CONSTRUCTION COMPLETION REPORT

OVERPASS PROPERTY

Prepared for
PORT OF RIDGEFIELD
RIDGEFIELD, WASHINGTON
October 22, 2021
Project No. 9003.01.50

Prepared by
Maul Foster & Alongi, Inc.
109 East 13th Street, Vancouver, WA 98660

MAUL
FOSTER
ALONGI

CONSTRUCTION COMPLETION REPORT

OVERPASS PROPERTY

The material and data in this report were prepared under the supervision and direction of the undersigned.

MAUL FOSTER & ALONGI, INC.

This digital seal certifies the signatory and document content.

10-22-2021

Joshua Elliott, PE
Senior Engineer

Phil Wiescher, PhD
Principal Environmental Scientist

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TABLE AND ILLUSTRATIONS

FOLLOWING REPORT:

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ACRONYMS AND ABBREVIATIONS

AES	Advanced Excavating Specialists
BMPs	best management practices
CAP	cleanup action plan
City	City of Ridgefield
DARs	daily activity reports
dioxins	chlorinated dibenzo p-dioxins and dibenzofurans
Ecology	Department of Ecology (Washington)
EDR	engineering design report
HDJ	HDJ Design Group
Jacobs	Jacobs Engineering Group, Inc.
LRIS	Lake River Industrial Site
MFA	Maul Foster & Alongi, Inc.
MTCA	Model Toxics Control Act
Port	Port of Ridgefield
RI/FS	remedial investigation and feasibility study
SMCMP	soil management and cap maintenance plan
site	Port-owned Overpass property
WAC	Washington Administrative Code

1 INTRODUCTION

Maul Foster & Alongi, Inc. (MFA) has prepared this report on behalf of the Port of Ridgefield (Port) describing the completion of remedial actions on the Port-owned Overpass property (site) near the Port's Lake River Industrial Site (LRIS) in Ridgefield, Washington (see Figure 1-1). This document has been prepared under the authority of Consent Decree No. 13-2-03830-1 between the Port and the Washington State Department of Ecology (Ecology) to satisfy the requirements of Exhibit C (Project Schedule) of the Consent Decree and the Model Toxics Control Act (MTCA) and to address the requirements of Washington Administrative Code (WAC) 173-340.

The Port has completed the remedial action associated with Phase II of a three-phase rail overpass project to improve access to the waterfront. Phase II consists of roadway improvements west of the Burlington Northern Santa Fe (BNSF) railroad to connect Mill Street to Division Street. The project also includes replacement of a sanitary sewage lift station, relocation of a potable water line, realignment of an existing access road to a McCuddy's Marina parking area, and placement of fill to raise the grade south of Mill Street for the future overpass landing. This completion report was prepared to describe the remedial action components of the Phase II improvements.

The remedial action generally consisted of regrading site soils and placement of an engineered cap over the site. Over most of the site, the engineered cap was composed of a minimum 2-foot-thick, clean soil cap; the portion of the site dedicated to the new sanitary sewage lift station received an asphalt cap. Advanced Excavating Specialists (AES) of Longview, Washington performed the remedial action tasks, with oversight from MFA and Jacobs Engineering Group, Inc. (Jacobs) of Bellevue, Washington, from June 2014 to October 2014. The remedial action for the site is complete and was performed in accordance with the requirements of the Consent Decree, the remedial action requirements provided in MTCA, WAC 173-340, and the Ecology-approved engineering design report (EDR) (MFA, 2014).

The project was issued coverage under Construction Stormwater General Permit No. WAR301847 on June 20, 2014, and Administrative Order No. 10748 issued on June 12, 2014 (see Appendix A). The Administrative Order established indicator levels of known contaminants (gasoline-range hydrocarbons, diesel-range hydrocarbons, benzo(s)pyrene, and pentachlorophenol) for stormwater discharged from the site to surface water.

1.1 Site Location and History

The site consists of a Port-owned parcel located within the Ridgefield city limits at 5 Mill Street, Ridgefield, Washington 98642. The site is located in the northwest quadrant of the northeast quarter of section 24, township 4 north, range 1 west of the Willamette Meridian. The site is oriented north-south and is bordered by the BNSF railroad to the east, McCuddy's Marina to the west and south, and Mill Street to the north. Mill Street is a City of Ridgefield (City) right of way. The site is approximately 1.38 acres; it is approximately 775 feet long and is up to 150 feet wide.

The zoning of the site is waterfront low scale; the site is undeveloped and includes a sanitary sewage lift station. Prior to construction, an existing McCuddy's Marina access road traversed a portion of the site and was used by boathouse residents.

1.2 Project Purpose and Need

On September 24, 2001, the Port entered into Agreed Order No. 01TCPSR-3119 with Ecology to conduct a remedial investigation and feasibility study (RI/FS) at the LRIS. The RI/FS was finalized in July 2013 and indicated that chemicals in surface soil, specifically chlorinated dibenzo p-dioxins and dibenzofurans (dioxins), at the site could cause unacceptable risk to human health and the environment (MFA, 2013). The extent of contamination was driven by ecological dioxin toxicity equivalent exceedances for ecological receptors (MFA, 2013) and is shown in Figure 1-2 along with the approximate cap extent on the site and south of the site at the McCuddy's Marina property.

The selected remedy included placement of an engineered cap over the site to mitigate potential exposure to dioxins in soil and cap monitoring consistent with the soil management and cap maintenance plan (SMCMP) (MFA, 2014b). The remedy selected by Ecology in accordance with WAC 173-340-380 and informed by the RI/FS, as documented in the cleanup action plan (CAP) (Ecology, 2013). Engineering and design documents for implementation of the CAP at the site were prepared in an EDR that was reviewed and approved by Ecology (MFA, 2014a).

2 PROJECT TEAM AND ORGANIZATION

2.1 Project Team

The construction project team consisted of the following members:

- Owner-Port of Ridgefield. Ms. Laurie Olin served as the Port's project manager.
- Design Engineers – Jacobs and HDJ Design Group (HDJ) of Vancouver, Washington. Responsible for engineering design services and the paving and grading design, respectively.
- Civil Construction Oversight – Jacobs. Responsible for contract management and overall conformance to the design documents.
- Environmental Construction Oversight – MFA. Responsible for conformance of the environmental aspects of the project to the CAP and the approved design.
- General Contractor – AES. Responsible for construction project management and site construction.
- Surveying – HDJ and, later, AKS Engineering and Forestry of Vancouver, Washington.

2.2 Project Schedule

The project went out for bid on April 16, 2014 with the final award notification going to AES on May 7, 2014. AES mobilized construction equipment to the site the week of June 15, 2014 and began installing erosion control best management practices (BMPs). Upon receipt of coverage under the construction stormwater general permit on June 20, 2014, AES began to implement the remedial action.

2.3 Construction Oversight

Construction oversight was provided daily by Jacobs and MFA staff. Oversight tasks included observation and verification of proper soil handling procedures, preparation of subgrade, placement of demarcation fabric, placement of clean soil cap, and proper implementation of erosion and sediment control BMPs.

2.3.1 Construction Meetings

Coordination meetings were held on site; attendees included the contractor, the Jacobs field engineer, the MFA field engineer, the City, Clark Regional Wastewater District, and the Port. The meetings were held to discuss schedule, outstanding issues, and other topics raised by attendees. Meetings typically were held on Wednesday mornings.

2.3.2 Field Notes

Field book entries were completed by the design engineer and MFA, respectively. Records were made for each day when the engineer was on site to note observations regarding site conditions, contractor activities, construction issues, and construction progress.

3 REMEDIAL ACTION SUMMARY

3.1 Site Preparation

Initial site preparation tasks began the week of June 15, 2014, and consisted of equipment mobilization to the site, erosion control BMP installation, utility locates, water treatment system installation, and clearing and grubbing activities. Silt fence, storm drain inlet protection, and construction security fencing were installed on the site in the locations indicated on the construction drawings provided in the EDR (MFA, 2014a). A gravel construction entrance/exit was installed in along Mill Street.

Underground and aboveground utilities identified on the construction drawings and confirmed in the field were marked, as applicable, on the site before construction. These included: overhead power lines owned by Clark Public Utilities immediately north and south of the site; potable water, stormwater, and sanitary sewer lines owned by the City.

Clearing and grubbing activities were performed within the limits of grading in accordance with the construction drawings and specifications provided in the EDR (MFA, 2013a). All vegetation was removed off site to prepare for regrading and cap placement.

3.2 Installation of Infrastructure Improvements

The first phases of construction for the Overpass project involved the installation of infrastructure improvements for the new sanitary sewer lift stations. These improvements, not related to the remedial action, included: relocation of existing City water line; relocation of an existing utility pole; installation of new gravity sanitary sewer piping and manholes; installation of the new lift station wet well; and installation of new lift station discharge piping.

3.3 Subgrade Preparation

The site was graded to facilitate the installation of the cap to final design grades. The subgrade design is shown in plan view and in section views on Drawing C105 of Appendix A of the EDR (MFA, 2014b). Areas where the stormwater ditch was installed in the clean soil cap were overexcavated to ensure that minimum cap thickness in the ditch was maintained. The maximum subgrade slope was approximately 3H:1V (horizontal to vertical).

Existing site soils were regraded to prepare the site for placement of the clean soil cap and the establishment of finished grade. Soil was excavated on the site at the following locations: from the Mill Street ROW to allow for a revised roadway vertical alignment; from the northern portion of the site for installation of the sanitary sewage lift station and associated piping; and from the southern portion of the site to allow for installation of the clean soil cap at elevations adjacent to existing grades. The excavated soil was placed and compacted to at least 95% of the maximum density in an embankment at the northeast corner of the site. Compaction testing was conducted by Mayes Testing Engineers. This embankment was capped with clean soil or asphalt/concrete paving consistent with the CAP (Ecology, 2013). This capped embankment will serve as an elevated landing for the future overpass roadway.

Movement of soil on the site was conducted by loading material into on-site haul trucks by a hydraulic excavator and then dumping the soil into its approximate final location. Final placement and fine grading of the subgrade soils was performed by a dozer. Subgrade soils were compacted by a sheepsfoot/smooth-drum vibratory compactor. Once the subgrade surface had been prepared, surveyed, and approved by the design engineers, demarcation fabric was placed on the finished subgrade for areas requiring a soil cap.

The MFA field engineer observed placement of demarcation fabric and verified that the minimum overlap lengths were obtained.

3.4 Cap Placement

As described in the EDR, the protective cap for the Overpass Property remedial is composed of two cap types: asphalt and clean soil. Jacobs and/or MFA field engineers observed the placement of both cap types to ensure conformance with the approved design (MFA, 2014a).

An area of the Mill Street ROW directly north of the site was regraded as part of the overpass construction; this is shown on Drawing C105 of Appendix A of the EDR (MFA, 2014a). Any material generated from the ROW was placed underneath the cap on the site. Mill Street itself was repaved following Phase II construction.

3.4.1 Asphalt Cap

An asphalt cap was used in the area of the new sanitary sewage lift station. Asphalt was installed over clean, crushed aggregate base. The asphalt has a minimum depth of 3 inches and the aggregate base has a depth of 0.8 foot. The asphalt cap is sloped to promote drainage generally to the west to a stormwater ditch. The structures associated with the new sanitary sewage lift station also serve as components of the cap.

3.4.2 Soil Cap

A geotextile fabric was placed over the prepared subgrade to serve as a demarcation layer indicating the bottom of the soil cap. The demarcation fabric met the performance requirements of SKAPS GT-160 Nonwoven Geotextile™ and was installed as recommended by the manufacturer. The fabric placement and coverage was inspected by MFA and/or Jacobs before placement of the soil cap.

A clean soil cap was used over most of the site. Clean soil was placed and compacted over demarcation fabric. The cap design used for the site is the same as that used for portions of the LRIS (Cells 1 through 4) and the Railroad Avenue site. The clean fill was provided by the contractor, AES. Before acceptance by the Port and import to the site, the fill was sampled by MFA and analyzed in accordance with the soil acceptance plan in the SMCMP (MFA, 2014b). The laboratory analytical report and a data validation memorandum is provided as Appendix C. Table 3-1 summarizes the analytical results and screens the data relative to applicable screening criteria.

The clean soil cap has a minimum compacted depth of 2 feet and is sloped to drain to the west. An area of the site, just west of the sanitary sewage lift station, is sloped at a maximum of 2H:1V. A section of compacted gravel was used where the new access road traverses the site. The compacted gravel section was 1 foot thick, underlain by 1 foot of compacted clean soil.

Grasses and shallow-rooted ground cover plants were planted over the clean soil cap area to protect against erosion.

3.5 Stormwater Management

Stormwater encountered during construction activities was pumped from the excavation areas and treated using gravity settling, microfiltration, aeration, and carbon absorption. Initially, groundwater was pumped into a three-chambered sedimentation tank to settle out large solids. Effluent from the sedimentation tank was then pumped through a microfiltration unit and discharged into a holding storage tank. The two tanks were hydraulically connected; water was cycled between the tanks through the carbon absorption unit. The storage tanks were aerated during cycling to enhance volatile organic compound removal. After carbon absorption and aeration, samples were collected and submitted to Specialty Analytical of Clackamas, Oregon for analysis. Analytical results were then submitted to Ecology for approval before discharge.

On August 27, 2014, Ecology approved the treated water for discharge into Lake River. Treated stormwater (less than 21,000 gallons) was tested and discharged in one batch. Treated stormwater analytical results are presented in Table 3-1; laboratory results and chain-of-custody documentation are included in Appendix C.

3.6 Engineering and Institutional Controls

Protection and maintenance of the engineered cap will be consistent with the SMCMP (MFA, 2014b). Monitoring will be conducted to ensure compliance with the SMCMP.

4 FINAL INSPECTION

A final site walk took place on October 3, 2014. Attending the inspection was Mr. Mike LaFave of AES and Mr. Reiter and Mr. Elliott of MFA. The engineers gave verbal notice of substantial completion to the contractor at the conclusion of the final site inspection.

5 CERTIFICATION STATEMENT

The construction oversight and project engineering services described in the report were performed by MFA on behalf of the Port of Ridgefield. Based on the observations made during construction, survey results, and the final product constructed on the site, it is the opinion of MFA that the Overpass Remedial Action has been constructed in substantial compliance with the plans, specifications, and related documents in the Ecology-approved EDR (MFA, 2014a).

LIMITATIONS

The services undertaken in completing this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this report.

REFERENCES

Ecology. 2013. Cleanup action plan, former Pacific Wood Treating Co. site. Washington State Department of Ecology. November 5.

MFA. 2013. Former PWT site remedial investigation and feasibility study report. Prepared for Port of Ridgefield. Maul Foster & Alongi, Inc. Vancouver, Washington. July 1.

MFA. 2014a. Engineering design report for Overpass property. Prepared for Port of Ridgefield. Maul Foster & Alongi, Inc. March 13.

MFA. 2014b. Soil management and cap maintenance plan for the Railroad Overpass property. Prepared for Port of Ridgefield. Maul Foster & Alongi, Inc. Vancouver, Washington. May 9.

TABLE

Table 3-1
Analytical Results for Import Soil
Overpass Property
Port of Ridgefield

Location:	Lowest Ecological Indicator Concentration	MTCA Soil CUL	Background	IMP1	IMP2	IMP2	IMP2	IMP2
Sample Name:				1MP1-COMP-01	1MP2-COMP-01	1MP2-COMP-02	1MP2-COMP-03	1MP2-COMP-04
Collection Date:				7/8/2014	7/8/2014	7/8/2014	7/8/2014	7/8/2014
Metals (mg/kg)								
Antimony	5	32	NV	2.61 U	1.93 U	1.87 U	1.99 U	1.98 U
Arsenic	7	0.67	5.81	**2.68**	1.93 U	1.87 U	1.99 U	1.98 U
Beryllium	102	160	2.07	**1.58**	**0.239**	**0.184**	**0.219**	**0.222**
Cadmium	4	2.0	0.93	0.13 U	0.0965 U	0.0933 U	0.0993 U	0.0989 U
Chromium	42	19[(a)]	26.57	**17.4**	**3.67**	**2.78**	**3.12**	**2.78**
Copper	50	3,200	34.43	**15**	**9.07**	**7.03**	**8.92**	**8.34**
Lead	50	250	24.02	**2.97**	1.93 U	1.87 U	1.99 U	1.98 U
Mercury	0.3	2.0	0.04	0.0198 U	0.0158 U	0.0165 U	0.0176 U	0.0168 U
Nickel	30	1,600	21.04	**10.5**	**5.43**	**3.99**	**4.13**	**3.14**
Selenium	1	400	NV	2.61 U	1.93 U	1.87 U	1.99 U	1.98 U
Silver	2	400	NV	2.61 U	1.93 U	1.87 U	1.99 U	1.98 U
Thallium	1	0.8	NV	3.26 UJ	2.41 UJ	2.33 UJ	2.48 UJ	2.47 UJ
Zinc	86	24,000	95.52	**60**	**13.2**	**10.3**	**12**	**12.5**
Hydrocarbon Identification (mg/kg)								
Diesel	200	2,000	NV	ND	ND	ND	ND	ND
Gasoline	100	100	NV	ND	ND	ND	ND	ND
Hydraulic Oil	200	NV	NV	ND	ND	ND	ND	ND
Kerosene	NV	NV	NV	ND	ND	ND	ND	ND
Lube Oil	NV	2,000	NV	ND	ND	ND	ND	ND
Mineral Spirits	NV	4,000	NV	ND	ND	ND	ND	ND

Table 3-1
Analytical Results for Import Soil
Overpass Property
Port of Ridgefield

NOTES:

Detected results are in **bold** font.

Background = Natural background soil metals concentrations in Clark County, Washington State.

IMP1 = Contractor proposed borrow material from City of Ridgefield Exit 14 Park and Ride, property ID 213964.

IMP2 = Common borrow material from Storedhal's Owl Creek sand pit.

mg/kg = milligrams per kilogram.

MTCA Soil CUL = lowest of available MTCA Method A or Method B cleanup levels.

ND = non-detect.

NV = no value.

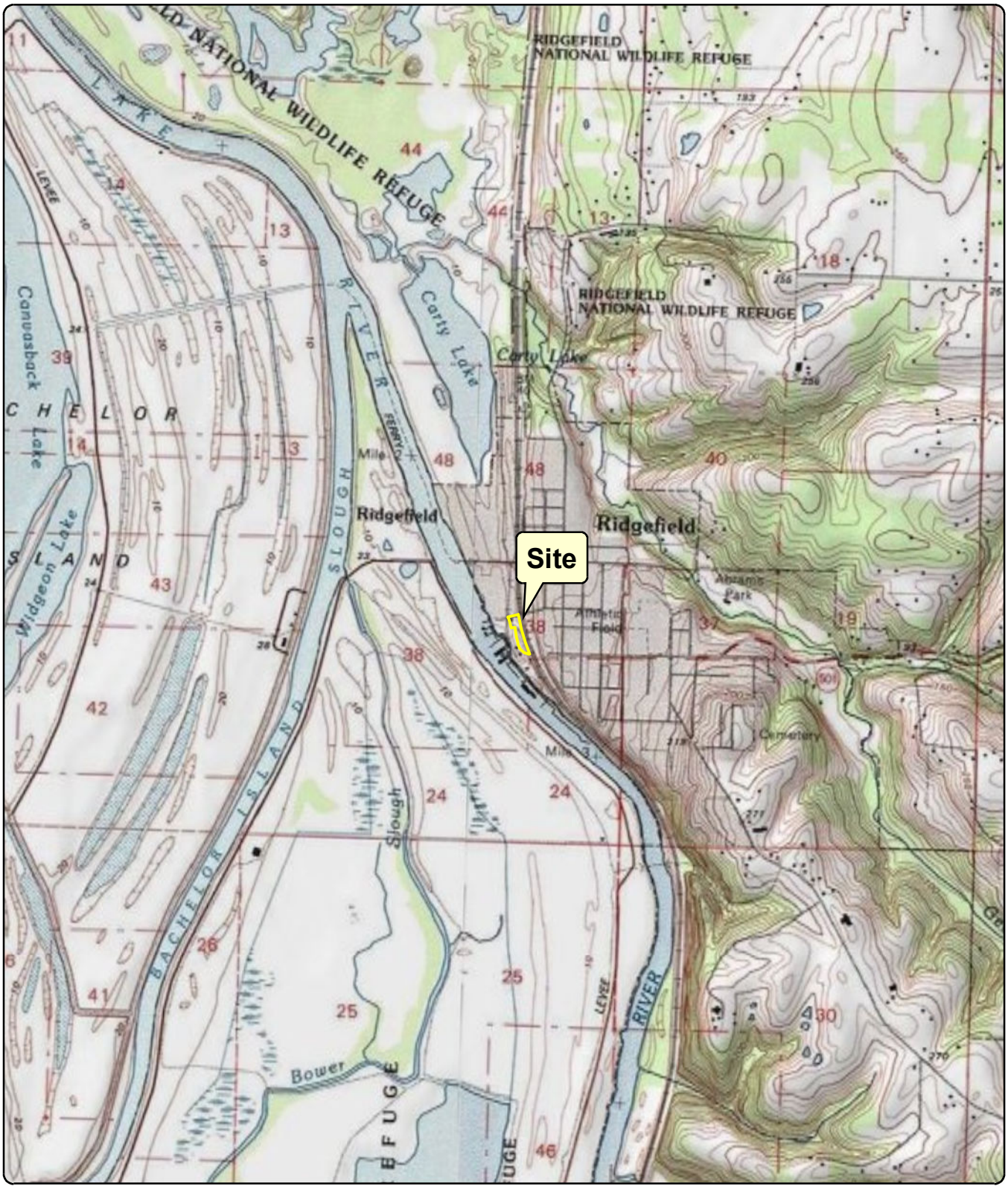
U = the result is non-detect.

UJ = the result is non-detect and estimated.

USEPA = U.S. environmental protection agency.

[a]Chromium (VI) MTCA cleanup level is used for chromium.

FIGURES



Source: Topographic Quadrangle obtained from ArcGIS Online Services/NGS-USGS TOPO! US Geological Survey (1999)
7.5-minute topographic quadrangle: Ridgefield
Address: 325 Railroad Avenue, Ridgefield, WA 98642
Section: 24 Township: 4N Range: 1W Of Willamette Meridian

Figure 1-1
Site Location

Port of Ridgefield
Ridgefield, Washington

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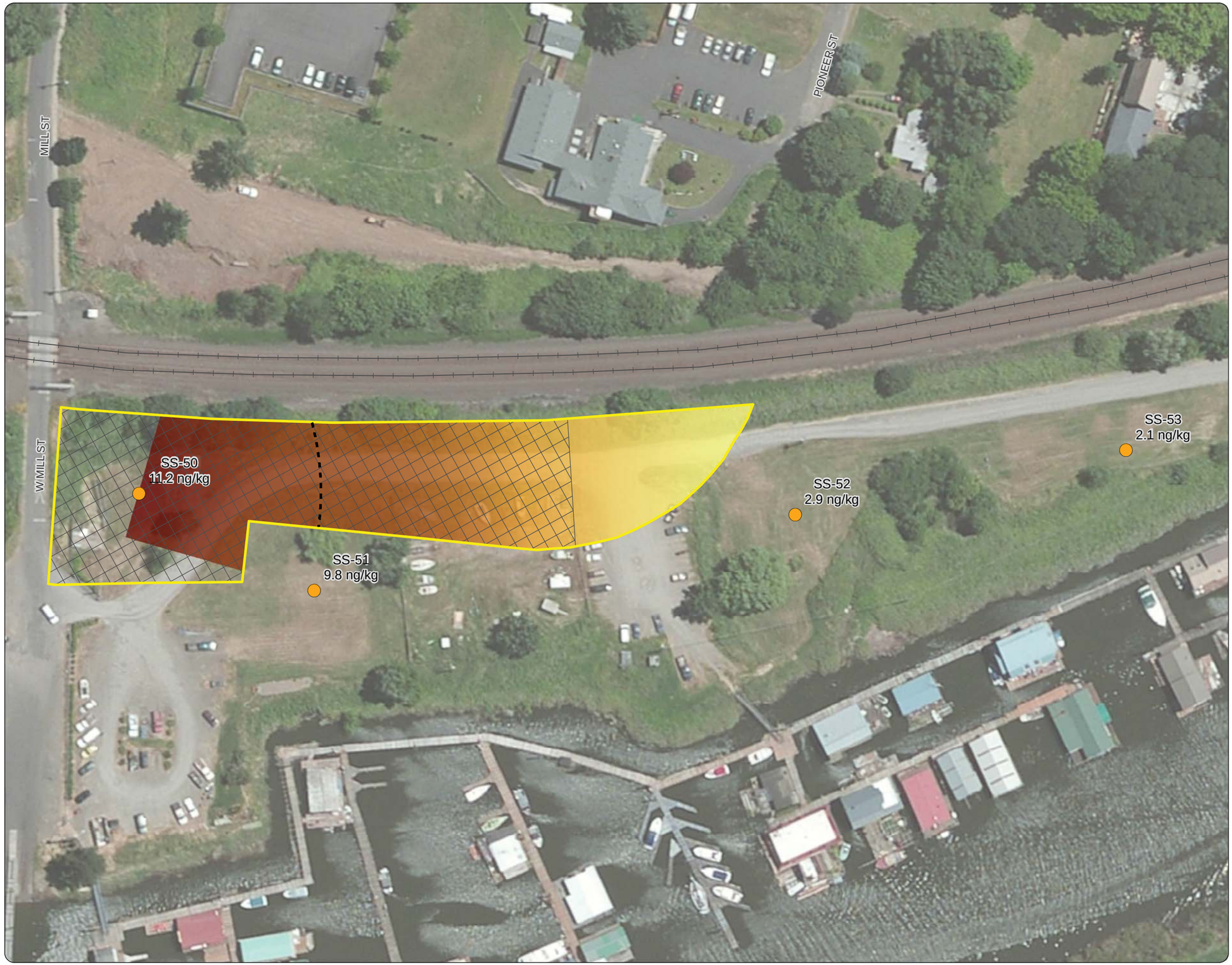
0 1,000 2,000
Feet

Path: X:\9003.01 Port of Ridgefield\51\Projects\Fig1-1_Site Location.mxd
Print Date: 2/5/2014
Approved By: J. King
Produced By: jschane
Project: 9003.01.50

Figure 1-2
Ecological Dioxin TEQ in Soil

Port of Ridgefield
Ridgefield, Washington



Legend

- Soil Sample Location
- Ecological CUL Contour (9.8 ng/kg)
- Approximate Cap Extent
- Overpass Property Boundary

Dioxin TEQ (ng/kg)

- High : 11.2
- Low : 2.1

Notes:
1. ng/kg = nanograms per kilogram
2. Interpolation created using IDW default parameters in ArcGIS 10.2.

0 40 80
Feet

Source: Aerial photograph obtained from ESRI, Inc. ArcGIS Online.

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Path: X:\9003.01 Port of Ridgefield\51\Projects\Fig2-1_Ecological Dixon TEQ in Soil.mxd
Project: 9003.01.51
Produced By: jschane
Approved By: MRM
Print Date: 2/6/2014

APPENDIX A

CONSTRUCTION GENERAL STORMWATER PERMIT AND ADMINISTRATIVE ORDER

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

June 20, 2014

Brent Grening
Port of Ridgefield
PO Box 55
Ridgefield, WA 98642

RE: Coverage under the Construction Stormwater General Permit

Permit number:	**WAR301847**
Site Name:	**Ridgefield Rail Overpass Project**
Location:	**Mill St to Division St**
	Ridgefield **County: Clark**
Disturbed Acres:	**3**

Dear Mr. Grening:

The Washington State Department of Ecology (Ecology) received your Notice of Intent for coverage under Ecology's Construction Stormwater General Permit (permit). This is your permit coverage letter. Your permit coverage is effective on June 20, 2014. **Please retain this permit coverage letter with your permit (enclosed), stormwater pollution prevention plan (SWPPP), and site log book. These materials are the official record of permit coverage for your site.**

Please take time to read the entire permit and contact Ecology if you have any questions.

Additional Monitoring
Please refer to the enclosed Administrative Order number 10748 for additional monitoring requirements.

Appeal Process
You have a right to appeal coverage under the general permit to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of this letter. This appeal is limited to the general permit's applicability or non-applicability to a specific discharger. The appeal process is governed by chapter 43.21B RCW and chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal, you must do the following within 30 days of the date of receipt of this letter:

- File your appeal and a copy of the permit cover page with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and the permit cover page on Ecology in paper form - by mail or in person (see addresses below). E-mail is not accepted.

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

Address and Location Information:

Street Addresses:	**Mailing Addresses:**
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503	Department of Ecology Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608
Pollution Control Hearings Board (PCHB) 1111 Israel Road SW, Suite 301 Tumwater, WA 98501	Pollution Control Hearings Board PO Box 40903 Olympia, WA 98504-0903

Electronic Discharge Monitoring Reports (WQWebDMR)
This permit requires that Permittees submit monthly discharge monitoring reports (DMRs) electronically using Ecology's secure online system, WQWebDMR. To sign up for WQWebDMR go to: www.ecy.wa.gov/programs/wq/permits/paris/webdmr.html. If you have questions, contact Tonya Wolfe at (360) 407-7097 (Olympia area), or (800) 633-6193/option 3, or email WQWebPortal@ecy.wa.gov.

Ecology Field Inspector Assistance
If you have questions regarding stormwater management at your construction site, please contact Sheila Pendleton-Orme of Ecology's Vancouver Field Office at sheila.pendleton-orme@ecy.wa.gov, or (360) 690-4787.

Questions or Additional Information
Ecology is committed to providing assistance. Please review our web page at: www.ecy.wa.gov/programs/wq/stormwater/construction/. If you have questions about the construction stormwater general permit, please contact Joyce Smith at joyce.smith@ecy.wa.gov, or (360) 407-6858.

Sincerely,

Bill Moore, P.E., Manager
Program Development Services Section
Water Quality Program

Enclosure

WAR301847
Ridgefield Rail Overpass Project
Mill St to Division St
Ridgefield Clark

Issuance Date: December 1, 2010
Effective Date: January 1, 2011
Expiration Date: December 31, 2015

CONSTRUCTION STORMWATER GENERAL PERMIT

National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit for Stormwater Discharges Associated with Construction Activity

State of Washington
Department of Ecology
Olympia, Washington 98504

In compliance with the provisions of
Chapter 90.48 Revised Code of Washington
(State of Washington Water Pollution Control Act)
and
Title 33 United States Code, Section 1251 et seq.
The Federal Water Pollution Control Act (The Clean Water Act)

Until this permit expires, is modified or revoked, Permittees that have properly obtained coverage under this general permit are authorized to discharge in accordance with the special and general conditions that follow.

Kelly Susewind, P.E., P.G.
Water Quality Program Manager
Washington State Department of Ecology

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600 ◦ Olympia, WA 98504-7600 ◦ 360-407-6000
711 for Washington Relay Service ◦ Persons with a speech disability can call 877-833-6341

June 12, 2014

Mr. Brent Grening, Executive Director
Port of Ridgefield
PO Box 55
Ridgefield, WA 98642

Order Docket #	10748
Site Location	Section 24, Township 4 North, Range 1 West, W.M. (West of downtown Ridgefield, extending from approximately 600 feet south of Mill Street north along west side of BNSF RR grade to Division Street)

RE: **Administrative Order**

Dear Mr. Grening:

The Department of Ecology (Ecology) has issued the enclosed Administrative Order requiring Port of Ridgefield to comply with:

- Chapter 90.48 Revised Code of Washington (RCW) - Water Pollution Control.
- Chapter 173-201A Washington Administrative Code (WAC) Water Quality Standards for Surface Waters of the State of Washington.
- Permit: National Pollution Discharge Elimination System (NPDES) Construction Stormwater General Permit WAR301847.

If you have questions please contact Carol Serdar at (360) 407-6269 or carol.serdar@ecy.wa.gov.

Sincerely,

Richard Doenges
Southwest Region Manager
Water Quality Program

Enclosure: Administrative Order No. 10748

By Certified Mail No.: 7010 0780 0002 3400 7276

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

IN THE MATTER OF AN ADMINISTRATIVE ORDER AGAINST Port of Ridgefield	))))	ADMINISTRATIVE ORDER DOCKET # 10748

To: Brent Grening, Executive Director
Port of Ridgefield
PO Box 55
Ridgefield, WA 98642

Order Docket #	10748
Site Location	Section 24, Township 4 North, Range 1 West, W.M. (West of downtown Ridgefield, extending from approximately 600 feet south of Mill Street north along west side of BNSF RR grade to Division Street)

The Washington State Department of Ecology (Ecology) has issued this Administrative Order (Order) requiring the Port of Ridgefield to comply with:

- Chapter 90.48 Revised Code of Washington (RCW) – State of Washington Water Pollution Control Act.
- Chapter 173-201A Washington Administrative Code (WAC) – Water Quality Standards for Surface Waters of the State of Washington.
- Permit: National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit WAR301847.

This is an Administrative Order in accordance with General Condition G13 (Additional Monitoring) as set forth in the Construction Stormwater General Permit. RCW 90.48.120(2) RCW authorizes Ecology to issue Administrative Orders to accomplish the purposes of Chapter 90.48 RCW.

ORDER TO COMPLY

The Port of Ridgefield is subject to coverage under NPDES Construction Stormwater General Permit WAR301847 for construction activities associated with the construction site known as the Ridgefield Rail Overpass Project 2 (Ecology's MTCA consent decree CD13-2-03830-1). The Port of Ridgefield reported that the site contains contaminated groundwater and soil which has the potential to discharge stormwater and dewatering water due to the proposed construction activity. The Construction Stormwater General Permit does not have water quality sampling or benchmarks for polycyclic aromatic hydrocarbons (PAHs), semi volatile organic compounds (sVOCs), metals, petroleum hydrocarbons, or dioxins; however, the permit requires compliance with the Water Quality Standards for Surface Water of the State of Washington (Water Quality Standards). Gasoline-range and diesel-range hydrocarbons, benzo(a)pyrene, and pentachlorophenol are contaminants shown in Table 1 and will be sampled to ensure water quality standards are met using the designed flow-through system.

The Order establishes indicator levels for the Ridgefield Rail Overpass Project 2. Indicator levels express a pollutant concentration used as a threshold, below which a pollutant is considered unlikely to cause a water quality violation, and above which it may. Indicator levels in this Administrative Order were derived from the Acute Freshwater Toxic Substances Criteria (WAC 173-201A-240), Acute Freshwater Toxic Substances Criteria (WAC 173-201A-240) , and the laboratory quanitation level.

For these reasons and in accordance with RCW 90.48.120(2) it is ordered that the Port of Ridgefield take the following actions. These actions are required at the location known as the Ridgefield Rail Overpass Project 2, located at Section 24, Township 4 North, Range 1 West, W.M. (West of downtown Ridgefield, extending from approximately 600 feet south of Mill Street north along west side of BNSF RR grade to Division Street). In the event of a permit transfer to another permittee, compliance with this Administrative Order and the actions listed below is required.

The Port of Ridgefield must take the following actions to remain in compliance with Construction Stormwater General Permit WAR301847:

1. Port of Ridgefield must submit, for approval by Ecology, a stormwater management plan detailing the treatment system prior to discharging to Lake River. This plan approved by Ecology must include:
    a. A detailed treatment system plan on how to prevent discharge of contaminated stormwater from all portions of the site with potential and known contamination related to this construction project area;
    b. If a chemical treatment system is to be used, it must be authorized by Ecology prior to use (Contact Doug Howie at (360) 407-6444 or doho461@ecy.wa.gov) – supply copy with this treatment system plan;
    c. A Stormwater Pollution Prevention Plan (SWPPP) with site specific dewatering plan and contaminated materials management plan OR use SWPPP dated December 19, 2013 AND the SWPPP Supplement dated May 5, 2014; and
    d. A site map which includes how contaminated dewatering water and contaminated construction stormwater will be conveyed to treatment system. Map must include BMPs to be utilized to capture the construction stormwater and send to treatment system.

2. After approval of the stormwater management plan, install all pre-treatment and treatment systems prior to any discharge of dewatering water or contaminated construction stormwater to Lake River.

3. Capture, contain, and treat all contaminated dewatering or contaminated stormwater prior to discharge to Lake River.

4. All captured sediment from the treatment of the dewatering or contaminated stormwater must be transported to an approved disposal facility based on the level of contamination.

5. Contaminated soils excavated during construction will be used as fill and capped according to Ecology's MTCA consent decree CD13-2-03830-1. When it is not feasible to immediately haul soils offsite or place in final fill location, the soils must be placed in a covered area to minimize contact with stormwater.

6. All dewatering water or contaminated stormwater must be initially batch sampled after the first treatment to ensure effectiveness of the treatment system. This must occur at the beginning of

construction on the north side of Mill Street and again at the beginning of construction on the south side of Mill Street. Water must be held until lab results show effectiveness of treatment system. Once final lab results have shown contaminated construction water parameters are below the indicator levels a flow through system may be used. Gasoline-range hydrocarbons, diesel-range hydrocarbons, benzo(a)pyrene, and pentachlorophenol must be analyzed.

a. The final lab results of the initial batch sampling must be provided to Ecology prior to discharge (See Ecology contact information below).
b. If all contaminants are found below indicator levels on Table 1, discharge may occur.

7. Once the flow-through system is utilized, gasoline-range and diesel-range hydrocarbons, benzo(a)pyrene, and pentachlorophenol parameters must be sampled weekly (within seven days of each sampling if discharge occurs). If discharges occur when test results show above indicator levels found on Table 1, discharges must immediately cease and water must be retreated and re-sampled prior to discharging to Lake River.

8. Due to the concentrations of the contaminants found north of Mill Street and south of Mill Street, additional initial batch sample will need to occur south of Mill Street. This is required to ensure the treatment system is effective on the south side of Mill Street. This one time sampling on the south side of Mill Street will test for the parameters as state in number 6. above. Water must be held until lab results demonstrate effectiveness of treatment system. If any of the indicator levels in Table 1 are exceeded, the treated dewatering water or contaminated stormwater must immediately be stopped from discharging to Lake River, until it has been re-treated and re-sampled to determine that all parameters are equal to or below the indicator levels in Table 1. Once final lab results of the initial batch sample state parameters are below the indicator levels as shown in Table 1, a flow through system may be used.
    a. The final lab results of the initial batch sampling must be provided to Ecology prior to discharge (See Ecology contact information below).
    b. If all contaminants are found below indicator levels on Table 1, discharge may occur.

9. If sampling is conducted more frequently than required by this Order, the results of this monitoring must be included in the calculation and reporting of the data that is submitted in the Discharge Monitoring Reports (DMRs).

10. All monitoring data must be prepared by a laboratory registered or accredited under the provisions of, *Accreditation of Environmental Laboratories*, Chapter 137-50 WAC.

11. All sampling data must be reported monthly on Discharge Monitoring Reports (DMRs) electronically using Ecology's secure online system WQWebDMR, in accordance to permit condition S5.B, including gasoline-range and diesel-range hydrocarbons, benzo(a)pyrene, and pentachlorophenol. If the measured concentration is below the detection level than Port of Ridgefield shall report single analytical values below detection as "less than the detection level (DL)" by entering "<" followed by the numeric value of the detection level (e.g. "<0.1"). All other values above DL must be reported as the numeric value.

12. Immediately upon receipt, provide a copy of all final lab reports (two initial batch samples and weekly samples) to Ecology's SWRO contaminated construction stormwater permit manager (See information below).

13. Any discharge to waters of the state in exceedance of the contaminant indicator level in Table 1 except for turbidity and pH criteria must be reported according to Permit condition S5. F., Noncompliance Notification as follows:
    a. Immediately notify Ecology of noncompliance by calling the regional 24-hour Environmental Report Tracking System (ERTS) phone number (360) 407-6300.
    b. Cease the discharge until indicator levels can be met.
    c. Submit a detailed written report to Ecology within five (5) days, unless requested earlier by Ecology. See CSWG Permit condition S5. F. 3. For Noncompliance Notification requirements.

14. The Stormwater Pollution Prevention Plan (SWPPP) prepared for the Port of Ridgefield dated 19 December 2013 and SWPPP Supplement dated 5 May 2014 shall be fully implemented and amended as needed for the duration of the project. Construction on the north side of Mill Street will occur prior to the south side; and contaminated construction stormwater will be pumped to tanks, treated, and tested prior to initial discharge.

15. If a modification of the Order is desired, a written request shall be submitted to Ecology and if approved, Ecology will issue an approval letter or an amendment to this Order.

Ecology retains the right to make modifications to this Order through supplemental order, or amendment to this Order, if it appears necessary to further protect the public interest.

This Order does not exempt Port of Ridgefield from any Construction Stormwater General Permit requirement.

Table 1.

Pollutant & CAS No. ***(if available)***	**Indicator Level,** ***µg/L unless specified***	**Recommended Analytical Protocol**	**Detection Level (DL)** ***µg/L unless specified***	**Quantitation Level (QL)** ***µg/L unless specified***
PETROLEUM HYDROCARBONS				
Gasoline-range hydrocarbons (NWTPH-Gx)	250[a]	NWTPH-Gx	250	250
Diesel-range hydrocarbons (NWTPH-Dx)	250[a]	NWTPH-Dx	250	250
BASE/NEUTRAL COMPOUND				
Benzo(a)pyrene (50-32-8)	1.0[a]	625	0.5	1.0
ACID COMPOUND				
Pentachlorophenol (87-86-5)	20.68[b]	625	0.5	1.0
Construction Stormwater General Permit Benchmarks				
Parameter	**Benchmark**	**Analytical Method**	**Detection Level**	**Quantitation Level**
Turbidity	25 NTU	SM2130*	NA	NA
pH	6.5-8.5 SU	pH Meter	NA	NA

a: No surface water standard, value is laboratory quantitation level.
b: Acute - Freshwater Toxic Substances Criteria (WAC 173-201A-240) Based on pH of 7.82 for pH Dependent Acid Compounds.
NWTPH-Gx: Northwest Total Petroleum Hydrocarbons Gasoline Extended Range
NWTPH-Dx: Northwest Total Petroleum Hydrocarbons Diesel Extended Range
* : Or equivalent

FAILURE TO COMPLY WITH THIS ORDER

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

YOUR RIGHT TO APPEAL

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

To appeal you must do both of the following within 30 days of the date of receipt of this Order:

- File your appeal and a copy of this Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Order on Ecology in paper form – by mail or in person (see addresses below). Email is not accepted.

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

Your appeal alone will not stay the effectiveness of this Order. Stay requests must be submitted in accordance with RCW 43.21B.320.

ADDRESS AND LOCATION INFORMATION

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503	**Department of Ecology** Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608
Pollution Control Hearings Board 1111 Israel Road SW Suite 301 Tumwater, WA 98501	**Pollution Control Hearings Board** PO Box 40903 Olympia, WA 98504-0903

CONTACT INFORMATION

Please direct all questions about this Order to:

Carol Serdar
Department of Ecology
Southwest Regional Office
300 Desmond Dr.
Olympia WA 98503

Phone: (360) 407 - 6269
Email: carol.serdar@ecy.wa.gov

MORE INFORMATION

- **Pollution Control Hearings Board Website**
  www.eho.wa.gov/Boards_PCHB.aspx
- **Chapter 43.21B RCW – Environmental Hearings Office – Pollution Control Hearings Board**
  http://apps.leg.wa.gov/RCW/default.aspz?cite=43.21B
- **Chapter 371-08 WAC – Practice and Procedure**
  http://apps.leg.wa.gov/WAC/default.aspx?cite=371-08
- **Chapter 34.05 RCW – Administrative Procedure Act**
  http://apps.leg.wa.gov/RCW/default.aspx?cite=34.05
- **Laws:** www.ecy.wa.gov/laws-rules/ecyrcw.html
- **Rules:** www.ecy.wa.gov/laws-rules/ecywac.html

SIGNATURE

Richard Doenges
Southwest Region Manager
Water Quality Program

Date 6/11/14

APPENDIX B

IMPORTED SOIL ANALYTICAL LABORATORY REPORT AND DATA VALIDATION MEMORANDUM

Specialty Analytical

11711 SE Capps Road, Ste B
Clackamas, Oregon 97015
TEL: 503-607-1331 FAX: 503-607-1336
Website: www.specialtyanalytical.com

July 11, 2014

Madi Novak
Maul Foster & Alongi
400 E. Mill Plain Blvd.
Suite 400
Vancouver, WA 98660

TEL: (360) 694-2691
FAX (360) 906-1958
RE: Overpass / 9003.01.51

Dear Madi Novak: Order No.: 1407062

Specialty Analytical received 5 sample(s) on 7/9/2014 for the analyses presented in the following report.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications, except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

Marty French
Lab Director

Specialty Analytical

Date Reported: 11-Jul-14

CLIENT: Maul Foster & Alongi
Collection Date: 7/8/2014 1:45:00 PM
Project: Overpass / 9003.01.51
Lab ID: 1407062-001
Client Sample ID: IMP1-Comp-01
Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NWTPH-HCID		**NWHCID**				Analyst: **BS**
Gasoline	ND	26.1		mg/Kg-dry	1	7/9/2014 6:06:45 PM
Mineral Spirits	ND	26.1		mg/Kg-dry	1	7/9/2014 6:06:45 PM
Kerosene	ND	65.1		mg/Kg-dry	1	7/9/2014 6:06:45 PM
Diesel	ND	65.1		mg/Kg-dry	1	7/9/2014 6:06:45 PM
Lube Oil	ND	130		mg/Kg-dry	1	7/9/2014 6:06:45 PM
Hydraulic Oil	ND	130		mg/Kg-dry	1	7/9/2014 6:06:45 PM
Surr: BFB	82.4	50-150		%REC	1	7/9/2014 6:06:45 PM
Surr: o-Terphenyl	88.4	50-150		%REC	1	7/9/2014 6:06:45 PM
PRIORITY POLLUTANT 13 ICP METALS- TOTAL		**SW6010C**				Analyst: **VAS**
Antimony	ND	2.61		mg/Kg-dry	1	7/11/2014 10:56:18 AM
Arsenic	2.68	2.61		mg/Kg-dry	1	7/11/2014 10:56:18 AM
Beryllium	1.58	0.130		mg/Kg-dry	1	7/11/2014 10:56:18 AM
Cadmium	ND	0.130		mg/Kg-dry	1	7/11/2014 10:56:18 AM
Chromium	17.4	0.651		mg/Kg-dry	1	7/11/2014 10:56:18 AM
Copper	15.0	1.30		mg/Kg-dry	1	7/11/2014 10:56:18 AM
Lead	2.97	2.61		mg/Kg-dry	1	7/11/2014 10:56:18 AM
Nickel	10.5	0.651		mg/Kg-dry	1	7/11/2014 10:56:18 AM
Selenium	ND	2.61		mg/Kg-dry	1	7/11/2014 10:56:18 AM
Silver	ND	2.61		mg/Kg-dry	1	7/11/2014 10:56:18 AM
Thallium	ND	3.26		mg/Kg-dry	1	7/11/2014 10:56:18 AM
Zinc	60.0	1.30		mg/Kg-dry	1	7/11/2014 10:56:18 AM
PRIORITY POLLUTANT 13 TOTAL MERCURY		**SW 7471B**				Analyst: **BW**
Mercury	ND	0.0198		mg/Kg-dry	1	7/10/2014 10:49:44 AM

Specialty Analytical

Date Reported: 11-Jul-14

CLIENT: Maul Foster & Alongi
Collection Date: 7/8/2014 3:05:00 PM
Project: Overpass / 9003.01.51
Lab ID: 1407062-002
Client Sample ID: IMP2-Comp-01
Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NWTPH-HCID		**NWHCID**				Analyst: **BS**
Gasoline	ND	20.1		mg/Kg-dry	1	7/9/2014 6:36:45 PM
Mineral Spirits	ND	20.1		mg/Kg-dry	1	7/9/2014 6:36:45 PM
Kerosene	ND	50.2		mg/Kg-dry	1	7/9/2014 6:36:45 PM
Diesel	ND	50.2		mg/Kg-dry	1	7/9/2014 6:36:45 PM
Lube Oil	ND	100		mg/Kg-dry	1	7/9/2014 6:36:45 PM
Hydraulic Oil	ND	100		mg/Kg-dry	1	7/9/2014 6:36:45 PM
Surr: BFB	54.1	50-150		%REC	1	7/9/2014 6:36:45 PM
Surr: o-Terphenyl	54.3	50-150		%REC	1	7/9/2014 6:36:45 PM
PRIORITY POLLUTANT 13 ICP METALS- TOTAL		**SW6010C**				Analyst: **VAS**
Antimony	ND	1.93		mg/Kg-dry	1	7/11/2014 11:01:30 AM
Arsenic	ND	1.93		mg/Kg-dry	1	7/11/2014 11:01:30 AM
Beryllium	0.239	0.0965		mg/Kg-dry	1	7/11/2014 11:01:30 AM
Cadmium	ND	0.0965		mg/Kg-dry	1	7/11/2014 11:01:30 AM
Chromium	3.67	0.483		mg/Kg-dry	1	7/11/2014 11:01:30 AM
Copper	9.07	0.965		mg/Kg-dry	1	7/11/2014 11:01:30 AM
Lead	ND	1.93		mg/Kg-dry	1	7/11/2014 11:01:30 AM
Nickel	5.43	0.483		mg/Kg-dry	1	7/11/2014 11:01:30 AM
Selenium	ND	1.93		mg/Kg-dry	1	7/11/2014 11:01:30 AM
Silver	ND	1.93		mg/Kg-dry	1	7/11/2014 11:01:30 AM
Thallium	ND	2.41		mg/Kg-dry	1	7/11/2014 11:01:30 AM
Zinc	13.2	0.965		mg/Kg-dry	1	7/11/2014 11:01:30 AM
PRIORITY POLLUTANT 13 TOTAL MERCURY		**SW 7471B**				Analyst: **BW**
Mercury	ND	0.0158		mg/Kg-dry	1	7/10/2014 10:52:44 AM

Specialty Analytical

Date Reported: 11-Jul-14

CLIENT: Maul Foster & Alongi
Collection Date: 7/8/2014 3:11:00 PM
Project: Overpass / 9003.01.51
Lab ID: 1407062-003
Client Sample ID: IMP2-Comp-02
Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NWTPH-HCID		**NWHCID**				Analyst: **BS**
Gasoline	ND	20.1		mg/Kg-dry	1	7/9/2014 7:06:45 PM
Mineral Spirits	ND	20.1		mg/Kg-dry	1	7/9/2014 7:06:45 PM
Kerosene	ND	50.4		mg/Kg-dry	1	7/9/2014 7:06:45 PM
Diesel	ND	50.4		mg/Kg-dry	1	7/9/2014 7:06:45 PM
Lube Oil	ND	101		mg/Kg-dry	1	7/9/2014 7:06:45 PM
Hydraulic Oil	ND	101		mg/Kg-dry	1	7/9/2014 7:06:45 PM
Surr: BFB	80.5	50-150		%REC	1	7/9/2014 7:06:45 PM
Surr: o-Terphenyl	87.6	50-150		%REC	1	7/9/2014 7:06:45 PM
PRIORITY POLLUTANT 13 ICP METALS- TOTAL		**SW6010C**				Analyst: **VAS**
Antimony	ND	1.87		mg/Kg-dry	1	7/11/2014 11:06:29 AM
Arsenic	ND	1.87		mg/Kg-dry	1	7/11/2014 11:06:29 AM
Beryllium	0.184	0.0933		mg/Kg-dry	1	7/11/2014 11:06:29 AM
Cadmium	ND	0.0933		mg/Kg-dry	1	7/11/2014 11:06:29 AM
Chromium	2.78	0.466		mg/Kg-dry	1	7/11/2014 11:06:29 AM
Copper	7.03	0.933		mg/Kg-dry	1	7/11/2014 11:06:29 AM
Lead	ND	1.87		mg/Kg-dry	1	7/11/2014 11:06:29 AM
Nickel	3.99	0.466		mg/Kg-dry	1	7/11/2014 11:06:29 AM
Selenium	ND	1.87		mg/Kg-dry	1	7/11/2014 11:06:29 AM
Silver	ND	1.87		mg/Kg-dry	1	7/11/2014 11:06:29 AM
Thallium	ND	2.33		mg/Kg-dry	1	7/11/2014 11:06:29 AM
Zinc	10.3	0.933		mg/Kg-dry	1	7/11/2014 11:06:29 AM
PRIORITY POLLUTANT 13 TOTAL MERCURY		**SW 7471B**				Analyst: **BW**
Mercury	ND	0.0165		mg/Kg-dry	1	7/10/2014 10:55:44 AM

Specialty Analytical

Date Reported: 11-Jul-14

CLIENT: Maul Foster & Alongi
Collection Date: 7/8/2014 3:18:00 PM
Project: Overpass / 9003.01.51
Lab ID: 1407062-004
Client Sample ID: IMP2-Comp-03
Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NWTPH-HCID		**NWHCID**				Analyst: **BS**
Gasoline	ND	21.5		mg/Kg-dry	1	7/9/2014 8:06:45 PM
Mineral Spirits	ND	21.5		mg/Kg-dry	1	7/9/2014 8:06:45 PM
Kerosene	ND	53.6		mg/Kg-dry	1	7/9/2014 8:06:45 PM
Diesel	ND	53.6		mg/Kg-dry	1	7/9/2014 8:06:45 PM
Lube Oil	ND	107		mg/Kg-dry	1	7/9/2014 8:06:45 PM
Hydraulic Oil	ND	107		mg/Kg-dry	1	7/9/2014 8:06:45 PM
Surr: BFB	77.7	50-150		%REC	1	7/9/2014 8:06:45 PM
Surr: o-Terphenyl	83.0	50-150		%REC	1	7/9/2014 8:06:45 PM
PRIORITY POLLUTANT 13 ICP METALS- TOTAL		**SW6010C**				Analyst: **VAS**
Antimony	ND	1.99		mg/Kg-dry	1	7/11/2014 11:31:45 AM
Arsenic	ND	1.99		mg/Kg-dry	1	7/11/2014 11:31:45 AM
Beryllium	0.219	0.0993		mg/Kg-dry	1	7/11/2014 11:31:45 AM
Cadmium	ND	0.0993		mg/Kg-dry	1	7/11/2014 11:31:45 AM
Chromium	3.12	0.497		mg/Kg-dry	1	7/11/2014 11:31:45 AM
Copper	8.92	0.993		mg/Kg-dry	1	7/11/2014 11:31:45 AM
Lead	ND	1.99		mg/Kg-dry	1	7/11/2014 11:31:45 AM
Nickel	4.13	0.497		mg/Kg-dry	1	7/11/2014 11:31:45 AM
Selenium	ND	1.99		mg/Kg-dry	1	7/11/2014 11:31:45 AM
Silver	ND	1.99		mg/Kg-dry	1	7/11/2014 11:31:45 AM
Thallium	ND	2.48		mg/Kg-dry	1	7/11/2014 11:31:45 AM
Zinc	12.0	0.993		mg/Kg-dry	1	7/11/2014 11:31:45 AM
PRIORITY POLLUTANT 13 TOTAL MERCURY		**SW 7471B**				Analyst: **BW**
Mercury	ND	0.0176		mg/Kg-dry	1	7/10/2014 10:58:44 AM

Specialty Analytical

Date Reported: 11-Jul-14

CLIENT: Maul Foster & Alongi
Collection Date: 7/8/2014 3:21:00 PM
Project: Overpass / 9003.01.51
Lab ID: 1407062-005
Client Sample ID: IMP2-Comp-04
Matrix: SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NWTPH-HCID		**NWHCID**				Analyst: **BS**
Gasoline	ND	20.6		mg/Kg-dry	1	7/9/2014 8:36:45 PM
Mineral Spirits	ND	20.6		mg/Kg-dry	1	7/9/2014 8:36:45 PM
Kerosene	ND	51.4		mg/Kg-dry	1	7/9/2014 8:36:45 PM
Diesel	ND	51.4		mg/Kg-dry	1	7/9/2014 8:36:45 PM
Lube Oil	ND	103		mg/Kg-dry	1	7/9/2014 8:36:45 PM
Hydraulic Oil	ND	103		mg/Kg-dry	1	7/9/2014 8:36:45 PM
Surr: BFB	78.2	50-150		%REC	1	7/9/2014 8:36:45 PM
Surr: o-Terphenyl	86.2	50-150		%REC	1	7/9/2014 8:36:45 PM
PRIORITY POLLUTANT 13 ICP METALS- TOTAL		**SW6010C**				Analyst: **VAS**
Antimony	ND	1.98		mg/Kg-dry	1	7/11/2014 10:36:33 AM
Arsenic	ND	1.98		mg/Kg-dry	1	7/11/2014 10:36:33 AM
Beryllium	0.222	0.0989		mg/Kg-dry	1	7/11/2014 10:36:33 AM
Cadmium	ND	0.0989		mg/Kg-dry	1	7/11/2014 10:36:33 AM
Chromium	2.78	0.495		mg/Kg-dry	1	7/11/2014 10:36:33 AM
Copper	8.34	0.989		mg/Kg-dry	1	7/11/2014 10:36:33 AM
Lead	ND	1.98		mg/Kg-dry	1	7/11/2014 10:36:33 AM
Nickel	3.14	0.495		mg/Kg-dry	1	7/11/2014 10:36:33 AM
Selenium	ND	1.98		mg/Kg-dry	1	7/11/2014 10:36:33 AM
Silver	ND	1.98		mg/Kg-dry	1	7/11/2014 10:36:33 AM
Thallium	ND	2.47		mg/Kg-dry	1	7/11/2014 10:36:33 AM
Zinc	12.5	0.989		mg/Kg-dry	1	7/11/2014 10:36:33 AM
PRIORITY POLLUTANT 13 TOTAL MERCURY		**SW 7471B**				Analyst: **BW**
Mercury	ND	0.0168		mg/Kg-dry	1	7/10/2014 11:01:44 AM

QC SUMMARY REPORT

WO#: **1407062**

Specialty Analytical

11-Jul-14

Client: Maul Foster & Alongi

Project: Overpass / 9003.01.51 **TestCode: 6010_S**

Sample ID: **ICV** SampType: **ICV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: RunNo: **15956**

Client ID: **ICV** Batch ID: **7792** TestNo: **SW6010C** **SW3050B** Analysis Date: **7/11/2014** SeqNo: **209523**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	47.7	2.00	50.00	0	95.5	90	110				
Arsenic	96.3	2.00	100.0	0	96.3	90	110				
Beryllium	4.85	0.100	5.000	0	97.0	90	110				
Cadmium	4.83	0.100	5.000	0	96.6	90	110				
Chromium	24.6	0.500	25.00	0	98.6	90	110				
Copper	47.3	1.00	50.00	0	94.7	90	110				
Lead	99.0	2.00	100.0	0	99.0	90	110				
Nickel	24.7	0.500	25.00	0	98.7	90	110				
Selenium	95.2	2.00	100.0	0	95.2	90	110				
Silver	49.8	2.00	50.00	0	99.7	90	110				
Thallium	120	2.50	125.0	0	95.8	90	110				
Zinc	49.1	1.00	50.00	0	98.1	90	110				

Sample ID: **MBLK-7792** SampType: **MBLK** TestCode: **6010_S** Units: **mg/Kg** Prep Date: RunNo: **15956**

Client ID: **PBS** Batch ID: **7792** TestNo: **SW6010C** **SW3050B** Analysis Date: **7/11/2014** SeqNo: **209524**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	2.00									
Arsenic	ND	2.00									
Beryllium	ND	0.100									
Cadmium	ND	0.100									
Chromium	ND	0.500									
Copper	ND	1.00									
Lead	ND	2.00									

Qualifiers:

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

O RSD is greater than RSDlimit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: **1407062**

11-Jul-14

Specialty Analytical

Client: Maul Foster & Alongi

Project: Overpass / 9003.01.51 **TestCode: 6010_S**

Sample ID: **MBLK-7792** SampType: **MBLK** TestCode: **6010_S** Units: **mg/Kg** Prep Date: RunNo: **15956**

Client ID: **PBS** Batch ID: **7792** TestNo: **SW6010C** **SW3050B** Analysis Date: **7/11/2014** SeqNo: **209524**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	ND	0.500									
Selenium	ND	2.00									
Silver	ND	2.00									
Thallium	ND	2.50									
Zinc	ND	1.00									

Sample ID: **LCS-7792** SampType: **LCS** TestCode: **6010_S** Units: **mg/Kg** Prep Date: **7/10/2014** RunNo: **15956**

Client ID: **LCSS** Batch ID: **7792** TestNo: **SW6010C** **SW3050B** Analysis Date: **7/11/2014** SeqNo: **209525**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	48.2	2.00	50.00	0	96.3	86.7	111				
Arsenic	95.4	2.00	100.0	0	95.4	85.1	107				
Beryllium	4.83	0.100	5.000	0	96.7	89.2	112				
Cadmium	4.79	0.100	5.000	0	95.8	87.2	115				
Chromium	24.8	0.500	25.00	0	99.4	84	113				
Copper	48.5	1.00	50.00	0	97.0	91.3	111				
Lead	99.9	2.00	100.0	0	99.9	84.9	109				
Nickel	24.6	0.500	25.00	0	98.2	85.5	112				
Selenium	95.9	2.00	100.0	0	95.9	88.7	111				
Silver	95.9	2.00	100.0	0	95.9	79.3	109				
Zinc	49.0	1.00	50.00	0	97.9	86.8	112				

Qualifiers:

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

O RSD is greater than RSDlimit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: **1407062**

11-Jul-14

Specialty Analytical

Client: Maul Foster & Alongi

Project: Overpass / 9003.01.51 **TestCode: 6010_S**

Sample ID: **1407062-005ADUP** SampType: **DUP** TestCode: **6010_S** Units: **mg/Kg-dry** Prep Date: **7/10/2014** RunNo: **15956**

Client ID: **IMP2-Comp-04** Batch ID: **7792** TestNo: **SW6010C** **SW3050B** Analysis Date: **7/11/2014** SeqNo: **209527**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	1.98						0	0	20	
Arsenic	ND	1.98						0	0	20	
Beryllium	0.214	0.0989						0.2216	3.64	20	
Cadmium	ND	0.0989						0	0	20	
Chromium	3.03	0.495						2.780	8.52	20	
Copper	8.34	0.989						8.340	0	20	
Lead	ND	1.98						0	0	20	
Nickel	2.58	0.495						3.136	19.4	20	
Selenium	ND	1.98						0	0	20	
Silver	ND	1.98						0	0	20	
Thallium	ND	2.47						0	0	20	
Zinc	12.0	0.989						12.52	4.11	20	

Sample ID: **1407062-005AMS** SampType: **MS** TestCode: **6010_S** Units: **mg/Kg-dry** Prep Date: **7/10/2014** RunNo: **15956**

Client ID: **IMP2-Comp-04** Batch ID: **7792** TestNo: **SW6010C** **SW3050B** Analysis Date: **7/11/2014** SeqNo: **209528**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	36.8	1.98	49.46	0	74.4	75	125				S
Arsenic	91.1	1.98	98.93	0	92.0	86.1	109				
Beryllium	4.76	0.0989	4.946	0.2216	91.7	84.3	112				
Cadmium	4.54	0.0989	4.946	0	91.8	86.4	115				
Chromium	25.7	0.495	24.73	2.780	92.5	75	121				
Copper	54.1	0.989	49.46	8.340	92.5	75.1	126				
Lead	92.0	1.98	98.93	0	93.0	84.9	109				

Qualifiers:

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

O RSD is greater than RSDlimit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: **1407062**

11-Jul-14

Specialty Analytical

Client: Maul Foster & Alongi

Project: Overpass / 9003.01.51 **TestCode: 6010_S**

Sample ID: **1407062-005AMS** SampType: **MS** TestCode: **6010_S** Units: **mg/Kg-dry** Prep Date: **7/10/2014** RunNo: **15956**

Client ID: **IMP2-Comp-04** Batch ID: **7792** TestNo: **SW6010C** **SW3050B** Analysis Date: **7/11/2014** SeqNo: **209528**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	25.8	0.495	24.73	3.136	91.7	89.3	105				
Selenium	92.2	1.98	98.93	0	93.2	77.7	116				
Silver	92.4	1.98	98.93	0	93.4	75	123				
Zinc	58.2	0.989	49.46	12.52	92.3	86.2	113				

Sample ID: **1407062-005AMSD** SampType: **MSD** TestCode: **6010_S** Units: **mg/Kg-dry** Prep Date: **7/10/2014** RunNo: **15956**

Client ID: **IMP2-Comp-04** Batch ID: **7792** TestNo: **SW6010C** **SW3050B** Analysis Date: **7/11/2014** SeqNo: **209529**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	40.4	2.06	51.44	0	78.5	75	125	36.81	9.20	20	
Arsenic	96.6	2.06	102.9	0	93.9	86.1	109	91.05	5.89	20	
Beryllium	5.05	0.103	5.144	0.2216	93.8	84.3	112	4.756	5.92	20	
Cadmium	4.74	0.103	5.144	0	92.2	86.4	115	4.541	4.36	20	
Chromium	27.3	0.514	25.72	2.780	95.2	75	121	25.66	6.06	20	
Copper	55.2	1.03	51.44	8.340	91.2	75.1	126	54.11	2.08	20	
Lead	96.1	2.06	102.9	0	93.4	84.9	109	92.00	4.31	20	
Nickel	27.2	0.514	25.72	3.136	93.7	89.3	105	25.81	5.40	20	
Selenium	97.6	2.06	102.9	0	94.9	77.7	116	92.22	5.69	20	
Silver	96.4	2.06	102.9	0	93.7	75	123	92.44	4.20	20	
Zinc	61.1	1.03	51.44	12.52	94.4	86.2	113	58.19	4.82	20	

Qualifiers:

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

O RSD is greater than RSDlimit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: **1407062**

Specialty Analytical

11-Jul-14

Client: Maul Foster & Alongi
Project: Overpass / 9003.01.51 **TestCode: 6010_S**

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: RunNo: **15956**
Client ID: **CCV** Batch ID: **7792** TestNo: **SW6010C** **SW3050B** Analysis Date: **7/11/2014** SeqNo: **209533**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	47.3	2.00	50.00	0	94.6	90	110				
Arsenic	96.6	2.00	100.0	0	96.6	90	110				
Beryllium	4.82	0.100	5.000	0	96.5	90	110				
Cadmium	4.85	0.100	5.000	0	97.0	90	110				
Chromium	24.9	0.500	25.00	0	99.6	90	110				
Copper	48.4	1.00	50.00	0	96.9	90	110				
Lead	98.9	2.00	100.0	0	98.9	90	110				
Nickel	24.9	0.500	25.00	0	99.5	90	110				
Selenium	96.4	2.00	100.0	0	96.4	90	110				
Silver	48.9	2.00	50.00	0	97.9	90	110				
Thallium	122	2.50	125.0	0	97.2	90	110				
Zinc	49.0	1.00	50.00	0	98.0	90	110				

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: RunNo: **15956**
Client ID: **CCV** Batch ID: **7792** TestNo: **SW6010C** **SW3050B** Analysis Date: **7/11/2014** SeqNo: **209543**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	48.2	2.00	50.00	0	96.3	90	110				
Arsenic	97.6	2.00	100.0	0	97.6	90	110				
Beryllium	4.84	0.100	5.000	0	96.7	90	110				
Cadmium	4.89	0.100	5.000	0	97.8	90	110				
Chromium	25.6	0.500	25.00	0	102	90	110				
Copper	51.7	1.00	50.00	0	103	90	110				
Lead	103	2.00	100.0	0	103	90	110				

Qualifiers:
B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: **1407062**

11-Jul-14

Specialty Analytical

Client: Maul Foster & Alongi

Project: Overpass / 9003.01.51 **TestCode: 6010_S**

Sample ID: **CCV**	SampType: **CCV**	TestCode: **6010_S**	Units: **mg/Kg**	Prep Date:	RunNo: **15956**
Client ID: **CCV**	Batch ID: **7792**	TestNo: **SW6010C**	**SW3050B**	Analysis Date: **7/11/2014**	SeqNo: **209543**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	25.3	0.500	25.00	0	101	90	110				
Selenium	96.9	2.00	100.0	0	96.9	90	110				
Silver	49.3	2.00	50.00	0	98.6	90	110				
Thallium	118	2.50	125.0	0	94.1	90	110				
Zinc	49.4	1.00	50.00	0	98.8	90	110				

Sample ID: **LCS-7792**	SampType: **LCS**	TestCode: **6010_S**	Units: **mg/Kg**	Prep Date: **7/10/2014**	RunNo: **15956**
Client ID: **LCSS**	Batch ID: **7792**	TestNo: **SW6010C**	**SW3050B**	Analysis Date: **7/11/2014**	SeqNo: **209567**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	121	2.50	125.0	0	97.0	84	108				

Sample ID: **1407062-005AMS**	SampType: **MS**	TestCode: **6010_S**	Units: **mg/Kg-dry**	Prep Date: **7/10/2014**	RunNo: **15956**
Client ID: **IMP2-Comp-04**	Batch ID: **7792**	TestNo: **SW6010C**	**SW3050B**	Analysis Date: **7/11/2014**	SeqNo: **209568**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	65.3	2.47	123.7	0	52.8	75	112				S

Sample ID: **1407062-005AMSD**	SampType: **MSD**	TestCode: **6010_S**	Units: **mg/Kg-dry**	Prep Date: **7/10/2014**	RunNo: **15956**
Client ID: **IMP2-Comp-04**	Batch ID: **7792**	TestNo: **SW6010C**	**SW3050B**	Analysis Date: **7/11/2014**	SeqNo: **209569**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: **1407062**

Specialty Analytical

11-Jul-14

Client: Maul Foster & Alongi

Project: Overpass / 9003.01.51 **TestCode: 6010_S**

Sample ID: **1407062-005AMSD** SampType: **MSD** TestCode: **6010_S** Units: **mg/Kg-dry** Prep Date: **7/10/2014** RunNo: **15956**

Client ID: **IMP2-Comp-04** Batch ID: **7792** TestNo: **SW6010C** **SW3050B** Analysis Date: **7/11/2014** SeqNo: **209569**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	72.1	2.57	128.6	0	56.1	75	112	65.26	10.0	20	S

Sample ID: **CCV** SampType: **CCV** TestCode: **6010_S** Units: **mg/Kg** Prep Date: RunNo: **15956**

Client ID: **CCV** Batch ID: **7792** TestNo: **SW6010C** **SW3050B** Analysis Date: **7/11/2014** SeqNo: **209570**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	130	2.50	125.0	0	104	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: **1407062**

11-Jul-14

Specialty Analytical

Client: Maul Foster & Alongi

Project: Overpass / 9003.01.51 **TestCode:** **HCID_NW**

Sample ID: **MB-7785** SampType: **MBLK** TestCode: **HCID_NW** Units: **mg/Kg** Prep Date: **7/9/2014** RunNo: **15923**

Client ID: **PBS** Batch ID: **7785** TestNo: **NWHCID** Analysis Date: **7/9/2014** SeqNo: **209146**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	20.0									
Mineral Spirits	ND	20.0									
Kerosene	ND	50.0									
Diesel	ND	50.0									
Lube Oil	ND	100									
Hydraulic Oil	ND	100									
Surr: BFB	79.4		100.0		79.4	50	150				
Surr: o-Terphenyl	76.9		100.0		76.9	50	150				

Sample ID: **1407062-003ADUP** SampType: **DUP** TestCode: **HCID_NW** Units: **mg/Kg-dry** Prep Date: **7/9/2014** RunNo: **15923**

Client ID: **IMP2-Comp-02** Batch ID: **7785** TestNo: **NWHCID** Analysis Date: **7/9/2014** SeqNo: **209150**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	20.1						0	0	20	
Mineral Spirits	ND	20.1						0	0	20	
Kerosene	ND	50.4						0	0	20	
Diesel	ND	50.4						0	0	20	
Lube Oil	ND	101						0	0	20	
Hydraulic Oil	ND	101						0	0	20	

Qualifiers:

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

O RSD is greater than RSDlimit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: **1407062**

Specialty Analytical

11-Jul-14

Client: Maul Foster & Alongi

Project: Overpass / 9003.01.51 **TestCode:** **HCID_NW**

Sample ID: **1407068-004ADUP** SampType: **DUP** TestCode: **HCID_NW** Units: **mg/Kg-dry** Prep Date: **7/9/2014** RunNo: **15923**

Client ID: **ZZZZZZ** Batch ID: **7785** TestNo: **NWHCID** Analysis Date: **7/9/2014** SeqNo: **209157**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	22.9						0	0	20	
Mineral Spirits	ND	22.9						0	0	20	
Kerosene	ND	57.2						0	0	20	
Diesel	ND	57.2						0	0	20	
Lube Oil	ND	114						153.4	200	20	RF
Hydraulic Oil	ND	114						0	0	20	

Sample ID: **1407064-001ADUP** SampType: **DUP** TestCode: **HCID_NW** Units: **mg/Kg-dry** Prep Date: **7/9/2014** RunNo: **15923**

Client ID: **ZZZZZZ** Batch ID: **7785** TestNo: **NWHCID** Analysis Date: **7/10/2014** SeqNo: **209162**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	27.5						0	0	20	
Mineral Spirits	ND	27.5						0	0	20	
Kerosene	ND	68.9						0	0	20	
Diesel	ND	68.9						0	0	20	
Lube Oil	OIL	138						217.4	10.3	20	
Hydraulic Oil	ND	138						0	0	20	

Qualifiers:

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

O RSD is greater than RSDlimit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: **1407062**

Specialty Analytical

11-Jul-14

Client: Maul Foster & Alongi
Project: Overpass / 9003.01.51 **TestCode:** **HG_CTS**

Sample ID: **MB-7786**	SampType: **MBLK**	TestCode: **HG_CTS**	Units: **mg/Kg**	Prep Date: **7/9/2014**	RunNo: **15931**
Client ID: **PBS**	Batch ID: **7786**	TestNo: **SW 7471B**	**SW 7471B**	Analysis Date: **7/10/2014**	SeqNo: **209241**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.0167									

Sample ID: **LCS-7786**	SampType: **LCS**	TestCode: **HG_CTS**	Units: **mg/Kg**	Prep Date: **7/9/2014**	RunNo: **15931**
Client ID: **LCSS**	Batch ID: **7786**	TestNo: **SW 7471B**	**SW 7471B**	Analysis Date: **7/10/2014**	SeqNo: **209242**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.439	0.0167	0.4000	0	110	80	120				

Sample ID: **1407068-007BDUP**	SampType: **DUP**	TestCode: **HG_CTS**	Units: **mg/Kg**	Prep Date: **7/9/2014**	RunNo: **15931**
Client ID: **ZZZZZZ**	Batch ID: **7786**	TestNo: **SW 7471B**	**SW 7471B**	Analysis Date: **7/10/2014**	SeqNo: **209256**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0236	0.0161						0.02605	9.91	20	

Sample ID: **1407068-007BMS**	SampType: **MS**	TestCode: **HG_CTS**	Units: **mg/Kg**	Prep Date: **7/9/2014**	RunNo: **15931**
Client ID: **ZZZZZZ**	Batch ID: **7786**	TestNo: **SW 7471B**	**SW 7471B**	Analysis Date: **7/10/2014**	SeqNo: **209257**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.480	0.0152	0.3636	0.02605	125	75	125				

Qualifiers:

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: **1407062**

Specialty Analytical

11-Jul-14

Client: Maul Foster & Alongi
Project: Overpass / 9003.01.51 **TestCode:** **HG_CTS**

Sample ID: **1407068-007BMSD**	SampType: **MSD**	TestCode: **HG_CTS**	Units: **mg/Kg**	Prep Date: **7/9/2014**	RunNo: **15931**
Client ID: **ZZZZZZ**	Batch ID: **7786**	TestNo: **SW 7471B**	**SW 7471B**	Analysis Date: **7/10/2014**	SeqNo: **209258**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.532	0.0158	0.3774	0.02605	134	75	125	0.4799	10.2	20	S

Sample ID: **CCV**	SampType: **CCV**	TestCode: **HG_CTS**	Units: **mg/Kg**	Prep Date:	RunNo: **15931**
Client ID: **CCV**	Batch ID: **7786**	TestNo: **SW 7471B**	**SW 7471B**	Analysis Date: **7/10/2014**	SeqNo: **209260**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.440	0.0167	0.4000	0	110	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted reco

KEY TO FLAGS

Rev. May 12, 2010

A	This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was quantified against gasoline calibration standards
A1	This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was quantified against diesel calibration standards.
A2	This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was quantified against a lube oil calibration standard.
A3	The result was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type.
A4	The product appears to be aged or degraded diesel.
B	The blank exhibited a positive result great than the reporting limit for this compound.
CN	See Case Narrative.
D	Result is based from a dilution.
E	Result exceeds the calibration range for this compound. The result should be considered as estimate.
F	The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library.
G	Result may be biased high due to biogenic interferences. Clean up is recommended.
H	Sample was analyzed outside recommended holding time.
HT	At clients request, samples was analyzed outside of recommended holding time.
J	The result for this analyte is between the MDL and the PQL and should be considered as estimated concentration.
K	Diesel result is biased high due to amount of Oil contained in the sample.
L	Diesel result is biased high due to amount of Gasoline contained in the sample.
M	Oil result is biased high due to amount of Diesel contained in the sample.
MC	Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant.
MI	Result is outside control limits due to matrix interference.
MSA	Value determined by Method of Standard Addition.
O	Laboratory Control Standard (LCS) exceeded laboratory control limits, but meets CCV criteria. Data meets EPA requirements.
Q	Detection levels elevated due to sample matrix.
R	RPD control limits were exceeded.
RF	Duplicate failed due to result being at or near the method-reporting limit.
RP	Matrix spike values exceed established QC limits; post digestion spike is in control.
S	Recovery is outside control limits.
SC	Closing CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements.
*	The result for this parameter was greater that the maximum contaminant level of the TCLP regulatory limit.

CHAIN OF CUSTODY RECORD

Specialty Analytical
11711 SE Capps Road
Clackamas, OR 97015
Phone: 503-607-1331
Fax: 503-607-1336

Contact Person/Project Manager: Josh Elliott / Madi Nowak
Company: Maul Foster Alongi (MFA)
Address: 400 EAST MILL PLAIN BLVD STE 400
VANCOUVER, WA 98660
Phone: 360-694-2691 Fax: JELLIOTT@MAULFOSTER.COM MNOWAK@MAULFOSTER.COM
Project No.: 9003.01.51 Project Name: OVERPASS
Project Site Location OR: ____ WA: X Other: ____
Invoice To: MFA P.O. No.: 9003.01.51

Collected By:
Signature: [signature]
Printed: Michael Reiter, EIT

Signature: ____
Printed: ____

Turn Around Time
☒ Normal 5-7 Business Days
☐ Rush ____
Specify
Rush Analyses Must Be Scheduled With The Lab In Advance

For Laboratory Use
Lab Job No.: 407062
Shipped Via: Specialty
Air Bill No.: ____
Temperature On Receipt: 4 °C
Specialty Analytical Containers? Y / N
Specialty Analytical Trip Blanks? Y / N

Date	Time	Sample I.D.	Matrix	No. of Containers	Analyses: NWTPH-HCID	Analyses: 13 PP Metals 6010/6020/7471	Comments	Lab I.D.
7/8/14	13:45	IMP1-COMP-01	S	2	X	X		
7/8/14	15:05	IMP2-COMP-01	S	2	X	X		
7/8/14	15:11	IMP2-COMP-02	S	2	X	X		
7/8/14	15:18	IMP2-COMP-03 (03)	S	2	X	X		
7/8/14	15:21	IMP2-COMP-04 (04)	S	2	X	X		

Relinquished By: [signature] Company: MFA	Date 7/9/14	Time 1140	Received By: [signature] (54) Company:	Relinquished By: [signature] Company:	Date 7/9/14	Time 1330
Unless Reclaimed, Samples Will Be Disposed of 60 Days After Receipt. Samples held beyond 60 days subject to storage fee(s)				Received For Lab By: Cindy Hillyard	Date 7/9/14	Time 13:30

DATA QUALITY ASSURANCE/QUALITY CONTROL REVIEW

PROJECT NO. 9003.01.55 | JULY 15, 2014 | PORT OF RIDGEFIELD

This report reviews the analytical results for soil composite samples collected by the Maul Foster & Alongi, Inc. (MFA) project team; the soil is proposed to be used as clean cap material on the overpass site located adjacent to the Port of Ridgefield Lake River Industrial Site. The samples were collected in July 2014.

Specialty Analytical (SA) performed the analyses. SA report number 1407062 was reviewed. The analyses performed and samples analyzed are listed below.

Analysis	Reference
Hydrocarbon Identification (HCID)	NWTPH-HCID
Total Mercury	EPA 7471B
Total Metals	EPA 6010C

NWTPH = Northwest Total Petroleum Hydrocarbons
EPA = U.S. Environmental Protection Agency

Samples Analyzed
IMP1-COMP-01
IMP2-COMP-01
IMP2-COMP-02
IMP2-COMP-03
IMP2-COMP-04

DATA QUALIFICATIONS

Analytical results were evaluated according to applicable sections of EPA procedures (EPA, 2010) and appropriate laboratory and method-specific guidelines (SA, 2014; EPA, 1986).

Data validation procedures were modified, as appropriate, to accommodate quality-control requirements for methods not specifically addressed by the EPA procedures (i.e., HCID analyses).

The data are considered acceptable for their intended use, with the appropriate data qualifiers assigned.

HOLDING TIMES, PRESERVATION, AND SAMPLE STORAGE

Holding Times

Extractions and analyses were performed within the recommended holding time criteria.

Preservation and Sample Storage

The samples were preserved and stored appropriately.

BLANKS

Method Blanks

Laboratory method blank analyses were performed at the required frequencies. For purposes of data qualification, the method blanks were associated with all samples prepared in the analytical batch. All laboratory method blanks were non-detect.

Trip Blanks

Trip blanks were not required for this sampling event because samples were not analyzed for volatile organic compounds.

Equipment Rinsate Blanks

Equipment rinsate blanks were not required for this sampling event, as all samples were collected using dedicated, single-use equipment.

SURROGATE RECOVERY RESULTS

The samples were spiked with surrogate compounds to evaluate laboratory performance on individual samples. All surrogate recoveries were within acceptance limits for percent recovery.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) RESULTS

MS/MSD results are used to evaluate laboratory precision and accuracy. All MS/MSD samples were extracted and analyzed at the required frequency.

The EPA Method 6010C MS result for antimony was below the lower percent recovery acceptance limit, at 74.4 percent. The exceedance was minor and remaining batch quality control met acceptance criteria; thus no results were qualified.

The EPA Method 6010C MS/MSD results for thallium were both below the lower percent recovery acceptance limit, at 52.8 percent and 56.1 percent, respectively. The remaining batch QC met acceptance criteria for thallium. Associated samples were non-detect and were qualified with "UJ" as estimated in the table below.

Sample	Component	Original Result (mg/kg)	Qualified Result (mg/kg)
IMP1-COMP-01	Thallium	3.26 U	3.26 UJ
IMP2-COMP-01	Thallium	2.41 U	2.41 UJ
IMP2-COMP-02	Thallium	2.33 U	2.33 UJ
IMP2-COMP-03	Thallium	2.48 U	2.48 UJ
IMP2-COMP-04	Thallium	2.47 U	2.47 UJ

The EPA Method 7471B MSD exceeded the upper percent recovery acceptance limit for mercury, at 134 percent. The associated MS and remaining batch QC met acceptance criteria. The MS/MSD were prepared with a sample from an unrelated report and since the MS/MSD matrices do not represent the soil samples submitted in delivery group 1407062, the associated results were not qualified.

All recoveries were within acceptance limits for percent recovery and relative percent differences (RPDs).

LABORATORY DUPLICATE RESULTS

Duplicate results are used to evaluate laboratory precision. All laboratory duplicate samples were extracted and analyzed at the required frequency. The reviewer did not qualify laboratory duplicate RPD exceedances for results less than four times the reporting limit. All remaining laboratory duplicate RPDs were within acceptance limits.

LABORATORY CONTROL SAMPLE (LCS) RESULTS

An LCS is spiked with target analytes to provide information on laboratory accuracy. The LCS samples were extracted and analyzed at the required frequency. All LCS analyte results were within acceptance limits for percent recovery.

FIELD DUPLICATE RESULTS

Field duplicate samples measure both field and laboratory precision. Field duplicate samples were not submitted for analysis.

CONTINUING CALIBRATION VERIFICATION RESULTS

Continuing calibration verification (CCV) results are used to demonstrate instrument precision and accuracy through the end of the sample batch. All CCVs were within acceptance limits for percent recovery.

REPORTING LIMITS

SA used routine reporting limits for non-detect results, except when samples required dilutions because of high analyte concentrations and/or matrix interferences.

DATA PACKAGE

The data packages were reviewed for transcription errors, omissions, and anomalies. None were found.

REFERENCES

EPA. 1986. Test methods for evaluating solid waste: physical/chemical methods. EPA-530/SW-846. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response. September (revision 6, February 2007).

EPA. 2010. EPA contract laboratory program national functional guidelines for inorganic superfund data review. EPA 540/R-10/011. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation. January.

SA. 2014. Quality Assurance Manual. Specialty Analytical, Inc. Clackamas, Oregon.

APPENDIX C

TREATED STORMWATER ANALYTICAL LABORATORY REPORT

Specialty Analytical

11711 SE Capps Road, Ste B
Clackamas, Oregon 97015
TEL: 503-607-1331 FAX: 503-607-1336
Website: www.specialtyanalytical.com

August 26, 2014

Josh Elliott
Maul Foster & Alongi
400 E. Mill Plain Blvd.
Suite 400
Vancouver, WA 98660

TEL: (360) 694-2691
FAX (360) 906-1958
RE: Overpass / 9003.01.51

Dear Josh Elliott: Order No.: 1408125

Specialty Analytical received 1 sample(s) on 8/20/2014 for the analyses presented in the following report.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications, except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

Marty French
Lab Director

Specialty Analytical

Date Reported: 26-Aug-14

CLIENT: Maul Foster & Alongi
Collection Date: 8/19/2014 2:35:00 PM
Project: Overpass / 9003.01.51
Lab ID: 1408125-001
Client Sample ID: South of Mill
Matrix: WATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
NWTPH-DX - RBC		**NWTPH-DX**				Analyst: **BS**
Diesel	0.115	0.0766		mg/L	1	8/21/2014 5:04:18 PM
Lube Oil	0.255	0.192		mg/L	1	8/21/2014 5:04:18 PM
Surr: o-Terphenyl	106	50-150		%REC	1	8/21/2014 5:04:18 PM
NWTPH-GX		**NWTPH-GX**				Analyst: **BS**
Gasoline	ND	100		µg/L	1	8/21/2014 11:22:36 AM
Surr: 4-Bromofluorobenzene	105	50-150		%REC	1	8/21/2014 11:22:36 AM
PAH BY EPA 625		**E625**				Analyst: **bda**
Benzo(a)pyrene	ND	0.048		µg/L	1	8/21/2014 4:03:00 PM
Surr: 2-Fluorobiphenyl	67.9	18.6-106		%REC	1	8/21/2014 4:03:00 PM
Surr: 4-Terphenyl-d14	131	39.6-131		%REC	1	8/21/2014 4:03:00 PM
Surr: Nitrobenzene-d5	75.9	17-130		%REC	1	8/21/2014 4:03:00 PM
BASE/NEUTRALS/ACIDS		**E625**				Analyst: **bda**
Pentachlorophenol	ND	1.90		µg/L	1	8/22/2014 11:02:00 AM
Surr: 2,4,6-Tribromophenol	76.8	33.1-99.7		%REC	1	8/22/2014 11:02:00 AM
Surr: 2-Fluorophenol	34.5	13.4-57.1		%REC	1	8/22/2014 11:02:00 AM
Surr: Phenol-d5	20.3	10.6-38.5		%REC	1	8/22/2014 11:02:00 AM

QC SUMMARY REPORT

WO#: **1408125**

26-Aug-14

Specialty Analytical

Client: Maul Foster & Alongi

Project: Overpass / 9003.01.51 **TestCode: 625_PAH**

Sample ID: **CCV-8050**	SampType: **CCV**	TestCode: **625_PAH**	Units: **µg/L**	Prep Date:	RunNo: **16509**
Client ID: **CCV**	Batch ID: **8050**	TestNo: **E625**	**E625-A**	Analysis Date: **8/21/2014**	SeqNo: **217767**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(a)pyrene	1.8	0.050	2.000	0	87.7	80	120				

Sample ID: **LCSD-8050**	SampType: **LCSD**	TestCode: **625_PAH**	Units: **µg/L**	Prep Date: **8/21/2014**	RunNo: **16509**
Client ID: **LCSS02**	Batch ID: **8050**	TestNo: **E625**	**E625-A**	Analysis Date: **8/21/2014**	SeqNo: **217768**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(a)pyrene	3.3	0.050	5.000	0	66.4	23.4	103	3.303	0.475	20	

Sample ID: **LCS-8050**	SampType: **LCS**	TestCode: **625_PAH**	Units: **µg/L**	Prep Date: **8/21/2014**	RunNo: **16509**
Client ID: **LCSW**	Batch ID: **8050**	TestNo: **E625**	**E625-A**	Analysis Date: **8/21/2014**	SeqNo: **217769**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(a)pyrene	3.3	0.050	5.000	0	66.1	23.4	103				

Sample ID: **MB-8050**	SampType: **MBLK**	TestCode: **625_PAH**	Units: **µg/L**	Prep Date: **8/21/2014**	RunNo: **16509**
Client ID: **PBW**	Batch ID: **8050**	TestNo: **E625**	**E625-A**	Analysis Date: **8/21/2014**	SeqNo: **217770**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(a)pyrene	ND	0.050									
Surr: 2-Fluorobiphenyl	0.061		0.1000		61.0	18.6	106				
Surr: 4-Terphenyl-d14	0.12		0.1000		119	39.6	131				
Surr: Nitrobenzene-d5	0.075		0.1000		75.4	17	130				

Qualifiers:

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

O RSD is greater than RSDlimit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recov

QC SUMMARY REPORT

WO#: **1408125**

Specialty Analytical

26-Aug-14

Client: Maul Foster & Alongi
Project: Overpass / 9003.01.51 **TestCode: 625_PAH**

Sample ID: **MB-8050**	SampType: **MBLK**	TestCode: **625_PAH**	Units: **µg/L**	Prep Date: **8/21/2014**	RunNo: **16509**
Client ID: **PBW**	Batch ID: **8050**	TestNo: **E625**	**E625-A**	Analysis Date: **8/21/2014**	SeqNo: **217770**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: **1408125-001BMS**	SampType: **MS**	TestCode: **625_PAH**	Units: **µg/L**	Prep Date: **8/21/2014**	RunNo: **16509**
Client ID: **South of Mill**	Batch ID: **8050**	TestNo: **E625**	**E625-A**	Analysis Date: **8/21/2014**	SeqNo: **217772**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(a)pyrene	3.0	0.048	4.776	0.01041	62.6	17	163				

Qualifiers:

B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recov

QC SUMMARY REPORT

WO#: **1408125**

26-Aug-14

Specialty Analytical

Client: Maul Foster & Alongi
Project: Overpass / 9003.01.51 **TestCode: 625X_W**

Sample ID: **CCV-8051**	SampType: **CCV**	TestCode: **625X_W**	Units: **µg/L**	Prep Date:	RunNo: **16518**
Client ID: **CCV**	Batch ID: **8051**	TestNo: **E625**	**E625**	Analysis Date: **8/22/2014**	SeqNo: **217906**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pentachlorophenol	32.2	2.00	40.00	0	80.5	80	120				

Sample ID: **LCS-8051**	SampType: **LCS**	TestCode: **625X_W**	Units: **µg/L**	Prep Date: **8/21/2014**	RunNo: **16518**
Client ID: **LCSW**	Batch ID: **8051**	TestNo: **E625**	**E625**	Analysis Date: **8/22/2014**	SeqNo: **217907**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pentachlorophenol	19.1	2.00	50.00	0	38.2	14	176				

Sample ID: **LCSD-8051**	SampType: **LCSD**	TestCode: **625X_W**	Units: **µg/L**	Prep Date: **8/21/2014**	RunNo: **16518**
Client ID: **LCSS02**	Batch ID: **8051**	TestNo: **E625**	**E625**	Analysis Date: **8/22/2014**	SeqNo: **217908**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pentachlorophenol	18.8	2.00	50.00	0	37.7	14	176	19.08	1.21	20	

Sample ID: **MB-8051**	SampType: **MBLK**	TestCode: **625X_W**	Units: **µg/L**	Prep Date: **8/21/2014**	RunNo: **16518**
Client ID: **PBW**	Batch ID: **8051**	TestNo: **E625**	**E625**	Analysis Date: **8/22/2014**	SeqNo: **217909**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pentachlorophenol	ND	2.00									
Surr: 2,4,6-Tribromophenol	81.5		100.0		81.5	33.1	99.7				
Surr: 2-Fluorophenol	45.8		100.0		45.8	13.4	57.1				
Surr: Phenol-d5	30.8		100.0		30.8	10.6	38.5				

Qualifiers:
B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recov

QC SUMMARY REPORT

WO#: **1408125**

Specialty Analytical

26-Aug-14

Client: Maul Foster & Alongi
Project: Overpass / 9003.01.51 **TestCode: 625X_W**

Sample ID: **MB-8051**	SampType: **MBLK**	TestCode: **625X_W**	Units: **µg/L**	Prep Date: **8/21/2014**	RunNo: **16518**
Client ID: **PBW**	Batch ID: **8051**	TestNo: **E625**	**E625**	Analysis Date: **8/22/2014**	SeqNo: **217909**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: **1408125-001BMS**	SampType: **MS**	TestCode: **625X_W**	Units: **µg/L**	Prep Date: **8/21/2014**	RunNo: **16518**
Client ID: **South of Mill**	Batch ID: **8051**	TestNo: **E625**	**E625**	Analysis Date: **8/22/2014**	SeqNo: **217911**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pentachlorophenol	18.2	1.90	47.62	0	38.2	14	176				

Qualifiers:

B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recov

QC SUMMARY REPORT

WO#: **1408125**

26-Aug-14

Specialty Analytical

Client: Maul Foster & Alongi
Project: Overpass / 9003.01.51 **TestCode:** **NWTPHDXLL_W**

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHDXLL** Units: **mg/L** Prep Date: RunNo: **16510**
Client ID: **CCV** Batch ID: **8052** TestNo: **NWTPH-Dx** **SW3510B** Analysis Date: **8/21/2014** SeqNo: **217773**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	6.11	0.0800	6.000	0	102	85	115				
Lube Oil	3.25	0.200	3.000	0	108	85	115				

Sample ID: **MB-8052** SampType: **MBLK** TestCode: **NWTPHDXLL** Units: **mg/L** Prep Date: **8/21/2014** RunNo: **16510**
Client ID: **PBW** Batch ID: **8052** TestNo: **NWTPH-Dx** **SW3510B** Analysis Date: **8/21/2014** SeqNo: **217774**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	0.0800									
Lube Oil	ND	0.200									
Surr: o-Terphenyl	0.198		0.2000		98.9	50	150				

Sample ID: **LCS-8052** SampType: **LCS** TestCode: **NWTPHDXLL** Units: **mg/L** Prep Date: **8/21/2014** RunNo: **16510**
Client ID: **LCSW** Batch ID: **8052** TestNo: **NWTPH-Dx** **SW3510B** Analysis Date: **8/21/2014** SeqNo: **217775**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	0.982	0.0800	1.000	0	98.2	60.7	121				
Lube Oil	1.14	0.200	1.000	0	114	64	126				

Sample ID: **LCSD-8052** SampType: **LCSD** TestCode: **NWTPHDXLL** Units: **mg/L** Prep Date: **8/21/2014** RunNo: **16510**
Client ID: **LCSS02** Batch ID: **8052** TestNo: **NWTPH-Dx** **SW3510B** Analysis Date: **8/21/2014** SeqNo: **217776**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:
B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recov

QC SUMMARY REPORT

WO#: **1408125**

Specialty Analytical

26-Aug-14

Client: Maul Foster & Alongi
Project: Overpass / 9003.01.51 **TestCode:** **NWTPHDXLL_W**

Sample ID: **LCSD-8052**	SampType: **LCSD**	TestCode: **NWTPHDXLL**	Units: **mg/L**	Prep Date: **8/21/2014**	RunNo: **16510**
Client ID: **LCSS02**	Batch ID: **8052**	TestNo: **NWTPH-Dx**	**SW3510B**	Analysis Date: **8/21/2014**	SeqNo: **217776**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	0.957	0.0800	1.000	0	95.7	60.7	121	0.9820	2.58	20	
Lube Oil	1.20	0.200	1.000	0	120	64	126	1.135	5.57	20	

Sample ID: **CCV**	SampType: **CCV**	TestCode: **NWTPHDXLL**	Units: **mg/L**	Prep Date:	RunNo: **16510**
Client ID: **CCV**	Batch ID: **8052**	TestNo: **NWTPH-Dx**	**SW3510B**	Analysis Date: **8/21/2014**	SeqNo: **217778**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	8.18	0.0800	8.000	0	102	85	115				
Lube Oil	3.70	0.200	4.000	0	92.4	85	115				

Qualifiers:
B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recov

QC SUMMARY REPORT

WO#: **1408125**

26-Aug-14

Specialty Analytical

Client: Maul Foster & Alongi
Project: Overpass / 9003.01.51 **TestCode:** **NWTPHGX_W**

Sample ID: **CCV** SampType: **CCV** TestCode: **NWTPHGX_W** Units: **µg/L** Prep Date: RunNo: **16499**
Client ID: **CCV** Batch ID: **R16499** TestNo: **NWTPH-Gx** Analysis Date: **8/21/2014** SeqNo: **217674**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	1760	100	2000	0	88.2	80	120				

Sample ID: **MB-R16499** SampType: **MBLK** TestCode: **NWTPHGX_W** Units: **µg/L** Prep Date: RunNo: **16499**
Client ID: **PBW** Batch ID: **R16499** TestNo: **NWTPH-Gx** Analysis Date: **8/21/2014** SeqNo: **217675**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	100									
Surr: 4-Bromofluorobenzene	106		100.0		106	50	150				

Sample ID: **LCS-R16499** SampType: **LCS** TestCode: **NWTPHGX_W** Units: **µg/L** Prep Date: RunNo: **16499**
Client ID: **LCSW** Batch ID: **R16499** TestNo: **NWTPH-Gx** Analysis Date: **8/21/2014** SeqNo: **217676**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	1040	100	1000	0	104	74.4	128				

Sample ID: **1408125-001CDUP** SampType: **DUP** TestCode: **NWTPHGX_W** Units: **µg/L** Prep Date: RunNo: **16499**
Client ID: **South of Mill** Batch ID: **R16499** TestNo: **NWTPH-Gx** Analysis Date: **8/21/2014** SeqNo: **217678**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	100						0	0	20	

Qualifiers:
B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recov

QC SUMMARY REPORT

WO#: **1408125**

Specialty Analytical

26-Aug-14

Client: Maul Foster & Alongi

Project: Overpass / 9003.01.51 **TestCode: NWTPHGX_W**

Sample ID: **CCV**	SampType: **CCV**	TestCode: **NWTPHGX_W**	Units: **µg/L**	Prep Date:	RunNo: **16499**
Client ID: **CCV**	Batch ID: **R16499**	TestNo: **NWTPH-Gx**		Analysis Date: **8/21/2014**	SeqNo: **217679**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	2790	100	2500	0	112	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recov

KEY TO FLAGS

Rev. May 12, 2010

A	This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was quantified against gasoline calibration standards
A1	This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was quantified against diesel calibration standards.
A2	This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was quantified against a lube oil calibration standard.
A3	The result was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type.
A4	The product appears to be aged or degraded diesel.
B	The blank exhibited a positive result great than the reporting limit for this compound.
CN	See Case Narrative.
D	Result is based from a dilution.
E	Result exceeds the calibration range for this compound. The result should be considered as estimate.
F	The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library.
G	Result may be biased high due to biogenic interferences. Clean up is recommended.
H	Sample was analyzed outside recommended holding time.
HT	At clients request, samples was analyzed outside of recommended holding time.
J	The result for this analyte is between the MDL and the PQL and should be considered as estimated concentration.
K	Diesel result is biased high due to amount of Oil contained in the sample.
L	Diesel result is biased high due to amount of Gasoline contained in the sample.
M	Oil result is biased high due to amount of Diesel contained in the sample.
MC	Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant.
MI	Result is outside control limits due to matrix interference.
MSA	Value determined by Method of Standard Addition.
O	Laboratory Control Standard (LCS) exceeded laboratory control limits, but meets CCV criteria. Data meets EPA requirements.
Q	Detection levels elevated due to sample matrix.
R	RPD control limits were exceeded.
RF	Duplicate failed due to result being at or near the method-reporting limit.
RP	Matrix spike values exceed established QC limits; post digestion spike is in control.
S	Recovery is outside control limits.
SC	Closing CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements.
*	The result for this parameter was greater that the maximum contaminant level of the TCLP regulatory limit.

CHAIN OF CUSTODY RECORD

Specialty Analytical
11711 SE Capps Road
Clackamas, OR 97015
Phone: 503-607-1331
Fax: 503-607-1336

Contact Person/Project Manager: Josh Elliott, PE
Company: MAUL FOSTER ALONGI, INC
Address: 4000 E MILL PLAIN BLVD
STE 400 VANCOUVER, WA 98660
Phone: 360-694-2691 Fax:
Project No. 9003.01.51 Project Name: OVERPASS
Project Site Location OR: WA: X Other:
Invoice To: MFA P.O. No. 9003.01.51

Collected By:
Signature:
Printed: MIKE REITER

Signature:
Printed:

Turn Around Time
☒ Normal 5-7 Business Days
☐ Rush _____
Specify
Rush Analyses Must Be Scheduled With The Lab In Advance

For Laboratory Use
Lab Job No. 1408125
Shipped Via:
Air Bill No.:
Temperature On Receipt 6 °C
Specialty Analytical Containers? Y / N
Specialty Analytical Trip Blanks? Y / N

Date	Time	Sample I.D.	Matrix	No. of Containers	Analyses: NWTPH-DX	Analyses: NWTPH-GX	Analyses: BTEX (8260 Pkg 625)	Analyses: Pentachlorophenol (625)	Comments	Lab I.D.
8/19/14	2:35	South of Mill	W	8	X	X	X	X		

Relinquished By:	Company:	Date	Time	Received By:	Company:
	MFA	8/20/14	1140		

Relinquished By:	Company:	Date	Time
		8/20/14	1445

Unless Reclaimed, Samples Will Be Disposed of 60 Days After Receipt.
Samples held beyond 60 days subject to storage fee(s)

Received For Lab By: Cindy Thilgard — Date: 8/20/14 — Time: 14:45

Copies: White-Original Yellow-Project File Pink-Customer Copy

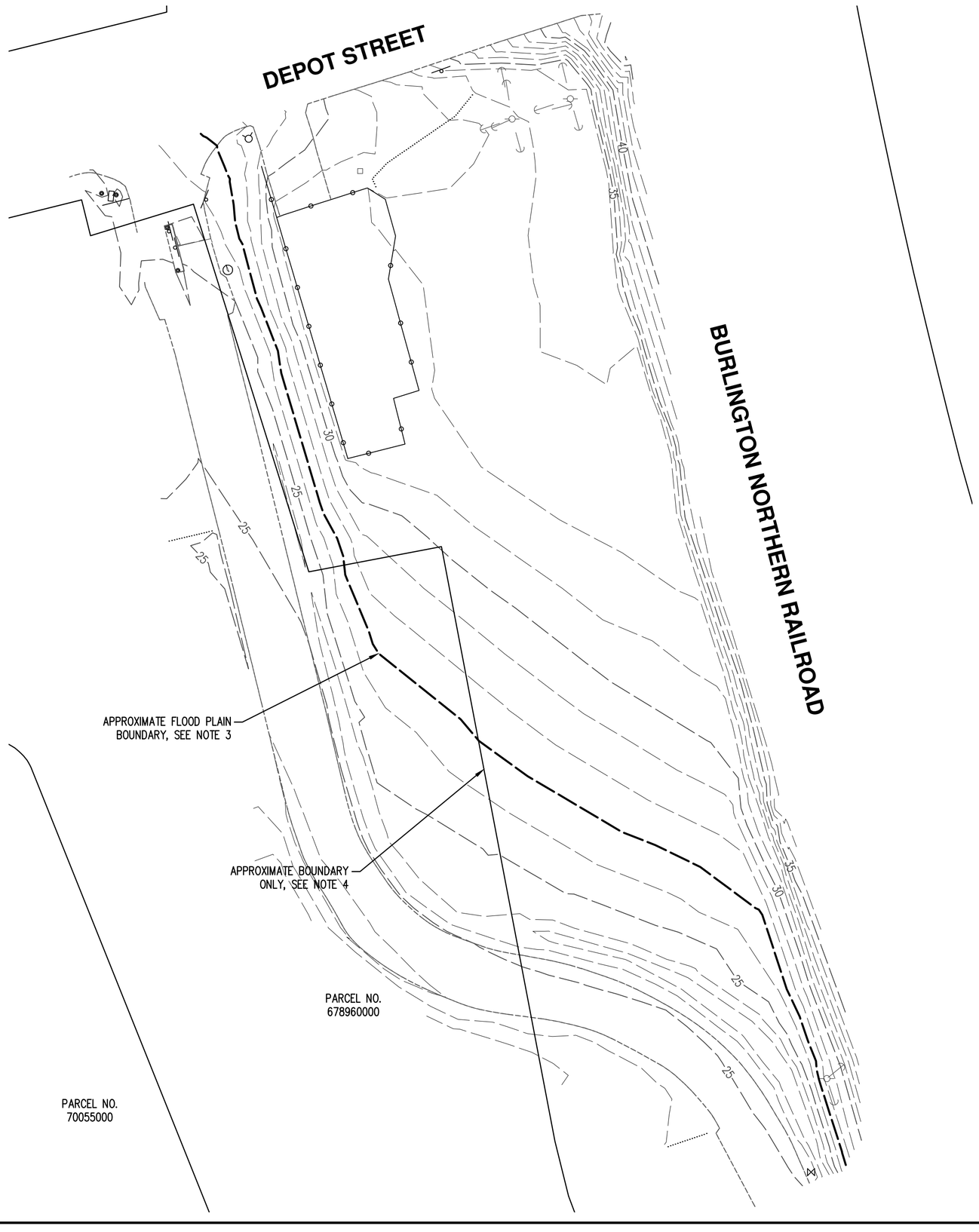
APPENDIX D

FINAL TOPOGRAPHIC SURVEY

PREPARED FOR
AEC, LLC.
705 COLORADO ST
KELSO, WA 98626

PRE-CONSTRUCTION TOPOGRAPHIC SURVEY

PROPERTY ID NUMBER: N/A
TAX LOT PARCEL NUMBER: N/A
PROPERTY ADDRESS: N/A
RIDGEFIELD, WA 98642



LEGAL DESCRIPTION

N/A

HORIZONTAL AND VERTICAL DATUMS

CONTROL POINTS AND CAD FILES WERE PROVIDED TO AKS ENGINEERING BY MAUL FOSTER AND ALONGI ON JULY 25-26, 2016 AND JUNE 8, 2017. AKS UTILIZED THE SURVEY CONTROL PROVIDED AND OBTAINED CHECKS WITHIN THE CONTROL AND CHECKS ON SITE FEATURES. CONSTRUCTION DOCUMENTS DATED 5/31/2017 PROVIDED BY CLIENT AS PREPARED BY MAUL FOSTER AND ALONGI TITLED "OFF-PROPERTY PORTION INTERIM ACTION" FOR THE PORT OF RIDGEFIELD NOTE THE HORIZONTAL DATUM TO BE WASHINGTON STATE PLANE COORDINATE SYSTEM SOUTH ZONE NAD83/91 AND ELEVATIONS ON NAVD88.

SURVEY NOTES

1. LIMITS OF TOPOGRAPHY ARE AS SHOWN AND REQUESTED BY CLIENT. FIELD SURVEY DATA WAS OBTAINED ON MARCH 23, 2017.
2. ELEVATIONS AND HORIZONTAL DATUM ARE PER THE HORIZONTAL AND VERTICAL DATUM NOTE ON THIS SHEET. FILES PROVIDED BY CLIENT DO NOT INCLUDE BACKGROUND DRAWINGS OR BOUNDARIES OF THE PROPERTY SURVEYED ON THIS MAP. THERE MAY EXIST BOUNDARIES, EASEMENTS OR OTHER FEATURES THAT A TITLE REPORT WOULD DETAIL. AKS ASSUMES NO LIABILITY FOR ANY PROPERTY LINES, EASEMENTS OR ANY OTHER ELEMENTS THAT MAY RESTRICT DEVELOPMENT. SURVEYED FEATURES ARE AS OBSERVED ON SITE AND MAY NOT INCLUDE ALL FEATURES OR FEATURES THAT ARE SUBSURFACE THAT COULD BE SHOWN BY PRIVATE OR PUBLIC UTILITY LOCATES.
3. SUBJECT PROPERTY HAS FLOODPLAIN ON IT. FEMA FLOODMAP 53011C0203D DATED 09/05/2012 NOTES THE BASE FLOOD ELEVATION AS 27 FEET AND IS SHOWN ON THIS MAP. BECAUSE THE VERTICAL DATUM IS PER OTHERS AND NOT CHECKED BY AKS, THIS FLOODPLAIN LOCATION IS CONSIDERED APPROXIMATE. IT IS ADVISED THAT ANY FLOODPLAIN DEVELOPMENT IS FURTHER SURVEYED AND VERIFIED BY AKS. THE CITY OF RIDGEFIELD WILL REQUIRE A FLOODPLAIN DEVELOPMENT PERMIT PRIOR TO ANY WORK WITHIN THE FLOODPLAIN BOUNDARIES.
4. BOUNDARIES FROM CLARK COUNTY GIS HAVE BEEN OVERLAYED BUT ARE NOT TO BE RELIED UPON. BOUNDARIES ARE SUBJECT TO A DETAILED SURVEY AND TITLE REVIEW. LINES SHOWN ON THIS MAP ARE TO INDICATE CLARK COUNTY GIS DATA AND ARE APPROXIMATE.

LEGEND

EXISTING		EXISTING	
WATER METER	▭	DECIDUOUS TREE	⊙
WATER VALVE	⋈	GUY WIRE ANCHOR	⟵
SANITARY SEWER MANHOLE	○	UTILITY POLE	⊸
SIGN	⊸	POWER PEDESTAL	□

EXISTING	
CURB	═══
EDGE OF PAVEMENT	- - - - -
FENCE LINE	-o-o-o-o-o-
GRAVEL EDGE	·····

N

SCALE: 1"= 30 FEET

30 0 12 18 24 30

09/08/2017

ROBERT D. REDELIG
STATE OF WASHINGTON
45169
REGISTERED
PROFESSIONAL LAND SURVEYOR

JOB NAME:	PORT OF RIDGEFIELD
JOB NUMBER:	5484
DRAWN BY:	MEB
CHECKED BY:	JPJ/RDR
DRAWING NO.:	5484CXMPL.DWG

AKS ENGINEERING & FORESTRY, LLC
12965 SW HERMAN RD STE 100
TUALATIN, OR 97062
P: 503.563.6151
F: 503.563.6152
aks-eng.com

AKS

ENGINEERING · SURVEYING · NATURAL RESOURCES
FORESTRY · PLANNING · LANDSCAPE ARCHITECTURE