STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000
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October 5, 2021

Peter Kingston
Farallon Consulting, LLC
1809 Seventh Avenue, Suite 1111
Seattle, WA 98101

Re: Opinion on Proposed Cleanup of the following Site:

- **Site Name:** Lakeside Industries
- **Site Address:** 2400 Sargent Boulevard, Aberdeen, Washington
- **Facility/Site No.:** 84657452
- **VCP Project No.:** SW 1161

Dear Peter Kingston:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your proposed independent cleanup of the Lakeside Industries facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

Issue Presented and Opinion

Upon completion of the proposed cleanup, will further remedial action likely be necessary to clean up contamination at the Site?

NO. Ecology has determined that, upon completion of your proposed cleanup, no further remedial action will likely be necessary to clean up contamination at the Site.

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, Chapter 70.105D RCW, and its implementing regulations, Chapter 173-340 WAC (collectively "substantive requirements of MTCA"). The analysis is provided below.

Description of the Site

This opinion applies only to the Site described below. The Site is defined by the nature and extent of contamination associated with the following releases:

- Gasoline, diesel, oil, benzene, ethylbenzene, naphthalene, carcinogenic polycyclic aromatic hydrocarbons, arsenic, cadmium, lead, and mercury into the soil.
- Gasoline, diesel, oil, and benzene into the groundwater.

Enclosure A includes a detailed description and diagram of the Site, as currently known to Ecology.

Please note a parcel of real property can be affected by multiple sites. At this time, we have no information that the parcel(s) associated with this Site are affected by other sites.

Basis for the Opinion

This opinion is based on the information contained in the following documents:

1. Remedial Investigation Work Plan – Lakeside Industries Facility – 2400 Sargent Boulevard – Aberdeen, Washington by Farallon Consulting and dated April 2011
2. Remedial Investigation and Feasibility Study Report – Lakeside Industries Aberdeen Site – 2400 Sargent Boulevard – Aberdeen, Washington by Farallon Consulting and dated June 2015
3. Additional Subsurface Investigation, Elevation Survey, and Hydraulic Evaluation Approach – Lakeside Industries Aberdeen Site – Aberdeen, Washington by Farallon Consulting and dated March 17, 2016
4. Revised Remedial Investigation and Feasibility Study Report – Lakeside Industries Aberdeen Site – 2400 Sargent Boulevard – Aberdeen, Washington by Farallon Consulting and dated August 2019
5. Overview of Potential Occurrence of Threatened and Endangered Species – Lakeside Industries Aberdeen Site – Aberdeen, Washington by Farallon Consulting and dated August 20, 2019
6. Cleanup Action Plan – Lakeside Industries Aberdeen – 2400 Sargent Boulevard – Aberdeen, Washington by Farallon Consulting and dated July 2, 2021

Those documents are kept in the Central Files of the Southwest Regional Office of Ecology (SWRO) for review by appointment only. You can make an appointment by calling the SWRO resource contact at 360 - 407 - 6365.

Documents 3, 4, and 5 are also available on Ecology's webpage https://apps.ecology.wa.gov/gsp/Sitepage.aspx?csid=3390. Use the right hand panel to access (open) electronic documents.

This opinion is void if any of the information contained in those documents is materially false or misleading.

Analysis of the Cleanup

Ecology has concluded that, upon completion of your proposed cleanup, **no further remedial action** will likely be necessary to clean up contamination at the Site. That conclusion is based on the following analysis:

1. Characterization of the Site.

Ecology has determined your characterization of the Site is sufficient to establish cleanup standards and select a cleanup action. The Site is described above and in **Enclosure A.**

In 1984, sixteen test pits were excavated at the site. A monitoring well was installed in each test pit. Four soil samples were analyzed for hydrocarbons (two samples), total metals (two samples), pentachlorophenol (one sample), and polycyclic aromatic hydrocarbons (four samples). Hydrocarbon contamination was identified by sight and/or by odor in ten of the sixteen test pits. However, none of the analytes exceeded the then contamination limits for any sample. The monitoring wells were sampled for the presence of free product. None of the sixteen monitoring wells had traces of free product. None of the groundwater samples were subjected to chemical analysis.

In January of 2009, sixteen soil borings were installed at the site. At least one soil sample and one grab groundwater sample were collected from each boring (one duplicate from one boring) and analyzed for gasoline, diesel, oil, benzene, ethylbenzene, toluene, and xylene. Three of seventeen soil samples were analyzed for metals and four soil samples were analyzed for polycyclic aromatic hydrocarbons. Gasoline was detected in three soil samples (2 of 3 samples exceeded the MTCA Method A standard), diesel in eight soil samples (4 of 8 samples exceeded the MTCA Method A standard), oil in thirteen soil samples (6 of 13 samples exceeded the MTCA Method A standard), benzene in four soil samples (2 of 4 samples exceeded the MTCA Method A standard), ethylbenzene

in three soil samples (1 of 3 samples exceeded the MTCA Method A standard), toluene in one soil sample (did not exceed the MTCA Method A standard), and xylenes in four soil samples (none exceeded the MTCA Method A standard). Barium (no exceedances of MTCA standard), chromium (no exceedances of MTCA standard), and lead (1 of 3 samples exceeded the MTCA Method A standard) were detected in all three soil samples analyzed, arsenic was detected in two of three samples analyzed, with 1 of 2 detections exceeding the MTCA Method A standard. Cadmium and mercury were detected in one of three samples, with each detection above the respective MTCA Method A standard. Selenium and silver were not detected in any of the three soil samples analyzed. Four soil samples were analyzed for eleven non-carcinogenic and seven carcinogenic polycyclic aromatic hydrocarbons. No exceedances of MTCA Method A standards for non-carcinogenic polycyclic aromatic hydrocarbons were found except for 1-methylnaphthylene and 2-methylnaphthylene in one soil sample. For the seven carcinogenic polycyclic aromatic hydrocarbons, the toxic equivalent concentration exceeded the MTCA Method A standard for all four soil samples. For the groundwater grab samples, gasoline was detected in three of sixteen samples, with all three detections exceeding the MTCA Method A standard. Diesel was detected in eleven of sixteen groundwater samples, with all 11 detections exceeding the MTCA Method A standard. Oil was detected in ten of sixteen groundwater samples, with all ten detections exceeding the MTCA Method A. Benzene was detected in three of sixteen groundwater samples, with all three detections above the MTCA Method A standard. Ethylbenzene was detected in four samples with one of four samples exceeding the MTCA Method A standard. Toluene was detected in two of sixteen samples, with neither detection exceeding the MTCA Method standard. Xylene was detected in three of sixteen groundwater samples, with none of the detections exceeding the MTCA Method A standard. Groundwater samples were also analyzed for volatile organic compounds (results not available).

In April of 2011, nineteen additional soil borings were installed at the site. A soil sample was collected from each boring and analyzed for diesel and oil. Eight of the soil samples were also analyzed for gasoline, benzene, ethylbenzene, toluene, and xylene. Gasoline was detected in one of eight samples. The concentration exceeded the MTCA Method A standard. Diesel was detected in fourteen of nineteen samples, with nine of the fourteen concentrations exceeding the MTCA Method A standard. Oil was detected in fourteen of nineteen samples, with seven of the concentrations exceeding the MTCA Method A standard. Benzene was detected in four of eight samples, with three of four concentrations exceeding the MTCA Method A standard. Ethylbenzene was detected in four of eight samples, with none of the detections exceeding the MTCA Method A standard. Toluene was detected in one of eight samples, with the detection below the MTCA Method A standard. Xylene was detected in four of eight

samples, with all detections below the MTCA Method A standard. One soil sample was analyzed for eleven non-carcinogenic and seven carcinogenic polycyclic aromatic hydrocarbons. While ten of eleven non-carcinogenic polycyclic aromatic hydrocarbons were detected, all concentrations were below the MTCA Method B standards. None of the seven carcinogenic polycyclic aromatic hydrocarbons were detected in the sample. Three soil samples were analyzed for arsenic, cadmium, chromium, lead, and mercury. Chromium and lead were detected in all three soil samples, with the concentrations below the MTCA Method A standards. Cadmium and mercury were detected in one of three samples, with the concentrations below the MTCA Method A standards. Arsenic was not detected in any of the three samples. A grab groundwater sample was collected from each of the soil borings and analyzed for diesel and oil. Eight of the groundwater samples were also analyzed for gasoline, benzene, ethylbenzene, toluene, and xylene. Diesel was detected in fourteen of nineteen groundwater samples, with thirteen of fourteen concentrations exceeding the MTCA Method A standard. Oil was detected in eight of nineteen groundwater samples, with all eight concentrations exceeding the MTCA Method A standard. Gasoline was detected in five of eight groundwater samples, with two of five concentrations exceeding the MTCA Method A standard. Benzene was not detected in any of the eight groundwater samples. Ethylbenzene was detected in one of eight groundwater samples, at a concentration below the MTCA Method A standard. Toluene was not detected in any of the eight groundwater samples. Xylene was detected in six of eight groundwater samples, with both concentrations below the MTCA Method A standard.

In July of 2011, nine additional borings were installed at the site. A soil sample was collected from each of the nine borings and analyzed for diesel and oil. Three of the soil samples were also analyzed for gasoline, benzene, ethylbenzene, toluene, and xylene. Diesel was detected in five of the soil samples, with all five detections exceeding the MTCA method A standard. Oil was detected in seven of nine soil samples, with four of seven concentrations exceeding the MTCA Method A standard. Benzene was detected in all three samples, with two of three concentrations exceeding the MTCA Method A standard. Xylene was detected in all three samples, with all concentrations below the MTCA Method A standard. Ethylbenzene was detected in two of three soil samples, with one of two concentrations exceeding the MTCA Method A standard. Toluene was not detected in any of the three soil samples. A grab groundwater sample from each of the borings was analyzed for diesel and oil. Diesel was detected in eight of nine groundwater samples, with all eight concentrations exceeding the MTCA Method A standard. Oil was detected in eight of nine groundwater samples, with all eight concentrations exceeding the MTCA Method A standard. Three of the groundwater samples were also analyzed for gasoline, benzene, ethylbenzene, toluene, and xylene. Gasoline

was detected in two of the three samples, with one of two concentrations exceeding the MTCA Method A standard. Benzene was detected in one of three samples, with the concentration exceeding the MTCA Method A standard. Ethylbenzene, toluene, and xylene were not detected in any of the three groundwater samples.

At the same time, seventeen groundwater monitoring wells were installed at the site. Twelve soil samples were collected from the monitoring wells. Nine soil samples were analyzed for gasoline, diesel, oil, benzene, ethylbenzene, toluene, and xylene while three soil samples were only analyzed for diesel and oil. Diesel was detected in six of twelve soil samples, with three of six concentrations exceeding the MTCA Method A standard. Oil was detected in seven of twelve soil samples, with three of seven concentrations exceeding the MTCA Method A standard. Gasoline was detected in four of nine samples, with one of four concentrations exceeding the MTCA Method A standard. Benzene was detected in three of nine soil samples, with all three concentrations exceeding the MTCA Method A standard. Ethylbenzene was detected in two of nine soil samples, both of which were below the MTCA Method A standard. Toluene and xylene were detected in one of nine soil samples, both concentrations were below the MTCA Method A standard. Three soil samples were analyzed for non-carcinogenic and carcinogenic polycyclic aromatic hydrocarbons. Although numerous non-carcinogenic polycyclic aromatic hydrocarbons were detected, none of the concentrations exceeded the MTCA Method B standards. Although numerous carcinogenic polycyclic aromatic hydrocarbons were detected, the equivalent toxicity concentration did not exceed the MTCA Method A standard. One soil sample was analyzed for arsenic, barium, cadmium, chromium, lead, mercury, silver, and selenium. Arsenic was detected and the concentration exceeded the MTCA Method A standard. Barium, cadmium, chromium, and lead were detected but the concentrations did not exceed their respective MTCA Method A standards. Mercury, silver, and selenium were not detected in the soil sample.

In August of 2011, groundwater samples were collected from each of the seventeen groundwater monitoring wells and analyzed for gasoline, diesel, oil, benzene, ethylbenzene, toluene, and xylene. Six groundwater samples were analyzed for polycyclic aromatic hydrocarbons and four groundwater samples were analyzed for arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver. Gasoline was detected in six of twelve samples, with one concentration exceeding the MTCA Method A standard. Diesel was detected in three samples, with one of three concentrations exceeding the MTCA Method A standard. Oil was not detected in any of the sixteen samples it was analyzed for. Benzene was detected in one of twelve groundwater samples, with that detection exceeding the MTCA Method A standard. Toluene was not detected in any of twelve groundwater samples it was analyzed for. Ethylbenzene and xylene were

each detected in one of twelve groundwater samples, with both detections below their respective MTCA Method A standards. Six groundwater samples were analyzed for non-carcinogenic and carcinogenic polycyclic aromatic hydrocarbons. Although numerous non-carcinogenic polycyclic aromatic hydrocarbons were detected, none of the concentrations exceeded the MTCA Method B standards. Although numerous carcinogenic polycyclic aromatic hydrocarbons were detected, the equivalent toxicity concentration did not exceed the MTCA Method A standard. Arsenic, cadmium, chromium, lead, mercury, selenium, and silver were not detected in any of the four groundwater samples analyzed. Barium was detected in three of four samples, with none of the detections exceeding the MTCA Method B standard.

In December of 2011, a tidal study was performed to determine if there was a hydrological connection between the site groundwater and the Chehalis River. No connection was found.

In March of 2012, groundwater samples were collected from each of the seventeen groundwater monitoring wells and analyzed for gasoline, diesel, oil, benzene, ethylbenzene, toluene, and xylene. Gasoline was detected in two of seventeen groundwater samples, with one of two detections exceeding the MTCA Method A standard. Diesel was detected in one of seventeen groundwater samples, with that detection exceeding the MTCA Method A standard. Oil was detected in one of seventeen groundwater samples, with that detection exceeding the MTCA Method A standard. Benzene, ethylbenzene, toluene, and xylene were detected in one of seventeen samples, with only the benzene concentration exceeding the respective MTCA Method A standard.

In April of 2013, one additional soil boring and one additional groundwater monitoring well were installed at the site. Two soil samples from the soil boring and one soil sample from the monitoring well were analyzed for gasoline, diesel, oil benzene, ethylbenzene, toluene, xylene, and lead. Gasoline was detected only in the soil sample from the monitoring well, with the detection exceeding the MTCA Method A standard. Diesel was detected in one soil boring and in the soil from the monitoring well, with only the latter exceeding the MTCA Method A standard. Oil was detected in all three soil samples, with only the soil from the monitoring well exceeding the MTCA Method A standard. Benzene was detected in one soil boring sample and in the soil from the monitoring well. Both detections exceeded the MTCA Method A standard. Ethylbenzene and xylene were detected only in the soil from the monitoring well, with neither detection exceeding their respective MTCA Method A standards. Toluene was not detected in any of the three soil samples. Lead was detected only in the soil sample from the monitoring well. The concentration did not exceed the MTCA Method A standard. One groundwater sample was collected from the new monitoring well

and analyzed for gasoline, diesel, oil, benzene, ethylbenzene, toluene, and xylene. All analytes, except oil, were detected in the groundwater sample, with gasoline, diesel, and benzene exceeding their respective MTCA Method A standards.

In August of 2013, nine additional soil borings were installed at the site. One or two soil samples were collected from each boring and analyzed for gasoline, diesel, oil, benzene, ethylbenzene, toluene, and xylene. Two soil samples were also analyzed for lead. Gasoline was detected in two of fifteen soil samples, with both concentrations exceeding the MTCA Method A standard. Diesel was detected in three of fifteen soil samples, with one of three concentrations exceeding the MTCA Method A standard. Oil was detected in three of fifteen soil samples, with none of the concentrations exceeding the MTCA Method A standard. Benzene was detected in one of fifteen soils samples, with the concentration above the MTCA Method A standard. Ethylbenzene and xylene were detected in two of fifteen soil samples, with only one ethylbenzene concentration exceeding their respective MTCA Method A standards. Toluene was not detected in any of the soil samples. Lead was detected in one of two soil samples, with the concentration below the MTCA Method A standard. Three monitoring wells were also installed and a groundwater sample collected from each well. The groundwater samples were analyzed for gasoline, diesel, oil, benzene, ethylbenzene, toluene, and xylene. Gasoline was detected in one of three groundwater samples, with the concentration below the MTCA Method A standard. Diesel and oil were detected in two of three groundwater samples, with all four concentrations above the respective MTCA Method A standards. Benzene was detected in one of three groundwater samples, with the concentration above the MTCA Method A standard. Xylene was detected in two of three samples, with both concentrations below the MTCA Method A standard. Toluene was detected in one of three groundwater samples, with the concentration below the MTCA Method A standard. Ethylbenzene was not detected in any of the three groundwater samples.

In May of 2017, seven additional soil borings were installed at the site. Two or three soil samples were collected from each soil boring and analyzed for gasoline, diesel, oil, benzene, ethylbenzene, toluene, and xylene. Nine soil samples were also analyzed for seven carcinogenic polycyclic aromatic hydrocarbons. Gasoline was detected in four of fifteen soil samples, with three of four concentrations exceeding the MTCA Method A standard. Diesel was detected in three of seventeen soil samples, with one of three concentrations exceeding the MTCA Method A standard. Oil was detected in eight of seventeen soil samples, with one of eight concentrations exceeding the MTCA Method A standard. Benzene was detected in two of fifteen soil samples, with both concentrations above the MTCA Method A standard. Xylenes were detected in

three of fifteen soil samples, with all three concentrations below the MTCA Method A standard. Ethylbenzene was detected in two of fifteen soil samples, with both concentrations below the MTCA Method A standard. Toluene was not detected in any of the fifteen soil samples analyzed. Groundwater samples were collected from all twenty-one monitoring wells and analyzed for gasoline, diesel, oil, benzene, ethylbenzene, toluene, and xylene.
Gasoline was detected in five of twenty-one groundwater samples, with two of five concentrations above the MTCA Method A standard. Diesel was detected in ten of twenty-one groundwater samples, with nine of ten concentrations exceeding the MTCA Method A standard. Oil was detected in nine of twenty-one groundwater samples, with eight of nine concentrations exceeding the MTCA Method A standard. Benzene was detected in four of twenty-one groundwater samples, with all four concentrations exceeding the MTCA Method A standard. Xylene was detected in two of twenty-one groundwater samples, with both concentrations below the MTCA Method A standard.
Toluene and ethylbenzene were detected in one of twenty-one groundwater samples (same sample), with both concentrations below their respective MTCA Method A standards.

2. Establishment of cleanup standards.

Ecology has determined the cleanup levels and points of compliance you established for the Site meet the substantive requirements of MTCA.

Soil

Gasoline – 100 mg/Kg

Diesel – 2,000 mg/Kg

Oil – 2,000 mg/Kg

Benzene – 0.03 mg/Kg

Ethylbenzene – 6 mg/Kg

Naphthalene – 5 mg/Kg

Arsenic – 20 mg/Kg

Cadmium – 2 mg/Kg

Lead – 250 mg/Kg

Mercury – 2 mg/Kg

Groundwater

Gasoline – 800 □g/l (benzene is present)

Diesel – 500 □g/l

Oil – 500 □g/l

Benzene – 5 □g/l

A standard horizontal point of compliance, the property boundary, was used for soil contamination.

A standard vertical point of compliance, fifteen feet, for soils was established in the soils throughout the site from the ground surface to fifteen feet below the ground surface. Fifteen feet is protective for direct contact with the contaminated soil.

A standard vertical point of compliance, from the uppermost level of the saturated zone to the lowest depth that could potentially be affected, was used for groundwater contamination.

3. Selection of cleanup action.

Ecology has determined the cleanup action you proposed for the Site meets the substantive requirements of MTCA.

The selected remedy – Alternative 3 - excavation of contaminated soil and off-site transport to a permitted facility, use of an asphalt cap over contaminated soil which can not be excavated, installation of a sheet pile wall to protect the Chehalis River, preparation and use of an inspection and maintenance plan to ensure the continuing operation of the asphalt cap and sheet pile wall, placement of an environmental covenant on the property deed to prohibit disturbance or damage to the asphalt cap or the sheet pile wall, and performance of confirmational monitoring to determine if and when the above controls are no longer needed - meets the minimum requirements for cleanup actions by providing a permanent solution to the extent practicable, an immediate restoration time frame, provides for confirmation monitoring, and protects human health and the environment.

Limitations of the Opinion

1. Opinion does not settle liability with the state.

Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion **does not**:

- Resolve or alter a person's liability to the state.
- Protect liable persons from contribution claims by third parties.

To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70.105D.040(4).

2. Opinion does not constitute a determination of substantial equivalence.

To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you proposed will be substantially equivalent. Courts make that determination. *See* RCW 70.105D.080 and WAC 173-340-545.

3. Opinion is limited to proposed cleanup.

This letter does not provide an opinion on whether further remedial action will actually be necessary at the Site upon completion of your proposed cleanup. To obtain such an opinion, you must submit a report to Ecology upon completion of your cleanup and request an opinion under the VCP.

4. State is immune from liability.

The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. *See* RCW 70.105D.030(1)(i).

Contact Information

Thank you for choosing to clean up the Site under the Voluntary Cleanup Program (VCP). As you conduct your cleanup, please do not hesitate to request additional services. We look forward to working with you.

For more information about the VCP and the cleanup process, please visit our web site: www. ecy.wa.gov/programs/tcp/vcp/vcpmain.htm. If you have any questions about this opinion, please contact me by phone at 360.407.7223 or e-mail at christopher.mauer@ecy.wa.gov.

Sincerely,

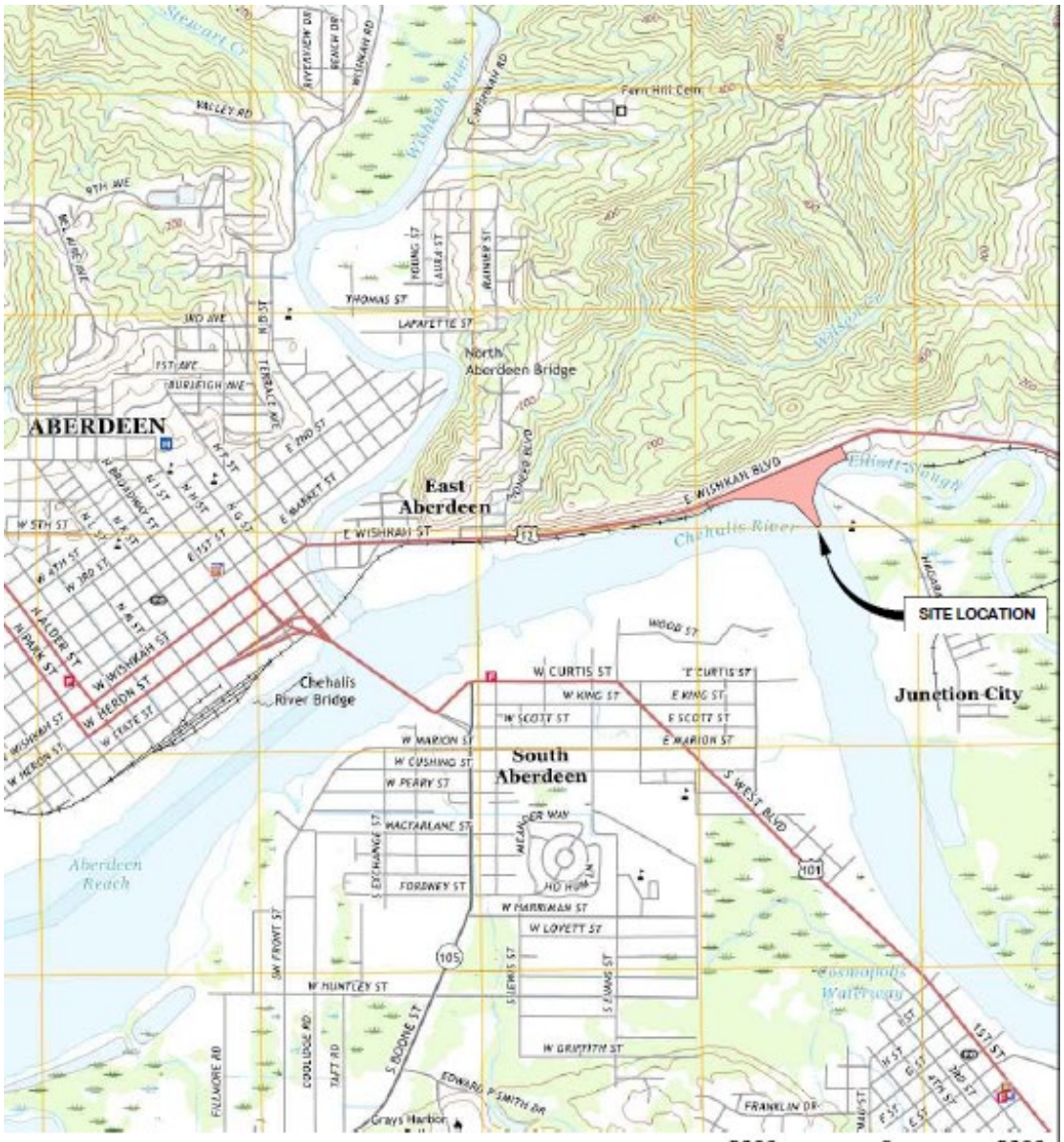
Christopher Maurer, P.E.
HQ - Toxics Cleanup Program

Enclosure

Enclosure A

Description and Diagrams of the Site

AB AC LOT 2 S OF JUNCTION CITY RD; LOT 3 LY S OF CO RD LS NP RR



REFERENCE: 7.5 MINUTE USGS QUADRANGLE ABERDEEN, WASHINGTON. DATED 1957 AND PHOTOREVISED 1994

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Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Irvine

Drawn By: NM Checked By: RC

FIGURE 1

SITE VICINITY MAP
LAKESIDE INDUSTRIES
ABERDEEN SITE
ABERDEEN, WASHINGTON

FARALLON PN:525-006

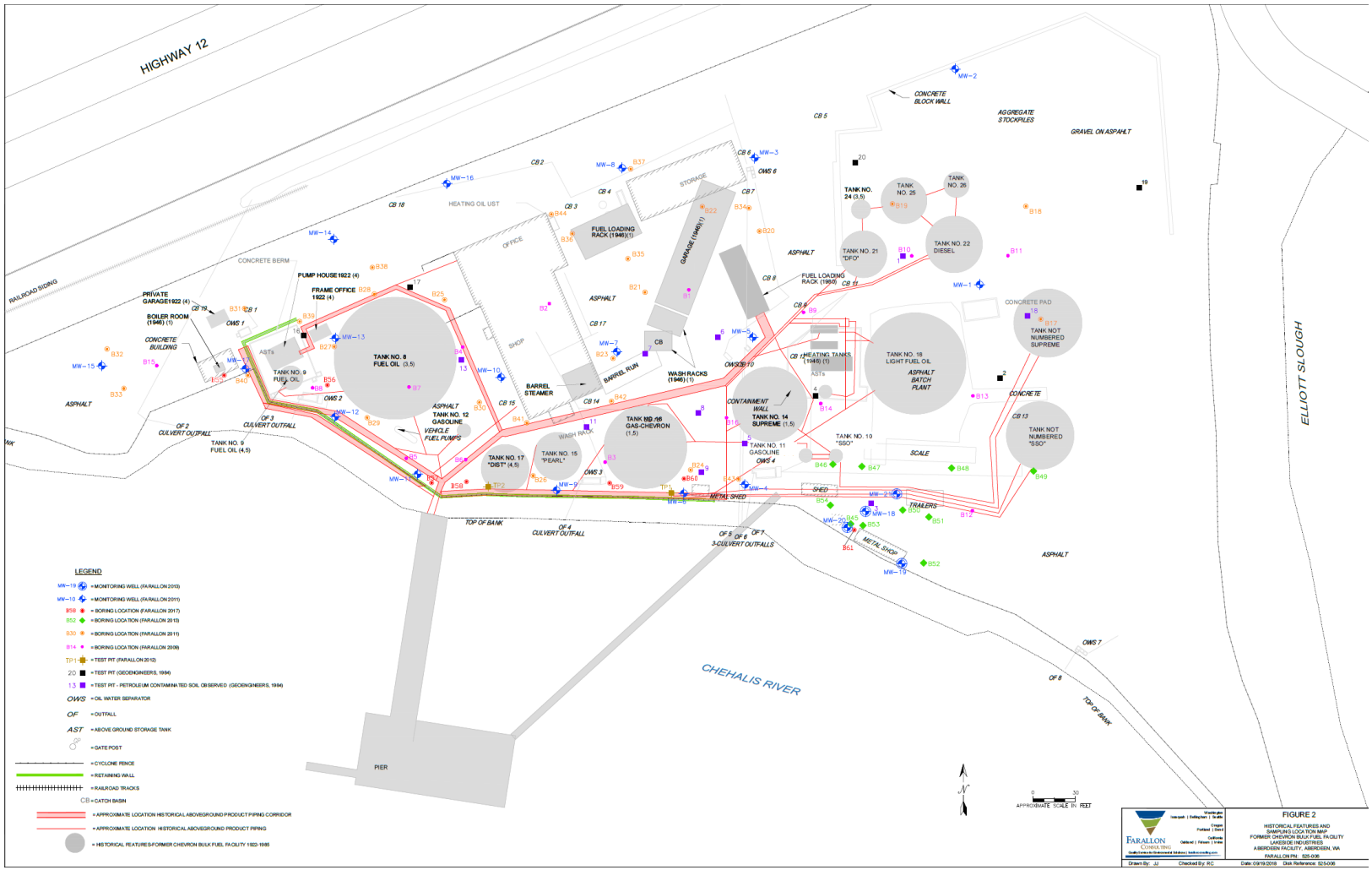


FIGURE 2

HISTORICAL FEATURES AND SAMPLING LOCATION MAP
FORMER CHEVRON BULK FUEL FACILITY
LAKESIDE INDUSTRIES
ABERDEEN FACILITY, ABERDEEN, WA

FARALLON PN: 525-006

Drawn By: JJ | Checked By: RC | Date: 09/19/2019 | Disk Reference: 525-006

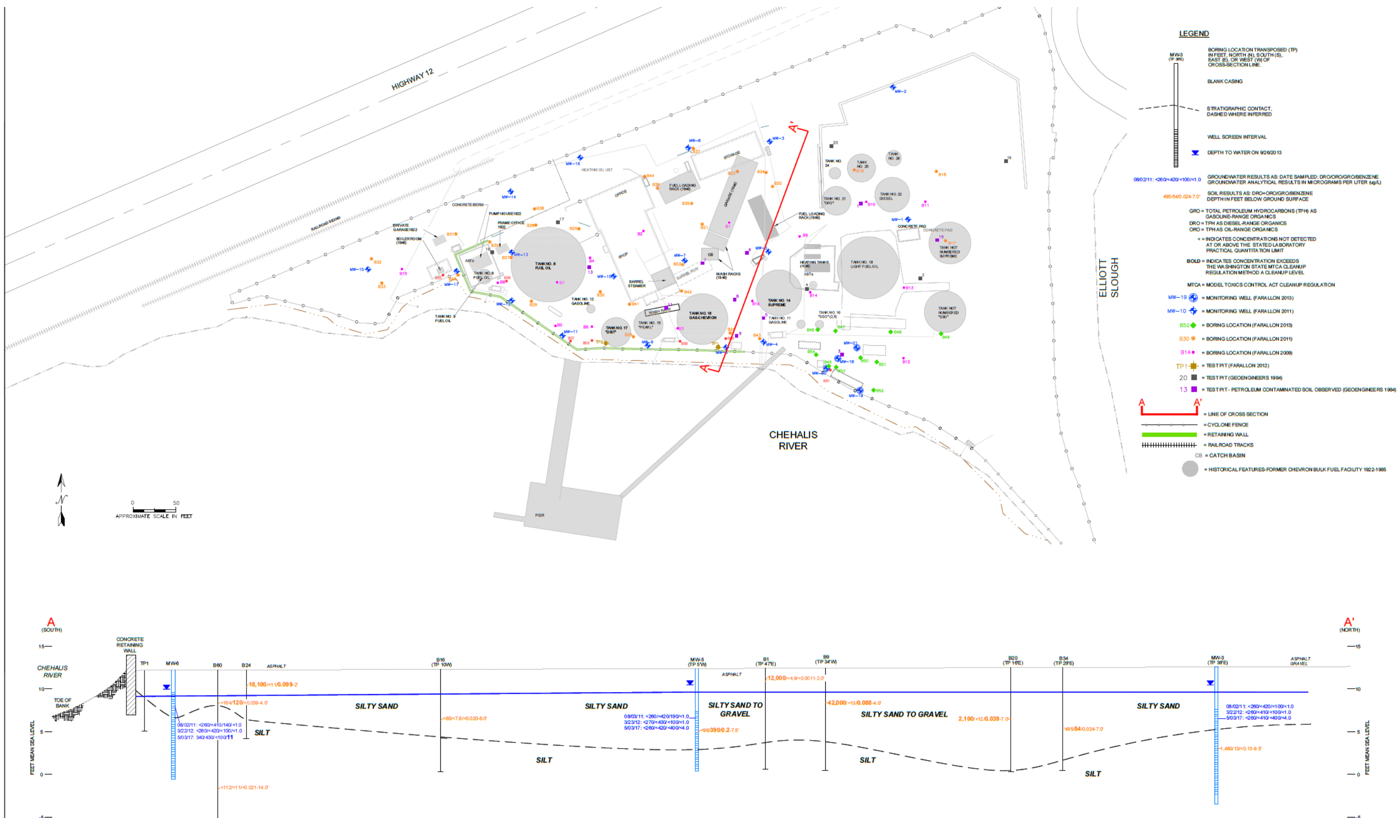


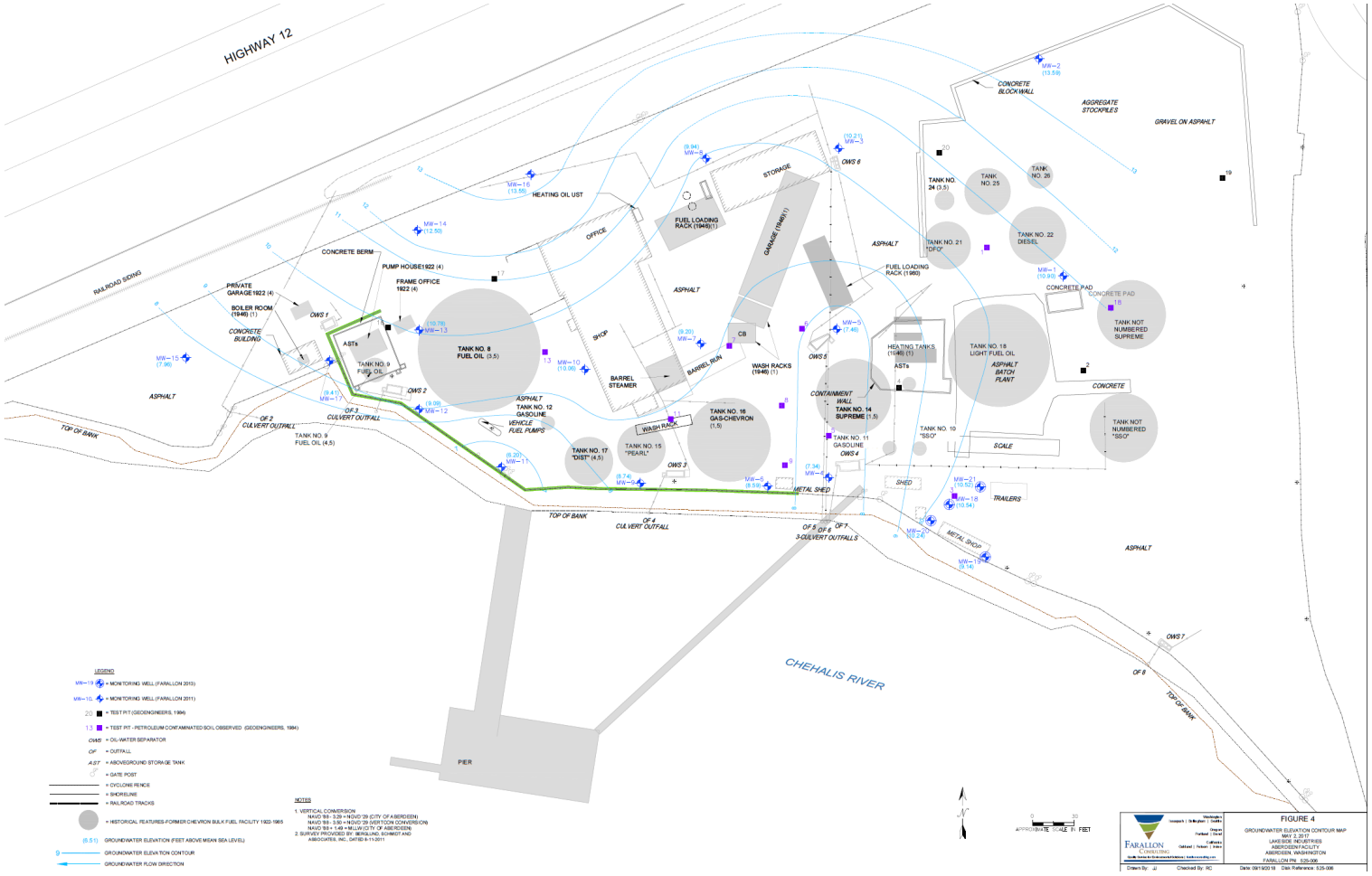
FIGURE 3

CROSS SECTION A-A'
LAKESIDE INDUSTRIES
ABERDEEN FACILITY
ABERDEEN, WASHINGTON

FARALLON PN: 525-006

FARALLON CONSULTING
Washington: Issaquah | Bellingham | Seattle
Oregon: Portland | Bend
California: Oakland | Sacramento | Irvine
Quality Service for Environmental Solutions | farallonconsulting.com

Drawn By: JJ   Checked By: DEW   Date: 09/19/2018   Disk Reference: X-SEC2


HIGHWAY 12
RAILROAD SIDING
CONCRETE BERM
PUMP HOUSE1922 (4)
FRAME OFFICE 1922 (4)
PRIVATE GARAGE 1922 (4)
BOILER ROOM (1940) (1)
CONCRETE BUILDING
OWS 1
ASTs
TANK NO. 9 FUEL OIL
TANK NO. 8 FUEL OIL (3,5)
HEATING OIL UST
OFFICE
SHOP
BARREL STEAMER
BARREL RUN
FUEL LOADING RACK (1945) (1)
STORAGE
GARAGE (1940) (1)
ASPHALT
WASH RACKS (1940) (1)
CB
OWS 5
OWS 6
CONTAINMENT WALL
TANK NO. 14 SUPREME (1,5)
TANK NO. 16 GAS-CHEVRON (1,5)
WASH RACK
TANK NO. 15 "PEARL"
TANK NO. 17 "DIST" (4,5)
TANK NO. 12 GASOLINE VEHICLE FUEL PUMPS
TANK NO. 11 GASOLINE
OWS 4
OWS 3
OWS 2
OF 1 CULVERT OUTFALL
OF 2 CULVERT OUTFALL
OF 3 CULVERT OUTFALL
OF 4 CULVERT OUTFALL
OF 5 OF 6 3-CULVERT OUTFALLS
OF 7
OF 8
TOP OF BANK
METAL SHED
SHED
METAL SHOP
TRAILERS
SCALE
HEATING TANKS (1940) (1)
TANK NO. 18 LIGHT FUEL OIL
ASPHALT BATCH PLANT
CONCRETE
CONCRETE PAD
TANK NOT NUMBERED SUPREME
TANK NOT NUMBERED "SSO"
TANK NO. 10 "SSO"
TANK NO. 21 "DFO"
TANK NO. 22 DIESEL
TANK NO. 24 (3,5)
TANK NO. 25
TANK NO. 26
CONCRETE BLOCK WALL
AGGREGATE STOCKPILES
GRAVEL ON ASPHALT
CHEHALIS RIVER
PIER
MW-1 (10.89)
MW-2 (13.59)
MW-3 (10.21)
MW-4 (9.94)
MW-5 (7.40)
MW-6 (9.59)
MW-7 (8.20)
MW-8 (7.34)
MW-9 (8.74)
MW-10 (13.06)
MW-11 (6.20)
MW-12 (9.09)
MW-13 (10.78)
MW-14 (12.50)
MW-15 (7.96)
MW-16 (13.59)
MW-17 (9.41)
MW-18 (11.54)
MW-19 (6.14)
MW-20 (10.24)
MW-21 (10.52)
LEGEND
MW-19 = MONITORING WELL (FARALLON 2013)
MW-16 = MONITORING WELL (FARALLON 2011)
20 = TEST PIT (GEOENGINEERS, 1994)
13 = TEST PIT - PETROLEUM CONTAMINATED SOIL OBSERVED (GEOENGINEERS, 1994)
OWS = OIL-WATER SEPARATOR
OF = OUTFALL
AST = ABOVEGROUND STORAGE TANK
= GATE POST
= CYCLONE FENCE
= SHORELINE
= RAILROAD TRACKS
= HISTORICAL FEATURES-FORMER CHEVRON BULK FUEL FACILITY 1922-1965
(6.51) GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
9 GROUNDWATER ELEVATION CONTOUR
GROUNDWATER FLOW DIRECTION
NOTES
1. VERTICAL CONVERSION
NAVD '88 - 3.29 = NGVD '29 (CITY OF ABERDEEN)
NAVD '88 - 3.50 = NGVD '29 (VERTCON CONVERSION)
NAVD '88 + 1.49 = MLLW (CITY OF ABERDEEN)
2. SURVEY PROVIDED BY: BERGLUND, ROHRST AND ASSOCIATES, INC., DATED 8-11-2011
APPROXIMATE SCALE IN FEET
FARALLON CONSULTING
FIGURE 4
GROUNDWATER ELEVATION CONTOUR MAP
MAY 2, 2017
LAKESIDE INDUSTRIES
ABERDEEN FACILITY
ABERDEEN, WASHINGTON
FARALLON PN: 525-006
Drawn By: JJ
Checked By: RC
Date: 09/19/2018
Disk Reference: 525-006

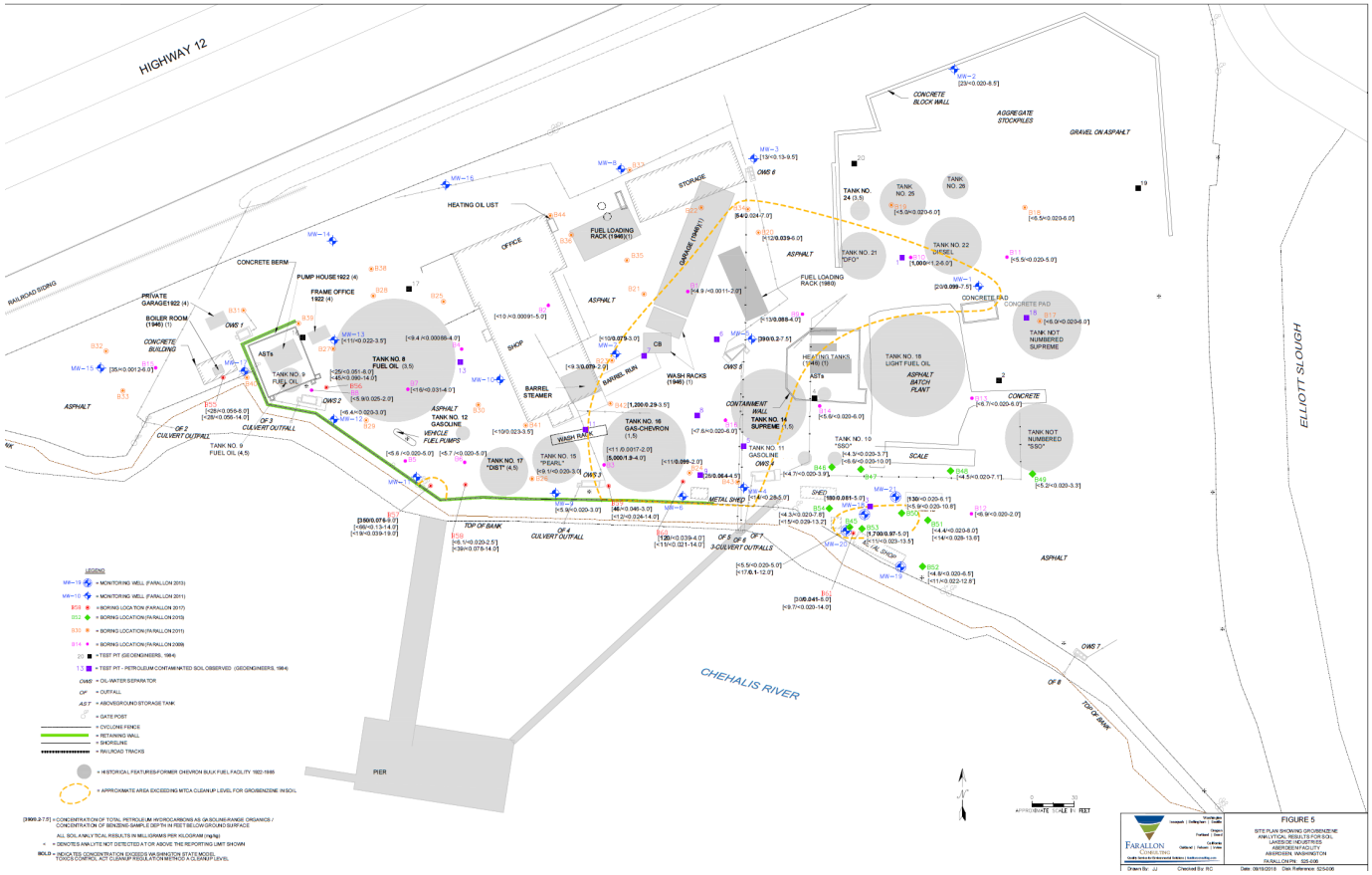


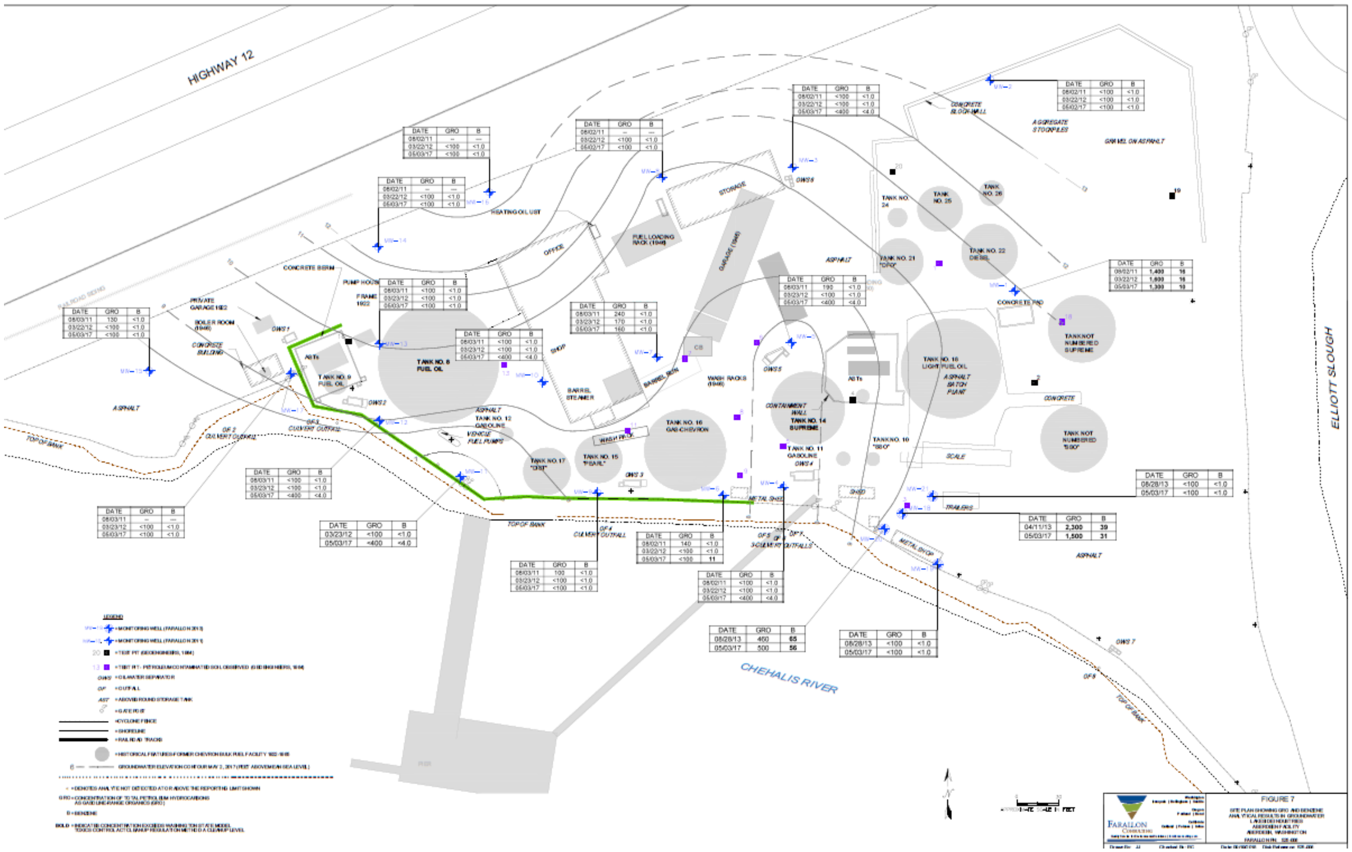
FIGURE 5

SITE PLAN SHOWING GROBENZENE ANALYTICAL RESULTS FOR SOIL
CHEVRON INDUSTRIES
ABERDEEN FACILITY
ABERDEEN, WASHINGTON

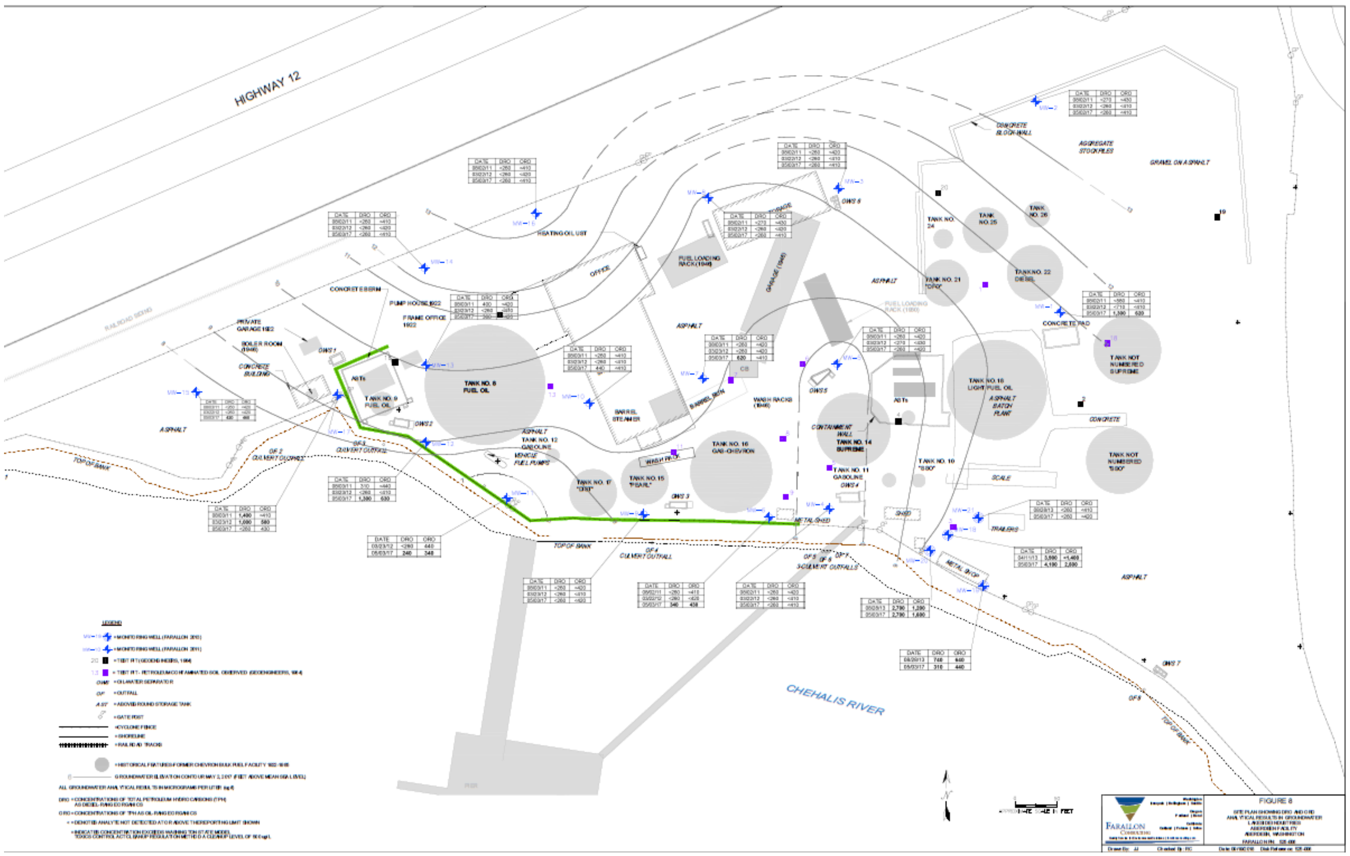
FARALLON PROJECT NO.: 525-006

Drawn By: JJ | Checked By: RC | Date: 08/15/2018 | Dwn Reference: 525-006

HIGHWAY 12
CHEHALIS RIVER
ELLIOTT SLOUGH



HIGHWAY 12
ELLIOTT SLOUGH
CHEHALIS RIVER
TOP OF BANK
TANK NO. 8 FUEL OIL
TANK NO. 16 GAS CHEVRON
TANK NO. 18 LIGHT FUEL OIL
ASPHALT BATCH PLANT
TANK NO. 22 DIESEL
TANK NO. 17 "GRIT"
TANK NO. 15 "PEARL"
TANK NO. 14 SUPREME
TANK NO. 11 GASOLINE
TANK NOT NUMBERED SUPREME
TANK NOT NUMBERED "SHOP"
GARAGE (1946)
STORAGE
FUEL LOADING RACK (1946)
OFFICE
SHOP
BARREL STEAMER
WASH RACKS (1946)
PUMP HOUSE
CONCRETE BERM
CONCRETE BUILDING
BOILER ROOM (1946)
PRIVATE GARAGE 1922
HEATING OIL UST
VEHICLE FUEL PUMPS
METAL SHOP
SCALE
TRAILERS
CONCRETE
ASPHALT
AGGREGATE STOCKPILES
GRAVEL ON ASPHALT
CONCRETE BLOCK WALL
CONCRETE PAD
CULVERT OUTFALL
LEGEND
FEET
FIGURE 7
SITE PLAN SHOWING GRO AND BENZENE ANALYTICAL RESULTS IN GROUNDWATER
LAKESIDE INDUSTRIES
ABERDEEN FACILITY
ABERDEEN, WASHINGTON
FARALLON CONSULTING



HIGHWAY 12
CHEHALIS RIVER
TANK NO. 8
FUEL OIL
TANK NO. 16
GAS-CHEVRON
TANK NO. 18
LIGHT FUEL OIL
ASPHALT
CONCRETE
SCALE
METAL SHOP
TOP OF BANK
FARALLON
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FIGURE 8

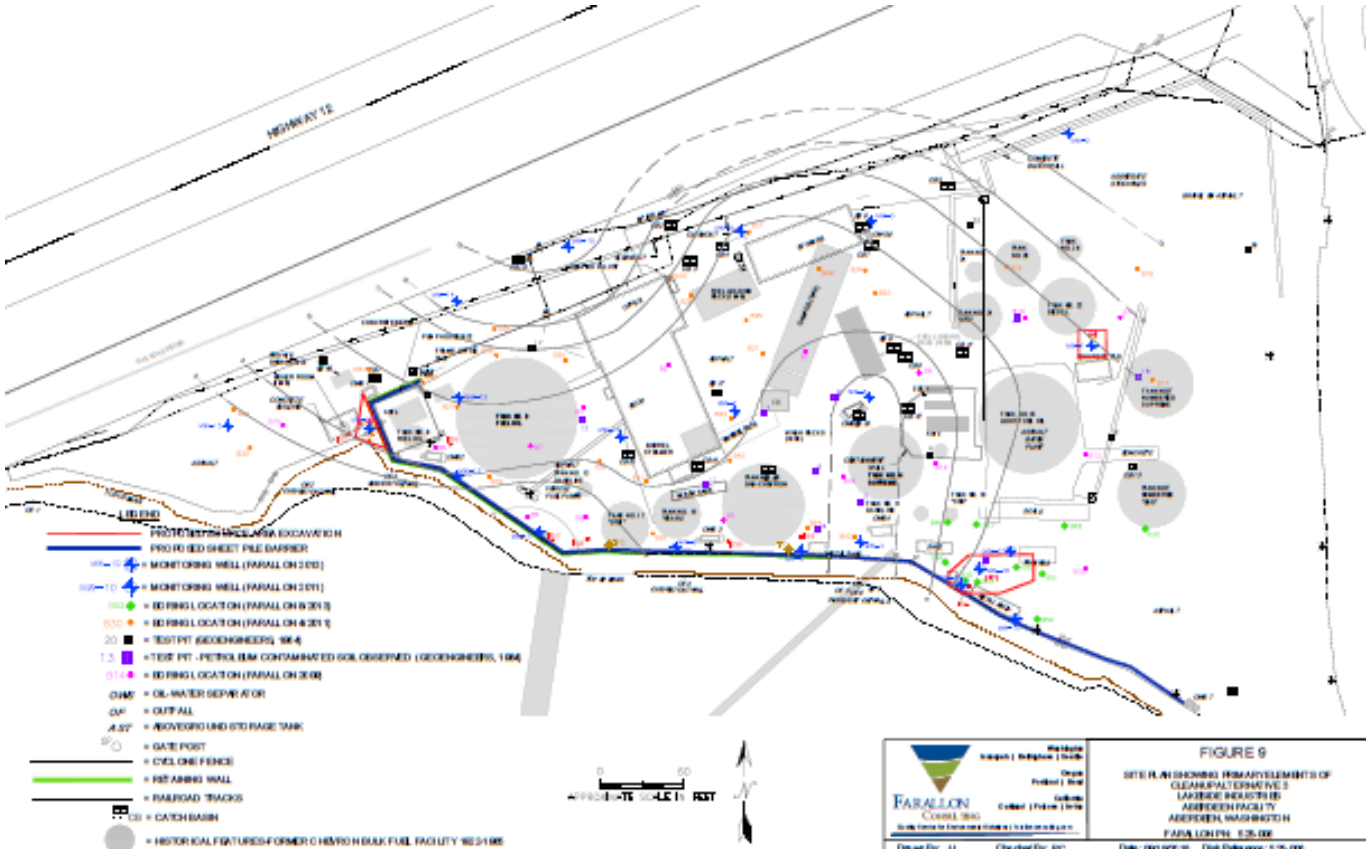
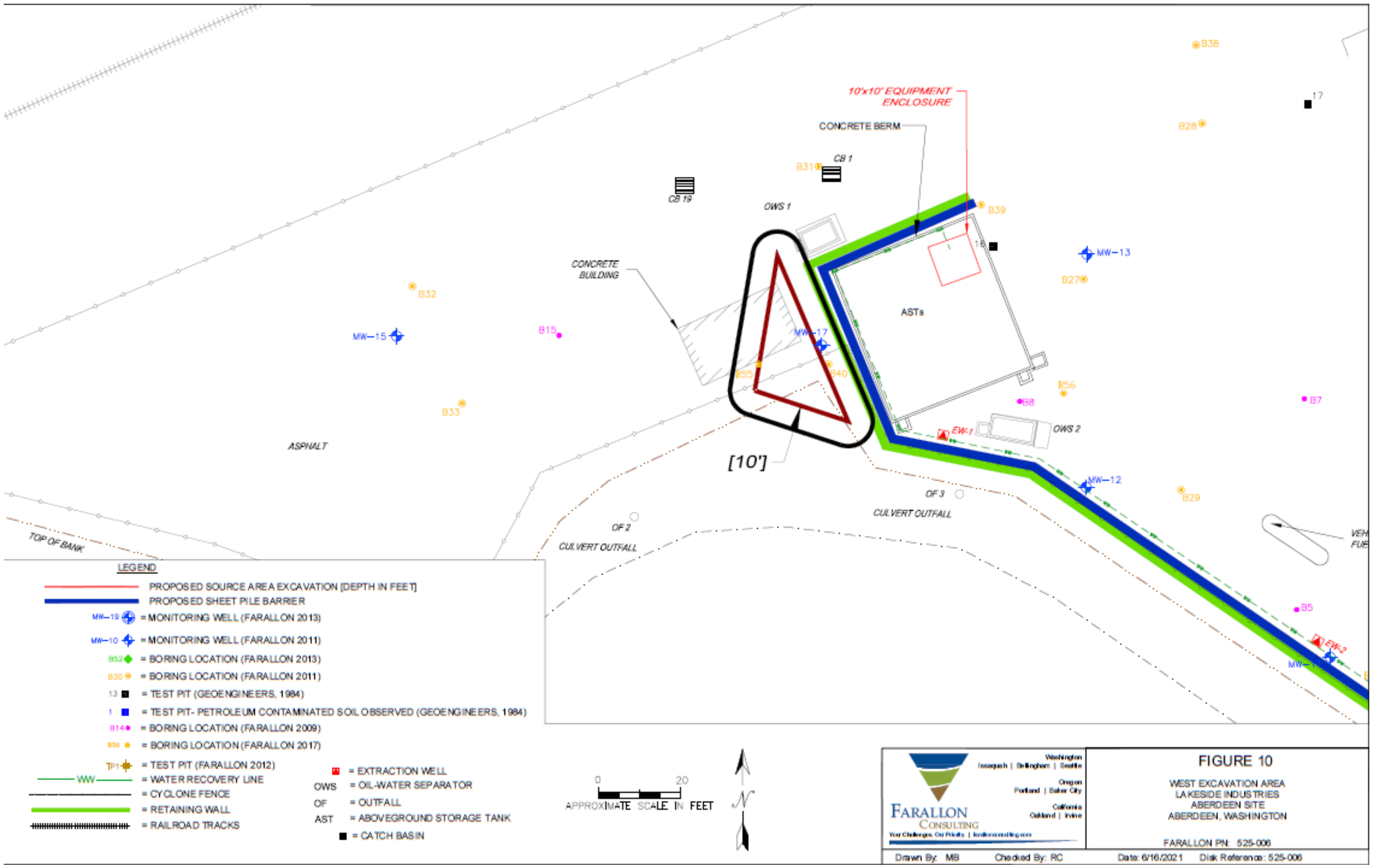


FIGURE 9

SITE PLAN SHOWING PRIMARY ELEMENTS OF CLEANUP ALTERNATIVE 3
LAMB OIL INDUSTRIES
ABERDEEN FACILITY
ABERDEEN, WASHINGTON

FARALLON PN: 535-006


10'x10' EQUIPMENT ENCLOSURE
CONCRETE BERM
CB 1
B31
CB 19
OWS 1
B39
MW-13
B27
B28
B38
17
CONCRETE BUILDING
B32
MW-15
B15
B33
ASTs
MW-17
B40
B56
B8
B7
OWS 2
EW-1
[10']
ASPHALT
MW-12
B29
OF 3
CULVERT OUTFALL
OF 2
CULVERT OUTFALL
TOP OF BANK
B5
EW-2
LEGEND
PROPOSED SOURCE AREA EXCAVATION [DEPTH IN FEET]
PROPOSED SHEET PILE BARRIER
MW-19 = MONITORING WELL (FARALLON 2013)
MW-10 = MONITORING WELL (FARALLON 2011)
B52 = BORING LOCATION (FARALLON 2013)
B30 = BORING LOCATION (FARALLON 2011)
13 = TEST PIT (GEOENGINEERS, 1984)
1 = TEST PIT- PETROLEUM CONTAMINATED SOIL OBSERVED (GEOENGINEERS, 1984)
B14 = BORING LOCATION (FARALLON 2009)
= BORING LOCATION (FARALLON 2017)
TP1 = TEST PIT (FARALLON 2012)
WW = WATER RECOVERY LINE
= CYCLONE FENCE
= RETAINING WALL
= RAILROAD TRACKS
= EXTRACTION WELL
OWS = OIL-WATER SEPARATOR
OF = OUTFALL
AST = ABOVEGROUND STORAGE TANK
= CATCH BASIN
0
20
APPROXIMATE SCALE IN FEET
N

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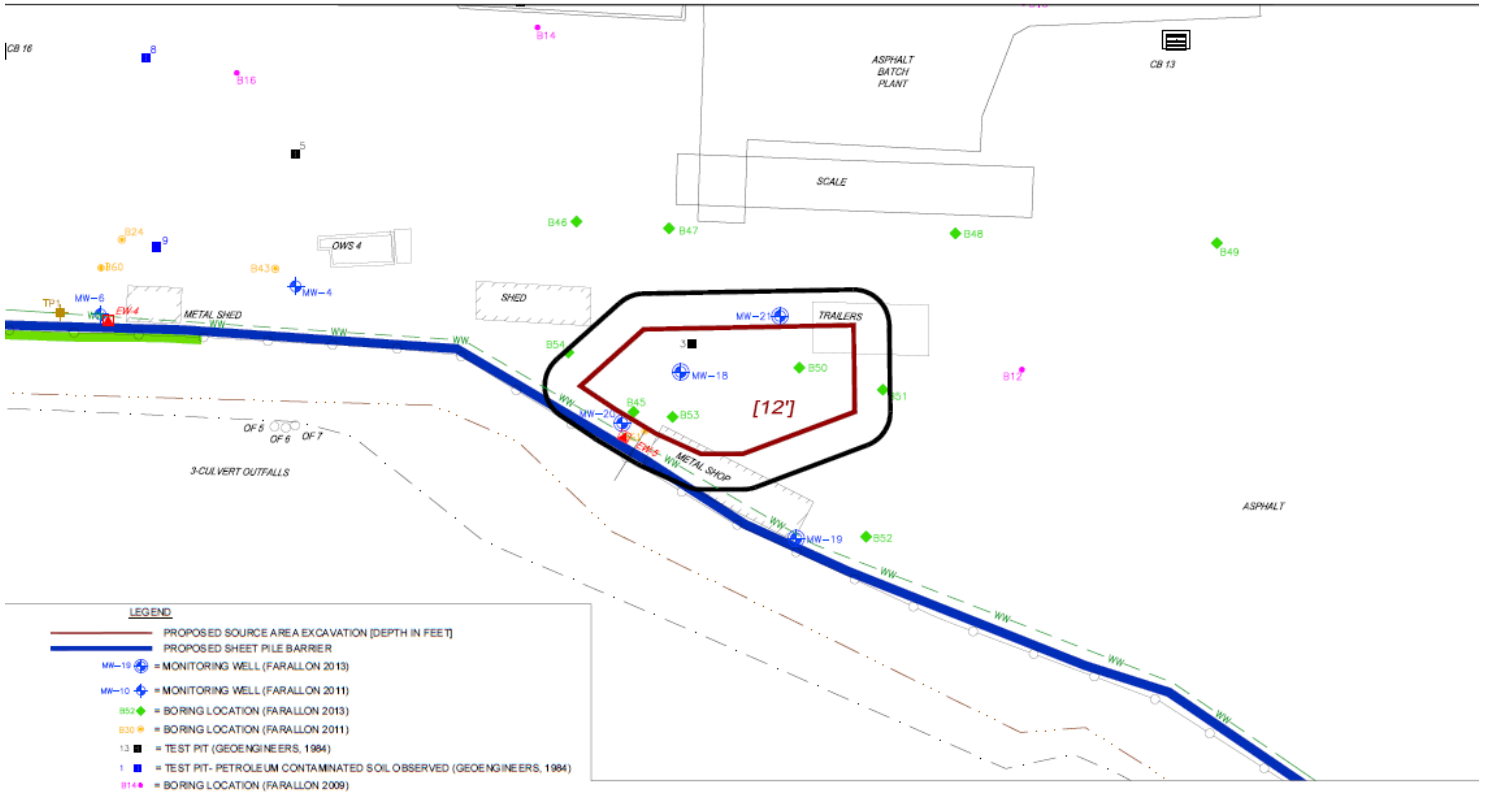
California: Oakland | Irvine

FIGURE 10

WEST EXCAVATION AREA
LAKESIDE INDUSTRIES
ABERDEEN SITE
ABERDEEN, WASHINGTON

FARALLON PN: 525-006

Drawn By: MB Checked By: RC Date: 6/16/2021 Disk Reference: 525-006



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Oregon: Portland | Baker City
California: Oakland | Irvine

FIGURE 11

SOUTHEAST EXCAVATION AREA
LAKESIDE INDUSTRIES
ABERDEEN SITE
ABERDEEN, WASHINGTON

FARALLON PN: 525-006

Drawn By: MB Checked By: RC Date: 6/16/2021 Disk Reference: 525-006

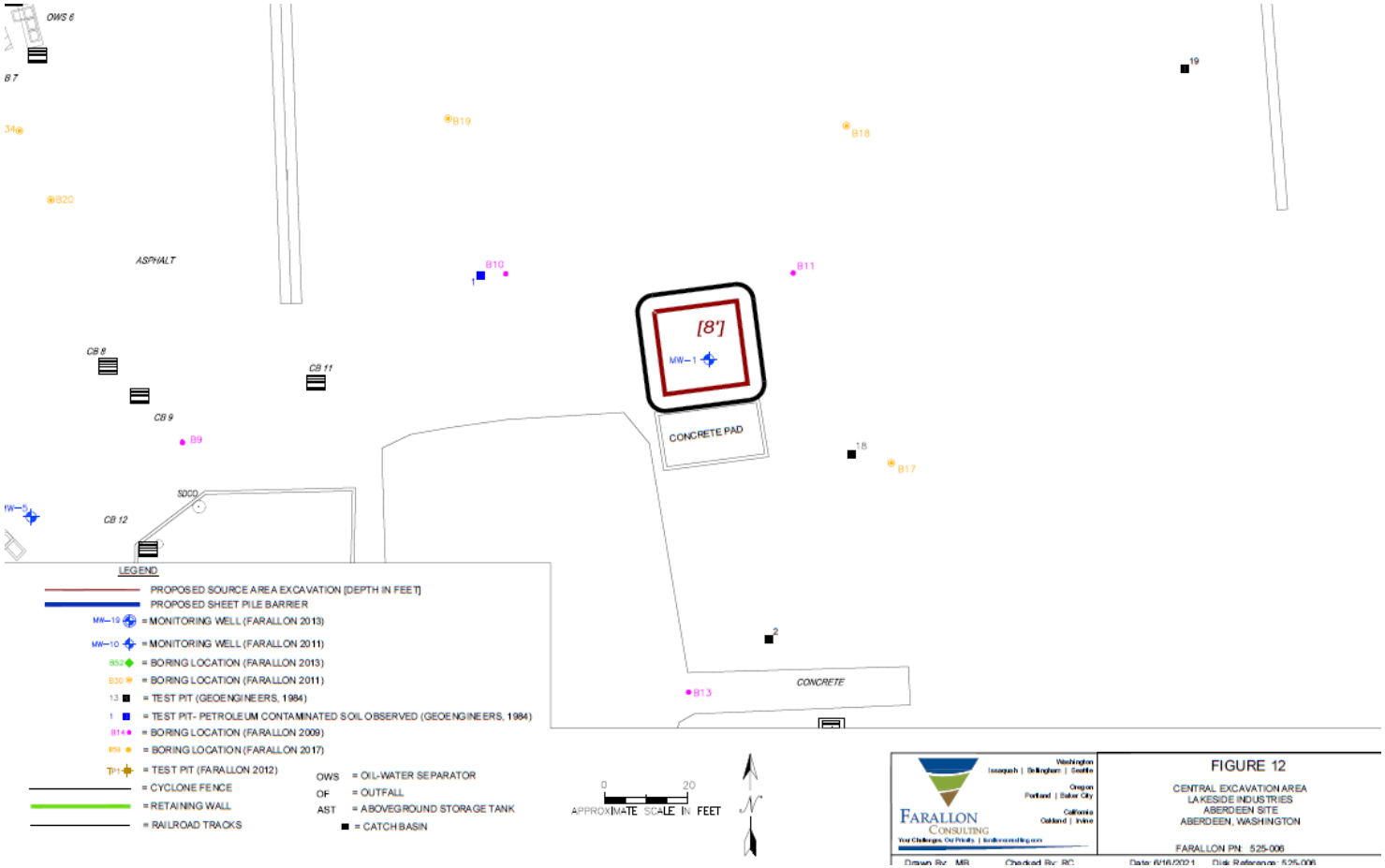

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FIGURE 12

CENTRAL EXCAVATION AREA
LAKESIDE INDUSTRIES
ABERDEEN SITE
ABERDEEN, WASHINGTON

FARALLON PN: 525-006

Drawn By: MB Checked By: RC Date: 6/16/2021 Disk Reference: 525-006

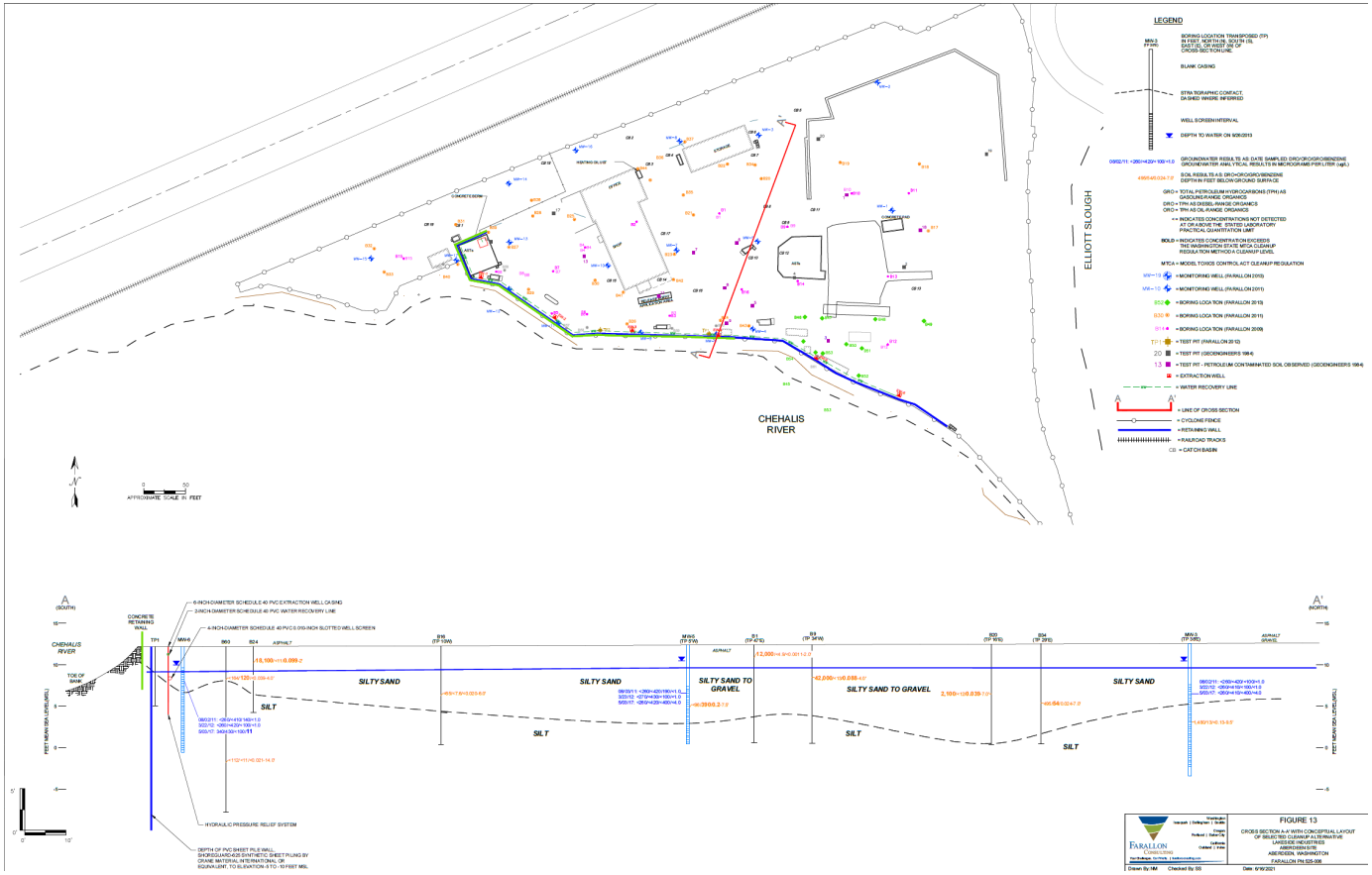

FIGURE 13

CROSS SECTION A-A' WITH CONCEPTUAL LAYOUT OF SELECTED CLEANUP ALTERNATIVE
LANDSEIK INDUSTRIES
ABERDEEN SITE
ABERDEEN, WASHINGTON
FARALLON PN 525-006

Drawn By: MM | Checked By: SS | Date: 6/9/2021

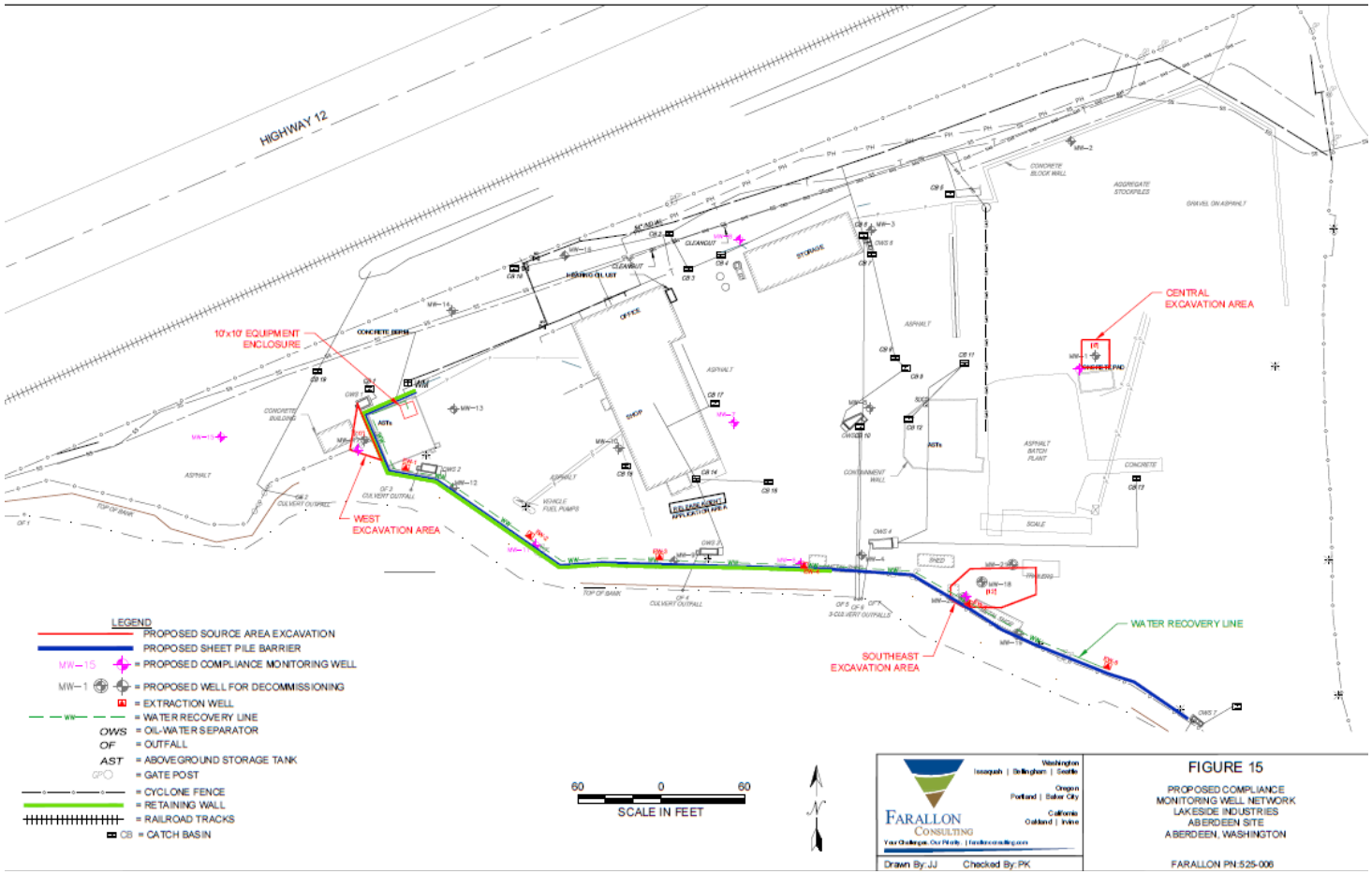

FIGURE 15

PROPOSED COMPLIANCE MONITORING WELL NETWORK
LAKESIDE INDUSTRIES
ABERDEEN SITE
ABERDEEN, WASHINGTON

FARALLON PN: 525-006