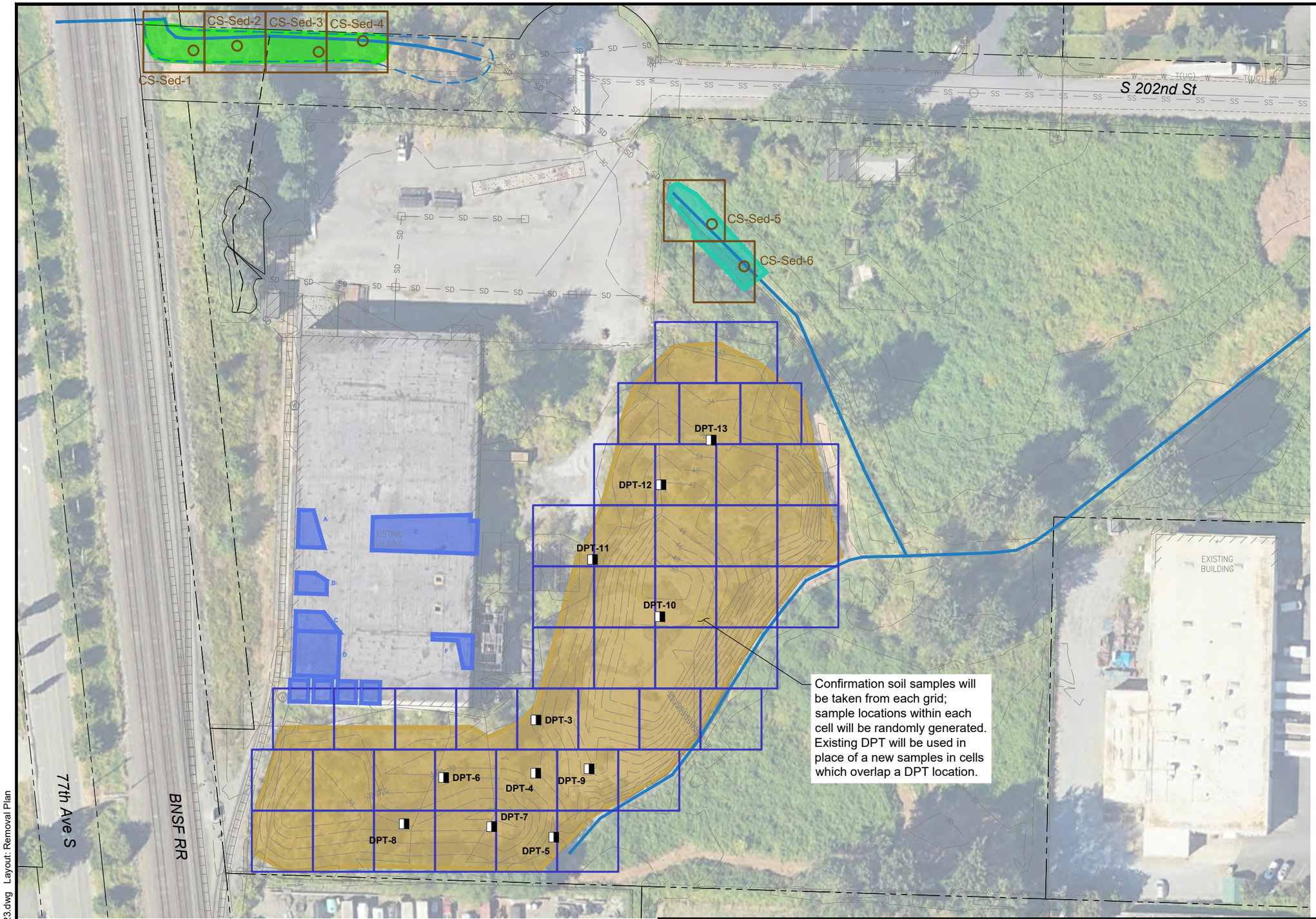
CRETE CONSULTING, INC.

0 100 200
SCALE IN FEET

Maralco Property
7730 South 202nd Street
Kent, Washington
June 2023

Figure 6
Extent of Groundwater Impacts

File: Maralco Site_2023.dwg Layout: GW



N

LEGEND

- Approximate Ditch Location
- DPT Location (Crete, 2021 & 2022)
- Extent of On-Property Ditch Removal
- Extent of Off-Property Ditch Removal. Final extent of off-property ditch removal will be refined based on RIWP sampling.
- Extent of Outdoor Dross Removal
- Extent of Indoor Dross/Waste Removal
- Confirmation Sediment Sampling Grid and Sample Location
- Confirmation Soil Sampling Grid and Locations
- Parcel Boundary

CRETE CONSULTING, INC.

0 80 160
SCALE IN FEET

Maralco Property
7730 South 202nd Street
Kent, Washington
June 2023

Figure 7
Source Removal Plan and Confirmation Sampling Plan

File: Maralco Site_2023.dwg Layout: Removal Plan

Appendix A
Select Boring Logs

Appendix B
Permit Documents

Appendix C
QAPP