City of Stevenson
Planning Department

(509)427-5970

7121 E Loop Road, PO Box 371
Stevenson, Washington 98648

TO: **City Council**
FROM: **Ben Shumaker**
DATE: **June 18th, 2020**

SUBJECT: **Addenda to City Administrator's Report (SHOR2020-01)**

Introduction

This memo provides a companion to the memo sent by Leana Kinley 1) to convey additional submittals by the applicant for the Council's record, 2) to summarize all comments received based on the City's threshold decision to issue a Mitigated Determination of Nonsignificance under SEPA, 3) to provide an indication of the project's ability to comply with the *Stevenson Engineering Standards*, and 4) to provide a color coded permit document related to the Planning Commission recommendation and the SEPA comments.

Additional Applicant Submittals

The City has received the following additional submittals from the applicant to assist the Council review:

- **Phase II Environmental Site Assessment** prepared by Maul Foster Alongi, February, 2017. The report concludes (page 6):
  "The geophysical survey did not identify anomalies typical of metallic tanks or other subsurface structures at the Property. There were no field-observed impacts in soil. Petroleum hydrocarbons were not detected in the soil samples. Metals and dioxins were detected in soil samples, but not above the MTCA Method A or Method B soil CULs. Based on the field observations and lack of detections there are no exceedances of state cleanup levels for hazardous substances on the property. No further investigation is considered warranted or recommended.
- **Brownfield Planning Study Summary** prepared by Maul Foster Alongi, March 2017. The study involved community meetings through an EPA Vision-to Action program and summarizes the vision (page 7):
  "Mixed use was the most popular land use suggested for the Hegewald Site. Generally, most participants imagined residences above a restaurant, café, or use tied to water recreation."
- **Critical Areas Report and Conceptual Mitigation Plan** prepared by Ecological Land Services, June 2020. The study involves a preliminary submittal currently under review for compliance with the Critical Areas Code.
- **Landscape Planting Plan** prepared by FDM Development, June 2020. Identifying the species and location (but not size or number) of several categories landscape plantings.

SEPA Comments

The City received the following comments based on the Mitigated Determination of Nonsignificance issued for this project.

- **Washington Department of Transportation.** This comment letter requests a traffic impact study be prepared related to SR 14, especially a westbound right turn deceleration lane from SR 14 onto western Rock Creek Drive. The draft permit includes language requiring the traffic study for Council consideration.
- **Washington Department of Ecology.** This letter combines comments from 3 divisions of Ecology:

- **Shorelands and Environmental Assistance.** This division requests 1) additional information on the project site plan to verify whether additional Ecology approvals are necessary, 2) additional information on the project's buffer mitigation strategy, and 3) additional information on the project's landscaping plan. Refer to conditions 9 and 14 of the draft SSDP to evaluate the necessity for additional conditions related to this division's comments.
- **Solid Waste Management.** This division stresses the need to use clean fill and properly dispose of earth/debris removed from the site. See mitigation measure #15 to evaluate the necessity to add additional conditions related to this division's comment.
- **Water Quality/Watershed Resources.** This division address the need for proper erosion control, potential Ecology permits and the project's effect on waterbodies with water quality impairments. See mitigation measure #s 5, 6, and 7 to evaluate the necessity for additional conditions related to this division's comments.

- **Washington Department of Archaeology & Historic Preservation.** This comment letter requests the service of a cultural resources monitor during excavation to verify the conclusions of the pre-project field survey. The draft permit includes language requiring the monitor for Council consideration.

Engineering Review

This item is provided primarily as an informational item. The report recommends 7 conditions of approval for the City's administrative staff to attach to the project's construction permits. Recommended conditions 1, 5, 6, and 7 have already been incorporated into staff's SEPA determination (mitigation measure #s 1, 5, 8, and 12). Staff will be prepared with additional findings, conclusions, and conditions should the Council wish to incorporate the remaining 3 conditions in an approved shorelines substantial development permit.

Critical Areas Review

This item is provided primarily as an informational item. The report recommends additional information be provided to verify the designation of buffer areas on the site. Upon appropriate designation, the report then asks the applicants to better describe the buffer restoration and critical areas mitigation strategies used to achieve compliance with the Critical Areas Code. Significant agreements are made regarding some designated buffer areas, but significant items are lacking related to the restoration and/or mitigation strategy. Staff will be prepared to discuss how these items can be addressed in the permitting process.

Draft Shoreline Substantial Development Permit

The draft Shoreline Substantial Development Permit has been updated to reflect the receipt of the information above. Where additions were made to the draft permit based on the Planning Commission's recommendation, those additions are given a dark blue font color. These additions occur on pages 10, 11 (especially condition 8A), 13 (especially condition 11), and 16 (especially condition 14). The draft permit also reserves an area where all conditions may be listed in one place for ease of readership, and anticipates staff's copying/pasting of the conditions after approval by the Council, if approval is given. Additionally, where the permit references the attachment and incorporation of other documents/comments, the draft anticipates staff action after approval.

Possible Motion:

"…move to approve Shoreline Substantial Development Permit 2020-01 according to the findings, conclusions, and conditions as presented, discussed, and/or amended."

Ben Shumaker
Community Development Director

Attachments: 10 total

MAUL FOSTER ALONGI
400 East Mill Plain Blvd., Suite 400 | Vancouver, WA 98660 | 360 694 2691 | www.maulfoster.com

February 2, 2017
Project No. 1200.01.02

Ms. Sandy Seaman
Skamania County Economic Development Council
PO Box 436
Stevenson, Washington 98648

Re: Phase II environmental site assessment—former Hegewald Timber Mill

Dear Ms. Seaman:

On behalf of Skamania County (the County) Economic Development Council (EDC), Maul Foster & Alongi, Inc. (MFA) has conducted a phase II environmental site assessment (ESA) to evaluate the potential for environmental impacts associated with historical operations at the former Hegewald Timber Mill, located at the approximate address of 880 Southwest Rock Creek Road in Stevenson, Washington (collectively referred to in this document as the Property) (see Figure 1). The work was conducted using funding set aside for economic development. The following is a summary of the findings.

The Property, which is owned by the County, comprises three tax parcels (County Tax Parcel Numbers 02070100130200, 02070100130300, and 02070100130400). The Property is mostly unused at this time, but was used as a timber peeling plant from approximately 1950 to the early 1980s. Although there are some remnants of historical buildings and operating infrastructure on the Property, the Property is currently undeveloped.

The purpose of the phase II ESA was to generate data to evaluate the potential for environmental impacts associated with historical operations in selected areas of the Property. in the data generated from the soil samples were compared to see if they were above Model Toxics Control Act (MTCA) cleanup levels (CULs), or above Method B CULs for analytes for which no Method A CULs are available.

BRIEF BACKGROUND

The approximately 6.4-acre Property is located in donation land claim 42, township 2 north, range 7 east, of the Willamette Meridian (see Figure 1). The Property is a peninsula that extends into Rock Cove on the northern, eastern, and southern perimeter. It is bounded inland to the west by Southwest Rock Creek Drive. Site features and investigation locations are presented on Figure 2.

A timber peeling/veneer facility operated on the Property from approximately 1950 to sometime in the 1980s. The facility was owned and operated by the Hegewald Timber Company, Inc. In the 1970s, Louisiana Pacific acquired the Property and operated the facility.

Historical photographs depict a large, factory-type building; a second, smaller, structure of unknown use; and two wigwam burners on the Property. The wigwam burners appear to have been fed with woodwaste (sawdust, scraps, chips, etc.) obtained from the timber-peeling work and also from the timber-milling work conducted by Hegewald Timber Company, Inc. on a nearby property to the west/southwest.

Historical photographs depict what appears to be a conveyor system leading from the timber mill to the southern wigwam burner, and a second conveyor leading from the timber peeling/veneer building to the northern wigwam burner. Pilings and shoreline piers, once used for timber handling and timber raft moorage, are visible at and surrounding the Property.

The Property is currently vacant and is overgrown by vegetation. The Property is not utilized, with the exception of a small area used to stockpile straw and horse manure from the County Fairgrounds. The Property currently consists of a mix of cleared and forested land, with unpaved drives circumscribing much of the Property. Two concrete slab foundations for historical buildings remain, but otherwise historical development features are not visibly present on the Property.

For a full background on the Property description and history, refer to the work plan for this investigation (MFA, 2016).

SITE GEOLOGY AND HYDROGEOLOGY

As part of this assessment, test pits were advanced on the Property. The subsurface soil was observed to be generally composed of sandy silt and silty sand with cobbles and boulders, some as large as 3 feet in diameter, from the surface to 10 feet below ground surface (bgs), the maximum depth explored.

Groundwater was not encountered during the assessment. Based on topography and adjacent surface water, groundwater in the vicinity of the site is inferred to flow southeast. The nearest surface water in the vicinity of the site is Rock Cove, which drains to the Columbia River. The Columbia River is located approximately 850 feet south-southwest of the Property, on the southern side of Washington State Highway 14 (see Figure 1).

FIELDWORK

To evaluate the potential for environmental contamination on the Property, soil samples were collected from test pits and analyzed for metals, petroleum hydrocarbons, and chlorinated dibenzo-p-dioxins/dibenzofurans (collectively referred to as dioxins).

A work plan for this field sampling event was provided to the County on November 9, 2016 (MFA, 2016). A geophysical survey was conducted at the Property on November 14 to 16, 2016. Soil sampling fieldwork was performed on December 7, 2016. The investigation was conducted consistent with the work plan.

Before the geophysical survey was conducted, an area that included remnants of former site features (i.e., building and wigwam foundations) and an approximately 50-foot boundary around those remnants were cleared/grubbed to the extent practicable. These areas were cleared of brush so that the contractors could conduct a geophysical survey and the test pits could be advanced.

MFA coordinated a geophysical survey using ground penetrating radar and electromagnetics to check for the presence of shallow subsurface anomalies (e.g., tanks, tank pits, piping, septic system features). MFA coordinated with Pacific Geophysics, a geophysical survey contactor, to conduct the survey on November 14 to November 16, 2016. The results of the survey helped inform Property decisions, evaluated potential remaining subsurface features associated with historical Property uses, and informed the selection of proposed test pit locations. The geophysical survey report is included as Attachment A.

Twelve magnetic anomalies were identified at the Property, likely caused by surface and buried metallic debris, as well as metal in the concrete building material. No anomalies typical for metallic underground tanks were detected in the geophysical survey.

Before excavation began, public and private underground utility locating services checked for underground utilities. Ten test pits were advanced by the County, under the supervision of an MFA geologist, on December 7, 2016. A photographic log of observations made during the fieldwork is available in Attachment B. MFA collected soil samples, described soil types, and measured volatilization in soil headspace, using a photoionization detector (PID). The PID soil headspace readings were 0.1 to 0.5 part per million.

Investigation locations are shown on Figure 2. These locations were selected based on the findings of the geophysical survey and known site features (e.g., former wigwam burner locations, former building locations, fill material locations). Consistent with the work plan, the test pits were advanced to 8 to 10 feet bgs.

The following is a description of the test pit locations:

- **TP1:** Adjacent to the northeastern corner foundation of the former large building, near Anomaly A, identified in the geophysical survey. Anomaly A is in the vicinity of a trench and pipe feature; therefore, TP1 was advanced north of Anomaly A.
- **TP2:** Adjacent to the eastern foundation boundary of the former large veneer building.
- **TP3:** Adjacent to the western foundation boundary of the former large building in an area identified in the geophysical survey as Anomaly D.
- **TP4:** In the stockpile location, near an area identified in the geophysical survey as Anomaly E.
- **TP5:** In the central part of the Property near an area identified in the geophysical survey as Anomaly I.
- **TP6:** Within or near the footprint of the southern former wigwam burner near an area identified in the geophysical survey as Anomaly J. A large slab of concrete assumed to be associated with the former wigwam burner foundation was encountered approximately 2.5 feet bgs during the advancement of TP6.
- **TP7:** Within or near the footprint of the southern former wigwam burner near an area identified in the geophysical survey as Anomaly K.
- **TP8:** Adjacent to the northeastern corner foundation of the former small structure.
- **TP9:** Near the northern former wigwam burner in an area identified in the geophysical survey as Anomaly G. Approximately 5 feet of angular cobbles and boulders was encountered when advancing this test pit.
- **TP10:** Fill material on the eastern peninsula near an area identified in the geophysical survey as Anomaly L.

The sampling was conducted in accordance with the methodology outlined in the work plan (MFA, 2016). With the exception of test pits TP7 and TP9, two soil samples were collected from each test pit: one shallow sample and one deep sample. Only one sample was collected from TP9 because the upper 5 feet of the excavation was rock with limited fine-grained soil to sample. Additionally, three soil samples were collected at TP7 because one composite surface soil sample was collected from the vicinity of the former wigwam burners to assess the presence of dioxins.

The samples were collected as grab samples from the excavator bucket, with soil collected from a sidewall of the test pit. After subsurface samples were collected, the test pits were finished to generally match the surrounding surface material.

ANALYTICAL WORK

In general, one soil sample for each test pit was submitted to the laboratory for analysis, with the exception of test pits TP4 and TP7, where two samples were submitted for analysis. Two samples were submitted for TP4 because this location had the highest PID readings; two samples from TP7 were submitted because of the addition of the surface soil sample for dioxin analysis.

Additional soil samples collected but not initially analyzed were archived. One sample was analyzed for dioxins by U.S. Environmental Protection Agency (USEPA) Method 8290; three samples were analyzed for MTCA five metals (arsenic, cadmium, chromium, lead, and mercury) by USEPA Method 6020; and 11 samples were analyzed for petroleum hydrocarbons by Northwest Total Petroleum Hydrocarbons Method for hydrocarbon identification.

Consistent with the Washington Administrative Code (WAC) 173-340-708(8), mixtures of dioxins/furans are considered as single hazardous substances when evaluating compliance with CULs such that the toxicity of a particular congener is expressed relative to the most toxic congener (i.e., 2,3,7,8-tetrachloro dibenzo-p-dioxin [TCDD]). The toxicity of dioxins as groups was assessed using a toxic equivalency approach.

Each congener in the group is assigned a toxic equivalency factor (TEF) describing the toxicity of that congener relative to the toxicity of the reference compound, specifically TCDD. For example, a congener that is equal in toxicity to TCDD would have a TEF of 1.0. Similarly, a congener that is half as toxic as TCDD would have a TEF of 0.5, and so on. Multiplying the concentration of a congener by its TEF produces the concentration of TCDD that is equivalent in toxicity to the congener concentration of concern; this is known as the toxicity equivalent concentration (TEC).

Computing the TEC for each congener (Ci in the equation below) in a sample, followed by summing the TEC values, permits expression of the congener concentrations in terms of a total TCDD toxicity equivalent (TEQ) (i.e., dioxin TEQ):

$$\text{Dioxin/Furan TEQ} = \sum_{i=1}^{k} \text{Ci x TEFi}$$

Dioxin TEQs were qualified and calculated as follows:

- Congeners qualified as non-detect and flagged with a "U" are used in the TEQ calculation at one-half the associated method reporting limit value.
- Congeners qualified as estimated and flagged with a "J" are used without modification in the TEQ calculation.

- Congeners qualified as non-detect with an estimated limit (i.e., flagged with a "UJ") are used in the TEQ calculation at one-half the associated method reporting value.
- If all congeners in a chemical group qualify as non-detect, the group sum is reported as undetected.

See Attachment C for the laboratory analytical reports and Attachment D for the data validation memorandum. The data are considered acceptable for their intended use, with the appropriate data qualifiers assigned.

RESULTS

Petroleum hydrocarbons were not detected in the soil samples (see attached table). Therefore, no followup analyses were performed.

Among the soil samples analyzed for metals, TP4-S-2.0 had a total lead concentration of 12 milligrams per kilogram (mg/kg) and the duplicate from TP10-S-2.0 had a total arsenic concentration of 5 mg/kg and a total chromium concentration of 26 mg/kg (see attached table).

The detections for arsenic, chromium, and lead were below the MTCA Method A CULs for unrestricted land use of 20 mg/kg, 2,000 mg/kg, and 250 mg/kg, respectively. Metals were not detected in TP6-S-2.0 above laboratory reporting limits.

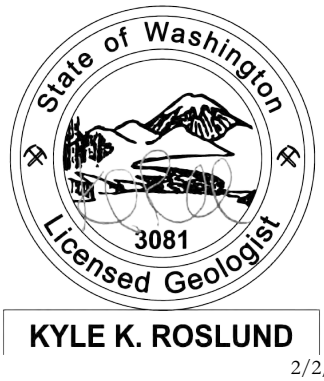
Additionally, one composite surface soil sample was collected from TP7 (located within or near the footprint of the former wigwam burner) and was analyzed for dioxins (see attached table). Analytical results show the presence of some dioxin compounds but not at concentrations exceeding the MTCA Method B CULs (there is no established Method A value).

CONCLUSIONS

The geophysical survey did not identify anomalies typical of metallic tanks or other subsurface structures at the Property. There were no field-observed impacts in soil. Petroleum hydrocarbons were not detected in the soil samples. Metals and dioxins were detected in soil samples, but not above the MTCA Method A or Method B soil CULs. Based on the field observations and lack of detections there are no exceedances of state cleanup levels for hazardous substances on the property. No further investigation is considered warranted or recommended.

Sincerely,

Maul Foster & Alongi, Inc.



Kyle K. Roslund, LG
Project Geologist

James J. Maul, LHG
Principal Hydrogeologist

Attachments: Limitations
References
Figures
Table
A—Geophysical Survey Report
B—Photographic Log
C—Laboratory Analytical Report
D—Data Validation Memorandum

Cc:

Gabe Spencer
Skamania County Assessor

Kari Fagerness
Skamania County Economic Development Council

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

MFA. 2016. Phase II environmental site assessment work plan, former Hegewald Timber Mill, 800 Southwest Rock Creek Road, Stevenson, Washington. Prepared for Skamania County, Washington. Maul Foster & Alongi, Inc. November 9.

TABLE

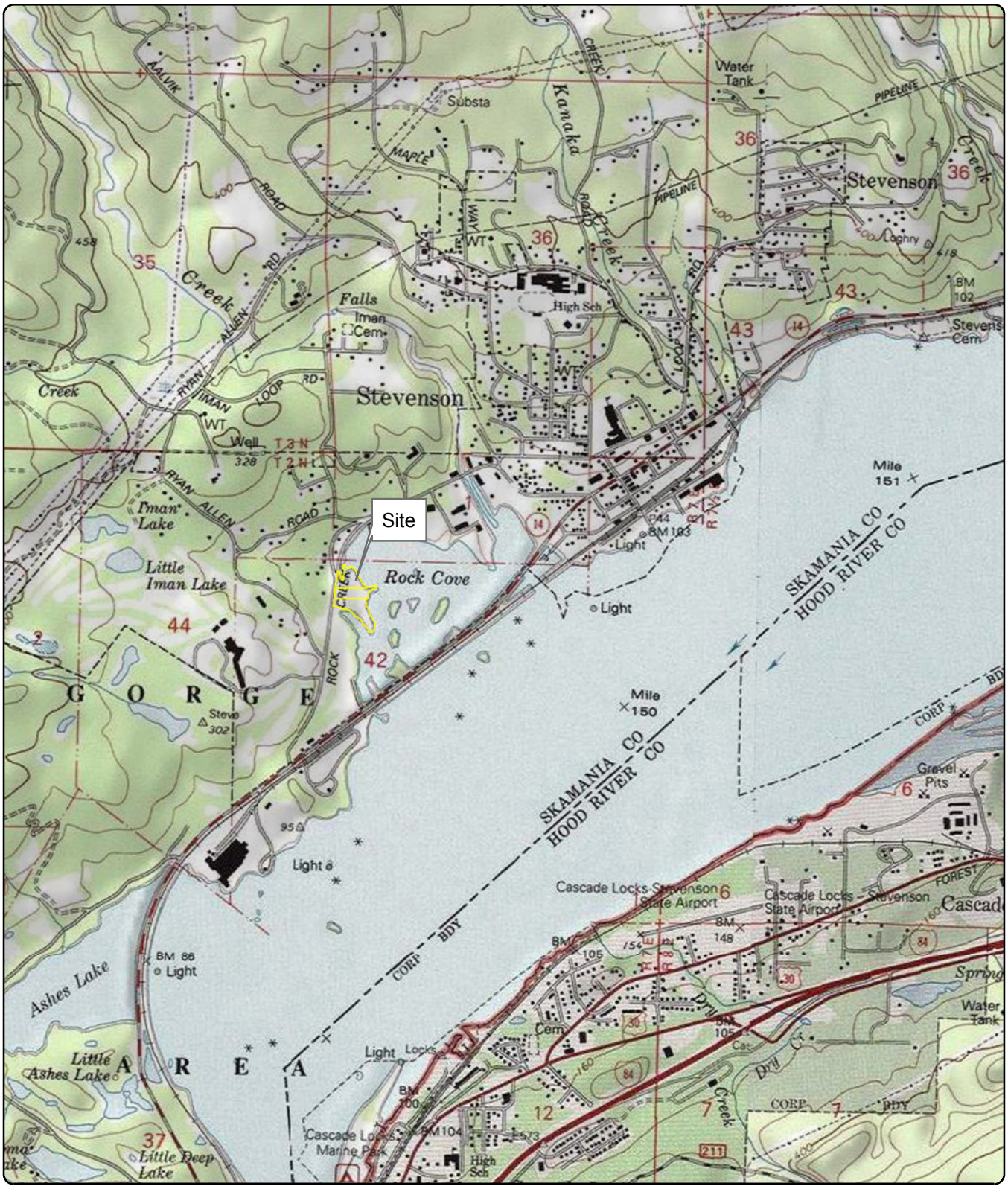
Table
Summary of Soil Analytical Results
Former Hegewald Timber Mill
Skamania County
Stevenson, Washington

		Location:	TP1	TP2	TP3	TP4	TP4	TP5	TP6	TP7	TP7	TP8	TP9	TP10	TP10
		Sample Name:	TP1-S-2.5	TP2-S-2.5	TP3-S-2.0	TP4-S-2.0	TP4-S-7.0	TP5-S-2.0	TP6-S-2.0	TP7-S-0.5	TP7-S-9.0	TP8-S-2.0	TP9-S-6.5	TP10-S-2.0	TP-S-2.0-DUP
		Collection Date:	12/07/2016	12/07/2016	12/07/2016	12/07/2016	12/07/2016	12/07/2016	12/07/2016	12/07/2016	12/07/2016	12/07/2016	12/07/2016	12/07/2016	12/07/2016
		Collection Depth (ft bgs):	2.5	2.5	2	2	7	2	2	0.5	9	2	6.5	2	2
	MTCA A	MTCA B													
Metals (mg/kg)															
Arsenic	20	NA	--	--	--	3 U	--	--	3.1 U	--	--	--	--	5.5	--
Cadmium	2	NA	--	--	--	1.5 U	--	--	1.5 U	--	--	--	--	1.6 U	--
Chromium	2000[a]	NA	--	--	--	15 U	--	--	15 U	--	--	--	--	26	--
Lead	250	NA	--	--	--	12	--	--	7.7 U	--	--	--	--	8.2 U	--
Mercury	2	NA	--	--	--	0.6 U	--	--	0.62 U	--	--	--	--	0.66 U	--
Hydrocarbon Identification (detect/non-detect)															
Diesel	NV	NV	ND	ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND
Gasoline	NV	NV	ND	ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND
Lube Oil	NV	NV	ND	ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND
Dioxins/Furans (pg/g)															
1,2,3,4,6,7,8-HpCDD	NV	NV	--	--	--	--	--	--	--	6.19	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	NV	NV	--	--	--	--	--	--	--	1.65 J	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	NV	NV	--	--	--	--	--	--	--	0.19 U	--	--	--	--	--
1,2,3,4,7,8-HxCDD	NV	NV	--	--	--	--	--	--	--	0.23 J	--	--	--	--	--
1,2,3,4,7,8-HxCDF	NV	NV	--	--	--	--	--	--	--	0.75 U	--	--	--	--	--
1,2,3,6,7,8-HxCDD	NV	NV	--	--	--	--	--	--	--	0.49 J	--	--	--	--	--
1,2,3,4,7,8-HxCDF	NV	NV	--	--	--	--	--	--	--	0.75 U	--	--	--	--	--
1,2,3,6,7,8-HxCDD	NV	NV	--	--	--	--	--	--	--	0.49 J	--	--	--	--	--
1,2,3,6,7,8-HxCDF	NV	NV	--	--	--	--	--	--	--	0.29 J	--	--	--	--	--
1,2,3,7,8,9-HxCDD	NV	NV	--	--	--	--	--	--	--	0.63 U	--	--	--	--	--
1,2,3,7,8,9-HxCDF	NV	NV	--	--	--	--	--	--	--	0.19 U	--	--	--	--	--
1,2,3,7,8-PeCDD	NV	NV	--	--	--	--	--	--	--	0.28 U	--	--	--	--	--
1,2,3,7,8-PeCDF	NV	NV	--	--	--	--	--	--	--	0.27 J	--	--	--	--	--
2,3,4,6,7,8-HxCDF	NV	NV	--	--	--	--	--	--	--	0.36 J	--	--	--	--	--
2,3,4,7,8-PeCDF	NV	NV	--	--	--	--	--	--	--	0.36 J	--	--	--	--	--
2,3,7,8-TCDD	NV	13	--	--	--	--	--	--	--	0.17 U	--	--	--	--	--
2,3,7,8-TCDF	NV	NV	--	--	--	--	--	--	--	1.06 J	--	--	--	--	--
OCDD	NV	NV	--	--	--	--	--	--	--	19.8	--	--	--	--	--
OCDF	NV	NV	--	--	--	--	--	--	--	2.25 J	--	--	--	--	--
Total HpCDDs	NV	NV	--	--	--	--	--	--	--	11.5	--	--	--	--	--
Total HpCDFs	NV	NV	--	--	--	--	--	--	--	3.24 J	--	--	--	--	--
Total HxCDDs	NV	NV	--	--	--	--	--	--	--	3.66 J	--	--	--	--	--
Total HxCDFs	NV	NV	--	--	--	--	--	--	--	2.9 J	--	--	--	--	--
Total PeCDDs	NV	NV	--	--	--	--	--	--	--	0.42 J	--	--	--	--	--
Total PeCDFs	NV	NV	--	--	--	--	--	--	--	2.78 J	--	--	--	--	--
Total TCDDs	NV	NV	--	--	--	--	--	--	--	1.39 J	--	--	--	--	--
Total TCDFs	NV	NV	--	--	--	--	--	--	--	4.12	--	--	--	--	--
Dioxin TEQ (U = 0.5)	NV	13	--	--	--	--	--	--	--	0.75 J	--	--	--	--	--

Table
Summary of Soil Analytical Results
Former Hegewald Timber Mill
Skamania County
Stevenson, Washington

NOTES:
Detections above screening criteria are in **bold** font.
Dioxin TEQ is calculated with non-detect values multiplied by one-half.
-- = not analyzed.
ft bgs = feet below ground surface.
J = Result is an estimated value.
mg/kg = milligrams per kilogram.
MTCA = Model Toxics Control Act.
MTCA A = MTCA method A for unrestricted land use.
MTCA B = MTCA method B, lower of available cancer or noncancer cleanup level.
NA = not applicable.
ND = not detected.
NV = no value.
pg/g = picograms per gram (parts per trillion).
TEQ = toxicity equivalence quotient.
U = Result is non-detect at or above the method reporting limits.
[a]Value is for trivalent chromium.

FIGURES



Approximate Site Address:
880 Southwest Rock Creek Road
Stevenson, Washington.

Source: US Geological Survey (1994) 7.5-minute topographic quadrangle: Bonneville Dam
Donation Land Claim 42, Township 2 North, Range 7 East

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p. 971 544 2139 | www.maulfoster.com

Figure 1
Site Location

Phase II Environmental Site Assessment

Former Hegewald Timber Mill
Stevenson, Washington

0 960 1,920
Feet

Source: Aerial photograph obtained from Esri ArcGIS Online

Legend

- Test Pit
- Utility Feature
- Utility Line
- Stockpile
- Approximate Location of Former Wigwam Burner
- Approximate Location of Foundation
- Skamania County Parcel

DRAFT

Figure 2
Investigation Locations

Former Hegewald Timber Mill
Stevenson, Washington

0 40 80
Feet

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Project: 1200.01.02-01
Produced By: estrandhagen Approved By: E. Hess
Print Date: 1/13/2017

ATTACHMENT A

GEOPHYSICAL SURVEY REPORT

PACIFIC GEOPHYSICS
Applied Geophysics

GEOPHYSICAL SURVEY REPORT

Former Lumber Mill Site

SW Rock Creek Drive
Stevenson, Washington

Project Number: 160812
Survey Dates: November 14, 15, 16, 2016

Prepared for:
Maul Foster Alongi, Inc.

Contents

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Introduction

Pacific Geophysics conducted a geophysical survey across accessible areas of the former lumber mill site located on SW Rock Creek Drive in Stevenson, Washington, for Maul Foster Alongi. The scope of the survey was to detect possible underground storage tanks (USTs) and other metallic features across the site.

Remnants of buildings were seen at various locations. Steep slopes, trees, piles of sawdust and berry bushes obstructed the survey. A recording magnetometer was used to scan the site. Ground penetrating radar (GPR) and hand-held metal detecting instruments were used to investigate magnetic anomalies.

Several magnetic anomalies were detected but all appeared to be caused by surface or buried debris.

This report includes descriptions of the site, the scope of work, the equipment and methodology and the results of the survey.

Site Description

Figure 1 shows the location of the site and the survey coverage. Magnetic data were collected across the gravel-, soil-, and concrete-covered peninsula with the aid of a Trimble GPS system, coupled to the magnetometer. No data were collected across several areas with dense bushes, trees, steep slopes and horse-manure-filled sawdust.

Several building footprints were seen on the surface. The most prominent is located in the center-north part of the site and is partly surrounded by a short wall containing embedded bolts and pieces of rebar. Metal straps, cables, and other metallic debris were seen on the ground surface at several locations.

The former walls, as well as a heavily reinforced building floor near the eastern side of the peninsula, and a parked trailer created magnetic interference that limited the effectiveness of all the metal-detecting instruments. The magnetometer data were unusable within about 5 feet of the trailer and the building foundation.

No suspicious UST-related objects like fill ports were seen on the ground surface.

Scope of Work

The main goal of the survey was to detect possible USTs and other metallic objects. The magnetometer survey was conducted to detect ferrous objects that could be USTs. Hand-held instruments and GPR were used to investigate magnetic anomalies.

Nikos Tzetos and Cody Sheaffer of Pacific Geophysics conducted the survey for Maul, Foster Alongi [MFA] on November 14-16, 2016. This report was written by Nikos Tzetos and emailed to Mr. Kyle Roslund of MFA on November 22, 2016.

Geophysical Equipment and Survey Procedures

General Procedures:

A magnetometer is the first instrument used to investigate a site for subsurface ferrous metallic objects because it enables the operator to rapidly scan the subsurface. Data are collected across an accurately measured survey grid established on the site. For larger areas, where it would be difficult to set up an accurate survey grid, like this site, the magnetometer can be coupled to a GPS antenna.

Upon completing the data acquisition phase of the survey, a contour map of the earth's local magnetic field is produced. Small, hand-held metal detectors are then used to more thoroughly investigate the magnetic anomalies detected with the magnetometer. These instruments are excellent at detecting and characterizing buried metal objects; however, they do not record data, and are not adequate to survey large areas.

Ground Penetrating Radar (GPR) is usually the last method used to investigate a site for buried metallic objects. The shape of radar reflections produced by buried objects may assist in the interpretation of magnetic anomalies.

Magnetic Survey:

At this site, a Geometrics G-858-G Portable Cesium Magnetometer was used to acquire the magnetic data. Magnetic data locations were controlled with a Trimble GPS system coupled to the magnetometer. GPS was not used across the former large building and to its east, up to a steep drop-off, because of large trees obstructing the sky. An orthogonal survey grid was established over this area with measuring tapes. For this UST survey a line spacing of 5 feet was used. Data points along lines are spaced about 1-foot apart at normal walking speed.

A colored contour map showing the earth's local magnetic field was created in the field. Magnetic anomalies higher in amplitude than the normal local magnetic background are shown in red, and are usually found over areas where ferrous objects are located below the sensor. The objects may be surface objects such as manholes or other surface features, or buried objects of interest, such as USTs, drums, pipes, and debris. Magnetic anomalies at or below the amplitude of the local magnetic field are shown in blue and are caused by ferrous objects located above the sensor, such as buildings, poles, chain-link fences, and other surface objects.

Surface objects including buildings and fences can produce significant magnetic interference that can conceal buried objects of interest.

Hand-held instruments:

An Aqua-Tronics A6 Tracer and a Schonstedt GA92XTd magnetic gradiometer are used to locate and investigate the anomalies detected by the magnetometer. These instruments can pinpoint the peaks and troughs of the anomalies, and in many cases determine if an object is linear (pipe or utility) or three-dimensional (UST). Because they are small, they may be used to scan areas inaccessible to the recording magnetometer. Neither records data.

The transmitter unit of a Radio Detection RD8000 PDL pipe and cable detector may be used to electrically charge an accessible metal pipe or utility. The charged object

can then be “traced” using the receiver unit. The receiver can also detect some metallic features indirectly, using the system’s “radio” function.

Ground Penetrating Radar:

Following the hand-held instrument survey, a GSSI SIR-2000 GPR system coupled to a 400 MHz antenna was used to investigate suspicious magnetic anomalies. Radar reflections across the anomalies may give clues to the size and shape of the buried metallic objects producing them. Objects themselves are not actually seen.

The collection of radar data is very time-consuming and the data may be ambiguous; therefore, GPR is not a cost-effective method to “blindly” scan a site for buried metallic objects. Radar is, however, one of the only methods capable of detecting non-metallic features, including PVC and clay pipes, septic tanks, drywells, trenches and excavations.

GPR data may be collected on a grid when searching for non-conductive features like UST pits or pipes.

GPR is used in borehole clearance surveys: parallel traverses in orthogonal directions are taken and the profiles are inspected in the field. Boreholes may be moved to clear locations, based on the interpretation of the radar data.

Additional information regarding these instruments, methods, surveys and limitations with references can be found in the Appendix.

Results

The colored magnetic contour map produced as a result of the survey is shown in figure 2, contoured using an interval of 500 nT. The data were interpreted at a contour interval of 250 nT in the field. Red contours are magnetic highs caused by ferrous objects on or below the ground surface (including USTs). Blue contours indicate magnetic values lower than the earth’s local background level and are generally caused by ferrous objects situated above the magnetometer sensor, carried at a height of about 3 feet. Fences, poles and buildings typically produce magnetic lows.

Twelve magnetic anomalies are labeled alphabetically in figure 2:

Anomaly A extends from the narrow area between two building walls up to several feet east of the former building. The Tracer indicated three-dimensional objects were causing the western and eastern portions of this anomaly (indicated with two pointer lines in the figure). GPR was used in this area. Interface with the ground surface was not optimal because of wet leaves; as a result, signal penetration was limited. No suspicious radar reflectors were seen in radar profiles, although signal quality was poor. An exposed I-beam is partly causing this anomaly.

Anomalies B and C are interpreted to be caused by metal in the building wall.

A small mound was seen at the surface at the location of anomaly D. According to hand-held instruments and GPR, the mound consists of metallic debris.

Magnetic anomaly E appears to be caused by the corner of the building's reinforced-concrete floor and by a pipe that extends from this location toward a concrete-walled enclosure, several feet to the southwest.

Anomaly F is caused by I-beams and metal embedded in the concrete floor of the former building.

Anomaly G appears to be caused by small, buried metallic debris, while anomaly H is caused by surface metallic debris.

A three-dimensional metallic object was detected with the Tracer across anomaly I. No recognizable radar reflectors were detected in profiles across this anomaly. Again, radar-ground interface was poor due to berry-bush stubble. The anomaly is interpreted to be caused by metallic debris.

Magnetic anomaly J was investigated with metal detectors and coincides with a large mound in the center of the south promontory. It coincides with the reported location of a former mill structure. The anomaly is interpreted to be caused by metallic debris within the mound and up to several feet to the southwest. The anomaly labeled J1 was investigated with the Tracer. A small three-dimensional object was detected at this location; no suspicious object was detected with radar here.

Anomaly K is caused by metallic debris, including a possible crushed drum seen on the mound's surface.

Anomaly L is caused by the beam-reinforced floor of the concrete structure exposed on the east promontory.

No anomalies caused by tanks were detected with this survey.

Conclusion

A magnetometer coupled with a GPS system was used to survey all accessible areas at this site for USTs and other metallic features. No tanks were detected. Several areas with buried and surface metallic debris were found, including a large mound at the south end of the site.

Limitations

The conclusions presented in this report were based upon widely accepted geophysical principles, methods and equipment. This survey was conducted with limited knowledge of the site, the site history and the subsurface conditions.

The goal of near-surface geophysics is to provide a rapid means of characterizing the subsurface using non-intrusive methods. Conclusions based upon these methods are generally reliable; however, due to the inherent ambiguity of the methods, no single interpretation of the data can be made. As an example, rocks and roots produce radar reflections that may appear the same as pipes and tanks.

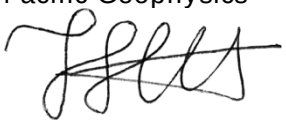
Under reasonable site conditions, geophysical surveys are good at detecting changes in the subsurface caused by manmade objects or variations in subsurface conditions, but they are poor at identifying those objects or subsurface conditions.

Objects of interest are not always detectable due to surface and subsurface conditions. The deeper an object is buried, the more difficult it is to detect, and the less accurately it can be located.

The only way to see an object is to physically expose it.

Nikos Tzetos
Pacific Geophysics

November 22, 2016

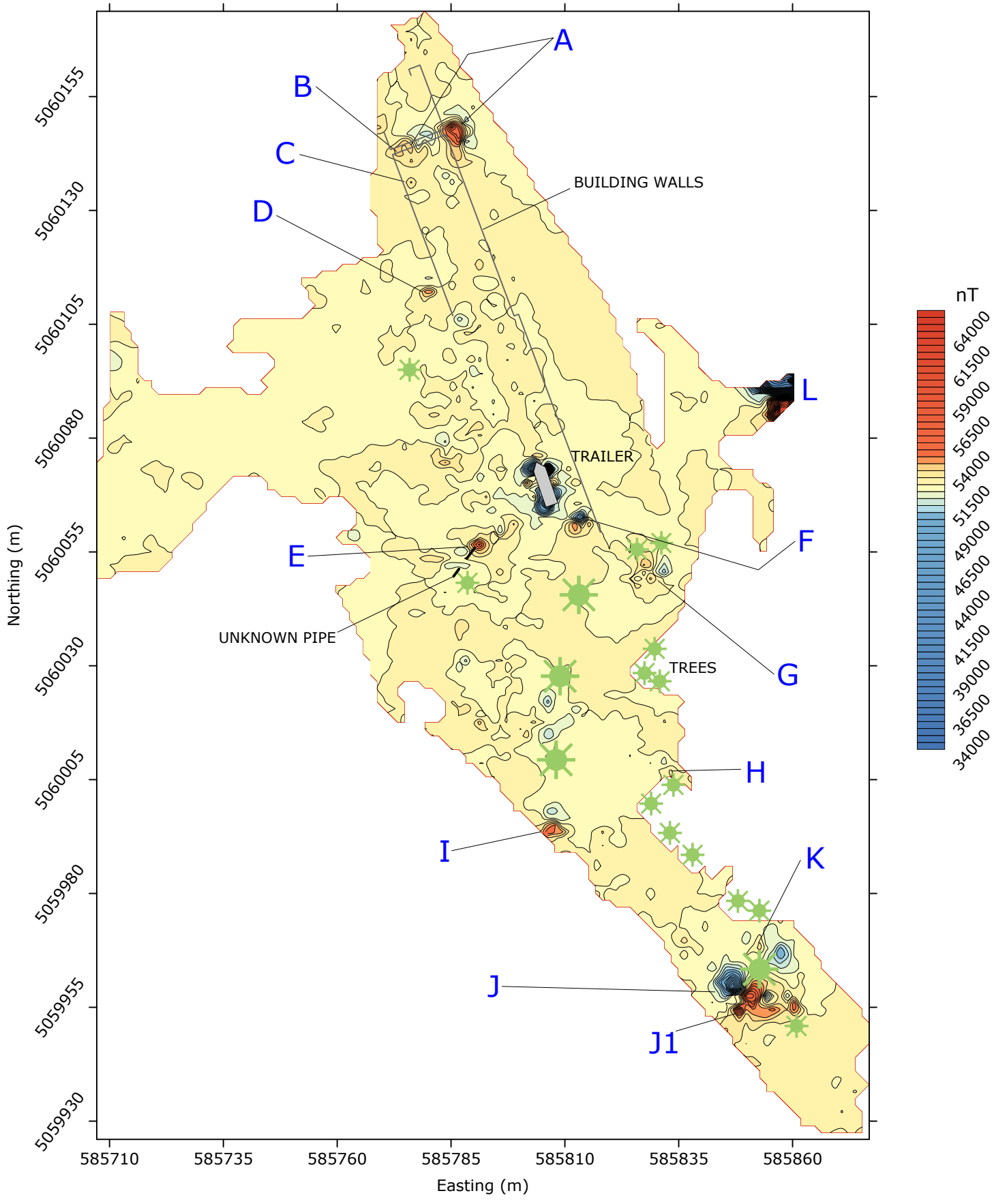


PACIFIC GEOPHYSICS
Applied Geophysics

FIGURE 1

Survey Location and Coverage

Project: 160812	Former Lumber Mill Site SW Rock Creek Drive Stevenson, Washington
Drawn by : NT	Prepared for: MFA
	Survey Date: November 14-16, 2016



PACIFIC GEOPHYSICS
Applied Geophysics

N

FIGURE 2	Magnetic Contour Map - C.I.=500 nT	
	Project: 160812	Former Lumber Mill Site SW Rock Creek Drive Stevenson, Washington
	Drawn by : NT	Prepared for: MFA
		Survey Date: November 14-16, 2016

Appendix A. Geophysical Survey Methods

Magnetometer Surveys

Small disturbances in the Earth's local magnetic field are called "magnetic anomalies". These may be caused by naturally occurring features such as metallic mineral ore bodies, or from manmade features such as metal buildings, vehicles, fences, and underground storage tanks. The magnetometer only detects changes produced by ferrous objects. Aluminum and brass are non-ferrous metals and cannot be detected using a magnetometer.

A magnetometer is an electronic instrument designed to detect small changes in the Earth's local magnetic field. Over the years different technologies have been used in magnetometers. The Geometrics G-858 Portable Cesium Magnetometer used to collect magnetic data for Pacific Geophysics uses one of the most recent methods to detect magnetic anomalies. A detailed discussion describing the method this unit uses is available at Geometrics.com.

This magnetometer enables the operator to collect data rapidly and continuously rather than the older instruments that collected data at discreet points only. The G-858 is carried by hand across the site. The sensor is carried at waist level. Typically individual data points collected at normal walking speed are about 6" apart along survey lines usually 5 feet apart, depending on the dimensions of the target objects.

It is critical to know the exact location of each data point so that if an anomaly is detected it can be accurately plotted on a magnetic contour map. At most small sites, data are collected along straight, parallel survey lines set up on the site before the data collection stage begins. For very large, complex sites, the G-858 can be connected to a Global Positioning System (GPS) antenna which allows the operator to collect accurately-located data without establishing a survey grid. With GPS, data are collected and positioned wherever the operator walks. A limitation using GPS is that the GPS antenna must have line of sight with the GPS satellites. Data can be mislocated if the GPS antenna is under trees or near tall buildings.

Data are stored in the unit's memory for later downloading and processing. A magnetic contour map of the data is plotted in the field. Geographical features are plotted on the map. Magnetic anomalies appearing to be caused by objects of interest are then investigated on the site using several small hand-held metal detectors. If an object appears to be a possible object of interest, it may be investigated with GPR.

Magnetic contour maps may be printed in color in order to highlight anomalies caused by ferrous objects located under the magnetic sensor. Usually, ferrous objects situated below the sensor produce magnetic "highs" and anomalies located above the sensor produce magnetic "lows". Magnetic highs are of interest to the operator since most objects of interest are located underground.

Depending on the orientation, shape and mass of a metallic object, a high/low pair of magnetic anomalies may be present. In the northern hemisphere the magnetic low is located north of the object and the magnetic high toward the south. The object producing the anomaly is located part way between the high and the low anomalies.

Magnetometer surveys have limitations. Magnetometers only detect objects made of ferrous (iron-containing) metal. Large ferrous objects (buildings, cars, fences, etc.) within several feet of the magnetometer create interference that may hide the anomaly produced by a nearby object of interest.

Ground Penetrating Radar

A Geophysical Survey Systems, Inc. (GSSI) SIR-2000 GPR system coupled to a 270-, 400-, or 900-MHz GSSI antenna is used to obtain the radar data for our surveys.

GPR antennas both transmit and receive electromagnetic energy. EM energy is transmitted into the material the antenna passes over. A portion of that energy is reflected back to the antenna and amplified. Reflections are displayed in real-time in a continuous cross section. Reflections are produced where there is a sufficient electrical contrast between two materials. Changes in the electrical properties (namely the dielectric constant) that produce radar reflections include the moisture content, porosity, mineralogy, and texture of the material. Metallic objects of interest exhibit a strong electrical contrast with the surrounding material and thus produce relatively strong reflections. Non-metallic objects of interest (septic tanks, cesspools, dry wells, PVC and clay tile pipes) are not always good reflectors.

Radar data are ambiguous. It can be difficult to distinguish the reflection produced by an object of interest from the reflection caused by some natural feature. Rocks or tree roots have reflections that appear similar to reflections from pipes. In concrete investigations reflections produced by metal rebar look exactly like those from electrical conduit or post-tension cables. Objects with too small an electrical contrast may produce no reflections at all and may be missed. Target objects buried below objects with contrasting properties that also produce reflections may be missed (e.g. USTs below roots, concrete pieces, pipes or rocks). If an object of interest like a UST is buried below the depth of penetration of the radar signal, it will be missed.

In addition to interpreting ambiguous data, radar has several limitations that cannot be controlled by the operator. The radar signal is severely attenuated by electrically conductive material, including wet, clay-rich soil and reinforced concrete. The quality of the data is affected by the surface conditions over which the antenna is pulled. Ideally the antenna should rest firmly on a smooth surface. Rough terrain and tall grass reduce the quality of radar data.

It is the job of an experienced interpreter to examine the GPR profiles and deduce if reflections are from objects of interest. A GPR interpreter cannot see underground, but can only interpret reflections based on experience.

The only way to truly identify an object is to excavate.

Hand-held Metal detectors

Two small, non-recording metal detectors are used to locate suspect magnetic anomalies detected using the G-858 Magnetometer in order to determine the likely cause of the anomaly. First, the magnetic contour map and a Schonstedt Magnetic Gradiometer are used to locate the center of the magnetic anomalies.

Once the anomaly is located an Aqua-Tronics Tracer is used to determine if the object producing the anomaly is a possible object of interest. Most anomalies are at least in part produced by features observed on the ground surface.

Schonstedt Magnetic Gradiometer: This magnetometer has two magnetic sensors separated vertically by 10”. The magnetic field surrounding a ferrous object is strongest near the object and decreases rapidly as the distance increases. If the magnitude measured by the sensor located in the tip of the Schonstedt is very high, and the magnetic field measured by the sensor located farther up the shaft of the Schonstedt is low, there is a large vertical magnetic gradient and the instrument responds with a loud whistle indicating the object is near the surface. If there is a small difference in the magnitudes measured by the two sensors, the object is deeper. The instrument responds with a softer tone. A discussion of this instrument is available at Schonstedt.com.

Aqua-Tronics A-6 Tracer: The Aqua-Tronics A-6 Tracer uses a different method of detecting metallic objects. This instrument measures the electrical conductivity of a metal object. It is capable of detecting any electrically conductive metal, including non-ferrous aluminum and brass. The Tracer is capable of detecting three-dimensional objects as well as pipes.

The Tracer consists of a transmitter coil and a receiver coil. In the absence of any electrically conductive material in the vicinity of the Tracer, the electromagnetic field around each coil is balanced.

Basically the electromagnetic field produced by the transmitter induces an electric current into the area surrounding the instrument. Nearby conductive objects distort the EM field. The balance between the two coils is disturbed and the instrument produces an audible tone and meter indication.

ATTACHMENT B

PHOTOGRAPHIC LOG

PHOTOGRAPHS

Project Name: Former Hegewald Timber Mill
Project Number: 1200.01.02
Approximate Location: 880 Southwest Rock Creek Road
Stevenson, Washington 98648

Photograph 1: Trench feature that crosses the northern part of the large building foundation. Photograph taken facing east.

Photograph 2: Water valve feature in central portion of Property. Photograph taken facing west.

PHOTOGRAPHS

Project Name: Former Hegewald Timber Mill
Project Number: 1200.01.02
Approximate Location: 880 Southwest Rock Creek Road
Stevenson, Washington 98648

Photograph 3: Excavation TP2 along the eastern foundation of the large building. Photograph taken facing south.

Photograph 4: Western sidewall of TP4, showing varied soil lenses in the upper 3 feet. Photograph taken facing northwest.

PHOTOGRAPHS

Project Name: Former Hegewald Timber Mill
Project Number: 1200.01.02
Approximate Location: 880 Southwest Rock Creek Road
Stevenson, Washington 98648

Photograph 5: Excavation of TP6 within the footprint of the southern former wigwam burner. The shelf feature in the photograph is a concrete slab encountered during advancement of the test pit. Photograph taken facing northwest.

Photograph 6: Excavation TP8 adjacent to the northeast corner of the small structure foundation. Photograph taken facing west.

PHOTOGRAPHS

Project Name: Former Hegewald Timber Mill
Project Number: 1200.01.02
Approximate Location: 880 Southwest Rock Creek Road
Stevenson, Washington 98648

Photograph 7: Excavation TP9, which had angular cobble fill from surface to approximately 5 feet below ground surface. Photograph taken facing south.

Photograph 8: Small peninsula, on the eastern boundary of the Property, that extends into Rock Cove. TP10 was advanced to the west of the foundation. Photograph taken facing east.

ATTACHMENT C

LABORATORY ANALYTICAL REPORT

BSK Associates Vancouver
2517 E. Evergreen Blvd.
Vancouver, WA 98661
360-750-0055 (Main)
360-750-0057 (FAX)

V6L0137
1/09/2017
Invoice: V700058

Kyle Roslund
Maul Foster and Alongi, Inc.
400 East Mill Plain Boulevard, Suite 400
Vancouver, WA 98660

RE: Report for V6L0137 Skamania Phase II 1200.01.02

Dear Kyle Roslund,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 12/8/2016. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

If additional clarification of any information is required, please contact your Project Manager, Debra Karlsson , at (360) 750-0055.

Thanks again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

Renea Rangell

Renea Rangell, Laboratory Director - Vancouver

Accredited in Accordance with NELAP
ORELAP #4021

BSK ASSOCIATES

Case Narrative

Project and Report Details		Invoice Details	
Client:	Maul Foster and Alongi, Inc.	**Invoice To:**	Maul Foster and Alongi, Inc.
Report To:	Kyle Roslund	**Invoice Attn:**	Accounting
Project #:	Rock Cove	**Project PO#:**	1200.01.02
Received:	12/08/2016 - 12:43		
Report Due:	12/22/2016		

Sample Receipt Conditions

Cooler: Default Cooler
Temperature on Receipt ºC: 11.6

Containers Intact
COC/Labels Agree
Received with no thermal preservation.
Initial receipt at BSK-VAL

Detailed Narrative

Chain of Custody Notes

Date: 01/06/2016
Initials: RLR
Note: A BSK Temp Blank was placed in each of the four ice chests delivered to the client with sample bottle delivery. Upon sampling, only two of the Temp Blanks were placed in the storage refrigerator with the samples at the client's location. The remaining Temp Blanks were stored ambient with the unused ice chests. Upon receipt at the lab, the technican did not read the temperature of all the Temp Blanks and only recorded the temperature from the ambient Temp Blank.

Analysis Comment

Date: 01/09/2016
Initials: RLR
Comment: Per client, sample TP7-S-0.5 to be analyzed for Dioxins and Furans.

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

None applied

Report Distribution

Recipient(s)	Report Format	CC:
Kyle Roslund	FINAL.RPT	ehess@maulfoster.com
Mary Benzinger	FINAL.RPT	
Merideth D'Andrea	FINAL.RPT	

Certificate of Analysis

Sample ID: V6L0137-01
Sampled By: Emily Hess
Sample Description: TP1-S-2.5

Sample Date - Time: 12/07/16 - 08:10
Matrix: Soil
Sample Type: Grab

BSK Associates Vancouver

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Percent Solids	SM 2540B	**75**	0.10	% by Weight	1	V601501	12/09/16	12/10/16	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Hydrocarbon Identification by NWTPH-HCID									
Diesel Range Organics (C10-24)	NWTPH-HCID	ND	67	mg/kg dry	1	V601500	12/09/16	12/10/16	
Gasoline Range Organics (C6-10)	NWTPH-HCID	ND	27	mg/kg dry	1	V601500	12/09/16	12/10/16	
Motor Oil Range Organics (C24-C40)	NWTPH-HCID	ND	130	mg/kg dry	1	V601500	12/09/16	12/10/16	
Surrogate: Tetracosane	NWTPH-HCID	87 %	*Acceptable range: 50-150 %*						

Certificate of Analysis

Sample ID: V6L0137-04
Sampled By: Emily Hess
Sample Description: TP2-S-2.5

Sample Date - Time: 12/07/16 - 09:10
Matrix: Soil
Sample Type: Grab

BSK Associates Vancouver

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Percent Solids	SM 2540B	**70**	0.10	% by Weight	1	V601501	12/09/16	12/10/16	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Hydrocarbon Identification by NWTPH-HCID									
Diesel Range Organics (C10-24)	NWTPH-HCID	ND	71	mg/kg dry	1	V601500	12/09/16	12/10/16	
Gasoline Range Organics (C6-10)	NWTPH-HCID	ND	28	mg/kg dry	1	V601500	12/09/16	12/10/16	
Motor Oil Range Organics (C24-C40)	NWTPH-HCID	ND	140	mg/kg dry	1	V601500	12/09/16	12/10/16	
Surrogate: Tetracosane	NWTPH-HCID	82 %	*Acceptable range: 50-150 %*						

Certificate of Analysis

Sample ID: V6L0137-06
Sampled By: Emily Hess
Sample Description: TP3-S-2.0

Sample Date - Time: 12/07/16 - 09:40
Matrix: Soil
Sample Type: Grab

BSK Associates Vancouver

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Percent Solids	SM 2540B	**77**	0.10	% by Weight	1	V601501	12/09/16	12/10/16	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Hydrocarbon Identification by NWTPH-HCID									
Diesel Range Organics (C10-24)	NWTPH-HCID	ND	65	mg/kg dry	1	V601500	12/09/16	12/10/16	
Gasoline Range Organics (C6-10)	NWTPH-HCID	ND	26	mg/kg dry	1	V601500	12/09/16	12/10/16	
Motor Oil Range Organics (C24-C40)	NWTPH-HCID	ND	130	mg/kg dry	1	V601500	12/09/16	12/10/16	
Surrogate: Tetracosane	NWTPH-HCID	85 %	*Acceptable range: 50-150 %*						

Certificate of Analysis

Sample ID: V6L0137-07
Sampled By: Emily Hess
Sample Description: TP4-S-7.0

Sample Date - Time: 12/07/16 - 10:10
Matrix: Soil
Sample Type: Grab

BSK Associates Vancouver

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Percent Solids	SM 2540B	**76**	0.10	% by Weight	1	V601501	12/09/16	12/10/16	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Hydrocarbon Identification by NWTPH-HCID									
Diesel Range Organics (C10-24)	NWTPH-HCID	ND	65	mg/kg dry	1	V601500	12/09/16	12/10/16	
Gasoline Range Organics (C6-10)	NWTPH-HCID	ND	26	mg/kg dry	1	V601500	12/09/16	12/10/16	
Motor Oil Range Organics (C24-C40)	NWTPH-HCID	ND	130	mg/kg dry	1	V601500	12/09/16	12/10/16	
Surrogate: Tetracosane	NWTPH-HCID	86 %	*Acceptable range: 50-150 %*						

Certificate of Analysis

Sample ID: V6L0137-08
Sampled By: Emily Hess
Sample Description: TP4-S-2.0

Sample Date - Time: 12/07/16 - 10:20
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	ND	3.0	mg/kg dry	1	A616839	12/14/16	12/14/16	
Cadmium	EPA 6020	ND	1.5	mg/kg dry	1	A616839	12/14/16	12/14/16	
Chromium	EPA 6020	ND	15	mg/kg dry	1	A616839	12/14/16	12/14/16	
Lead	EPA 6020	**12**	7.4	mg/kg dry	1	A616839	12/14/16	12/14/16	
Mercury	EPA 6020A	ND	0.60	mg/kg dry	1	A616839	12/14/16	12/14/16	

BSK Associates Vancouver

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Percent Solids	SM 2540B	**84**	0.10	% by Weight	1	V601501	12/09/16	12/10/16	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Hydrocarbon Identification by NWTPH-HCID									
Diesel Range Organics (C10-24)	NWTPH-HCID	ND	59	mg/kg dry	1	V601500	12/09/16	12/10/16	
Gasoline Range Organics (C6-10)	NWTPH-HCID	ND	24	mg/kg dry	1	V601500	12/09/16	12/10/16	
Motor Oil Range Organics (C24-C40)	NWTPH-HCID	ND	120	mg/kg dry	1	V601500	12/09/16	12/10/16	
Surrogate: Tetracosane	NWTPH-HCID	84 %	*Acceptable range: 50-150 %*						

Certificate of Analysis

Sample ID: V6L0137-10
Sampled By: Emily Hess
Sample Description: TP5-S-2.0

Sample Date - Time: 12/07/16 - 10:55
Matrix: Soil
Sample Type: Grab

BSK Associates Vancouver

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Percent Solids	SM 2540B	**74**	0.10	% by Weight	1	V601501	12/09/16	12/10/16	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Hydrocarbon Identification by NWTPH-HCID									
Diesel Range Organics (C10-24)	NWTPH-HCID	ND	67	mg/kg dry	1	V601500	12/09/16	12/10/16	
Gasoline Range Organics (C6-10)	NWTPH-HCID	ND	27	mg/kg dry	1	V601500	12/09/16	12/10/16	
Motor Oil Range Organics (C24-C40)	NWTPH-HCID	ND	130	mg/kg dry	1	V601500	12/09/16	12/10/16	
Surrogate: Tetracosane	NWTPH-HCID	80 %	*Acceptable range: 50-150 %*						

Certificate of Analysis

Sample ID: V6L0137-12
Sampled By: Emily Hess
Sample Description: TP6-S-2.0

Sample Date - Time: 12/07/16 - 11:30
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	ND	3.1	mg/kg dry	1	A616839	12/14/16	12/14/16	
Cadmium	EPA 6020	ND	1.5	mg/kg dry	1	A616839	12/14/16	12/14/16	
Chromium	EPA 6020	ND	15	mg/kg dry	1	A616839	12/14/16	12/14/16	
Lead	EPA 6020	ND	7.7	mg/kg dry	1	A616839	12/14/16	12/14/16	
Mercury	EPA 6020A	ND	0.62	mg/kg dry	1	A616839	12/14/16	12/14/16	

BSK Associates Vancouver

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Percent Solids	SM 2540B	**81**	0.10	% by Weight	1	V601501	12/09/16	12/10/16	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Hydrocarbon Identification by NWTPH-HCID									
Diesel Range Organics (C10-24)	NWTPH-HCID	ND	62	mg/kg dry	1	V601500	12/09/16	12/10/16	
Gasoline Range Organics (C6-10)	NWTPH-HCID	ND	25	mg/kg dry	1	V601500	12/09/16	12/10/16	
Motor Oil Range Organics (C24-C40)	NWTPH-HCID	ND	120	mg/kg dry	1	V601500	12/09/16	12/10/16	
Surrogate: Tetracosane	NWTPH-HCID	85 %	*Acceptable range: 50-150 %*						

Certificate of Analysis

Sample ID: V6L0137-14
Sampled By: Emily Hess
Sample Description: TP7-S-9.0

Sample Date - Time: 12/07/16 - 11:45
Matrix: Soil
Sample Type: Grab

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General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Percent Solids	SM 2540B	**80**	0.10	% by Weight	1	V601501	12/09/16	12/10/16	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Hydrocarbon Identification by NWTPH-HCID									
Diesel Range Organics (C10-24)	NWTPH-HCID	ND	62	mg/kg dry	1	V601500	12/09/16	12/10/16	
Gasoline Range Organics (C6-10)	NWTPH-HCID	ND	25	mg/kg dry	1	V601500	12/09/16	12/10/16	
Motor Oil Range Organics (C24-C40)	NWTPH-HCID	ND	120	mg/kg dry	1	V601500	12/09/16	12/10/16	
Surrogate: Tetracosane	NWTPH-HCID	84 %	*Acceptable range: 50-150 %*						

Certificate of Analysis

Sample ID: V6L0137-17
Sampled By: Emily Hess
Sample Description: TP8-S-2.0

Sample Date - Time: 12/07/16 - 12:55
Matrix: Soil
Sample Type: Grab

BSK Associates Vancouver

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Percent Solids	SM 2540B	**81**	0.10	% by Weight	1	V601501	12/09/16	12/10/16	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Hydrocarbon Identification by NWTPH-HCID									
Diesel Range Organics (C10-24)	NWTPH-HCID	ND	62	mg/kg dry	1	V601500	12/09/16	12/10/16	
Gasoline Range Organics (C6-10)	NWTPH-HCID	ND	25	mg/kg dry	1	V601500	12/09/16	12/10/16	
Motor Oil Range Organics (C24-C40)	NWTPH-HCID	ND	120	mg/kg dry	1	V601500	12/09/16	12/10/16	
Surrogate: Tetracosane	NWTPH-HCID	84 %	*Acceptable range: 50-150 %*						

Certificate of Analysis

Sample ID: V6L0137-18
Sampled By: Emily Hess
Sample Description: TP9-S-6.5

Sample Date - Time: 12/07/16 - 13:30
Matrix: Soil
Sample Type: Grab

BSK Associates Vancouver

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Percent Solids	SM 2540B	**78**	0.10	% by Weight	1	V601501	12/09/16	12/10/16	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Hydrocarbon Identification by NWTPH-HCID									
Diesel Range Organics (C10-24)	NWTPH-HCID	ND	64	mg/kg dry	1	V601500	12/09/16	12/10/16	
Gasoline Range Organics (C6-10)	NWTPH-HCID	ND	26	mg/kg dry	1	V601500	12/09/16	12/10/16	
Motor Oil Range Organics (C24-C40)	NWTPH-HCID	ND	130	mg/kg dry	1	V601500	12/09/16	12/10/16	
Surrogate: Tetracosane	NWTPH-HCID	82 %	*Acceptable range: 50-150 %*						

Certificate of Analysis

Sample ID: V6L0137-20
Sampled By: Emily Hess
Sample Description: TP10-S-2.0

Sample Date - Time: 12/07/16 - 14:05
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	**5.5**	3.3	mg/kg dry	1	A616962	12/16/16	12/16/16	
Cadmium	EPA 6020	ND	1.6	mg/kg dry	1	A616962	12/16/16	12/16/16	
Chromium	EPA 6020	**26**	16	mg/kg dry	1	A616962	12/16/16	12/16/16	
Lead	EPA 6020	ND	8.2	mg/kg dry	1	A616962	12/16/16	12/16/16	
Mercury	EPA 6020A	ND	0.66	mg/kg dry	1	A616962	12/16/16	12/16/16	

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General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Percent Solids	SM 2540B	**76**	0.10	% by Weight	1	V601501	12/09/16	12/10/16	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Hydrocarbon Identification by NWTPH-HCID									
Diesel Range Organics (C10-24)	NWTPH-HCID	ND	66	mg/kg dry	1	V601500	12/09/16	12/10/16	
Gasoline Range Organics (C6-10)	NWTPH-HCID	ND	26	mg/kg dry	1	V601500	12/09/16	12/10/16	
Motor Oil Range Organics (C24-C40)	NWTPH-HCID	ND	130	mg/kg dry	1	V601500	12/09/16	12/10/16	
Surrogate: Tetracosane	NWTPH-HCID	71 %	*Acceptable range: 50-150 %*						

Certificate of Analysis

Sample ID: V6L0137-21
Sampled By: Emily Hess
Sample Description: TP-S-2.0-DUP

Sample Date - Time: 12/07/16 - 14:05
Matrix: Soil
Sample Type: Grab

BSK Associates Vancouver

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Percent Solids	SM 2540B	**74**	0.10	% by Weight	1	V601501	12/09/16	12/10/16	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Hydrocarbon Identification by NWTPH-HCID									
Diesel Range Organics (C10-24)	NWTPH-HCID	ND	68	mg/kg dry	1	V601500	12/09/16	12/10/16	
Gasoline Range Organics (C6-10)	NWTPH-HCID	ND	27	mg/kg dry	1	V601500	12/09/16	12/10/16	
Motor Oil Range Organics (C24-C40)	NWTPH-HCID	ND	140	mg/kg dry	1	V601500	12/09/16	12/10/16	
Surrogate: Tetracosane	NWTPH-HCID	85 %	*Acceptable range: 50-150 %*						

BSK Associates Laboratory Fresno

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 6020 - Quality Control											
Batch: A616839										Prepared: 12/14/2016	
Prep Method: EPA 3050B										Analyst: MAS	
Blank (A616839-BLK1)											
Arsenic	ND	2.5	mg/kg wet							12/14/16	
Cadmium	ND	1.2	mg/kg wet							12/14/16	
Chromium	ND	12	mg/kg wet							12/14/16	
Lead	ND	6.2	mg/kg wet							12/14/16	
Blank Spike (A616839-BS1)											
Arsenic	96	2.5	mg/kg wet	100		96	75-125			12/14/16	
Cadmium	94	1.2	mg/kg wet	100		94	75-125			12/14/16	
Chromium	97	12	mg/kg wet	100		97	75-125			12/14/16	
Lead	92	6.2	mg/kg wet	100		92	75-125			12/14/16	
Blank Spike Dup (A616839-BSD1)											
Arsenic	93	2.5	mg/kg wet	100		93	75-125	3	20	12/14/16	
Cadmium	95	1.2	mg/kg wet	100		95	75-125	0	20	12/14/16	
Chromium	95	12	mg/kg wet	100		95	75-125	2	20	12/14/16	
Lead	90	6.2	mg/kg wet	100		90	75-125	2	20	12/14/16	
Matrix Spike (A616839-MS1), Source: V6L0137-08											
Arsenic	110	3.0	mg/kg dry	120	ND	95	75-125			12/14/16	
Cadmium	110	1.5	mg/kg dry	120	ND	97	75-125			12/14/16	
Chromium	130	15	mg/kg dry	120	ND	98	75-125			12/14/16	
Lead	120	7.4	mg/kg dry	120	12	87	75-125			12/14/16	
Matrix Spike Dup (A616839-MSD1), Source: V6L0137-08											
Arsenic	110	3.0	mg/kg dry	120	ND	95	75-125	0	20	12/14/16	
Cadmium	110	1.5	mg/kg dry	120	ND	93	75-125	3	20	12/14/16	
Chromium	130	15	mg/kg dry	120	ND	99	75-125	1	20	12/14/16	
Lead	110	7.4	mg/kg dry	120	12	83	75-125	4	20	12/14/16	

BSK Associates Laboratory Fresno

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 6020 - Quality Control											
Batch: A616962										Prepared: 12/16/2016	
Prep Method: EPA 3050B										Analyst: MAS	
Blank (A616962-BLK1)											
Arsenic	ND	2.5	mg/kg wet							12/16/16	
Cadmium	ND	1.2	mg/kg wet							12/16/16	
Chromium	ND	12	mg/kg wet							12/16/16	
Lead	ND	6.2	mg/kg wet							12/16/16	
Blank Spike (A616962-BS1)											
Arsenic	84	2.5	mg/kg wet	100		84	75-125			12/16/16	
Cadmium	81	1.2	mg/kg wet	100		81	75-125			12/16/16	
Chromium	86	12	mg/kg wet	100		86	75-125			12/16/16	
Lead	83	6.2	mg/kg wet	100		83	75-125			12/16/16	
Blank Spike Dup (A616962-BSD1)											
Arsenic	90	2.5	mg/kg wet	100		90	75-125	7	20	12/16/16	
Cadmium	89	1.2	mg/kg wet	100		89	75-125	8	20	12/16/16	
Chromium	90	12	mg/kg wet	100		90	75-125	5	20	12/16/16	
Lead	88	6.2	mg/kg wet	100		88	75-125	6	20	12/16/16	
Matrix Spike (A616962-MS1), Source: V6L0137-20											
Arsenic	120	3.3	mg/kg dry	130	5.5	89	75-125			12/16/16	
Cadmium	120	1.6	mg/kg dry	130	ND	91	75-125			12/16/16	
Chromium	150	16	mg/kg dry	130	26	94	75-125			12/16/16	
Lead	120	8.2	mg/kg dry	130	ND	88	75-125			12/16/16	
Matrix Spike Dup (A616962-MSD1), Source: V6L0137-20											
Arsenic	120	3.3	mg/kg dry	130	5.5	91	75-125	2	20	12/16/16	
Cadmium	120	1.6	mg/kg dry	130	ND	90	75-125	1	20	12/16/16	
Chromium	150	16	mg/kg dry	130	26	93	75-125	1	20	12/16/16	
Lead	120	8.2	mg/kg dry	130	ND	86	75-125	2	20	12/16/16	

BSK Associates Laboratory Fresno

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 6020A - Quality Control											
Batch: A616839										Prepared: 12/14/2016	
Prep Method: EPA 3050B										Analyst: MAS	
Blank (A616839-BLK1)											
Mercury	ND	0.50	mg/kg wet							12/14/16	
Blank Spike (A616839-BS1)											
Mercury	2.1	0.50	mg/kg wet	2.5		84	75-125			12/14/16	
Blank Spike Dup (A616839-BSD1)											
Mercury	2.0	0.50	mg/kg wet	2.5		81	75-125	4	20	12/14/16	
Matrix Spike (A616839-MS1), Source: V6L0137-08											
Mercury	2.5	0.60	mg/kg dry	3.0	ND	83	75-125			12/14/16	
Matrix Spike Dup (A616839-MSD1), Source: V6L0137-08											
Mercury	2.6	0.60	mg/kg dry	3.0	ND	86	75-125	4	20	12/14/16	
EPA 6020A - Quality Control											
Batch: A616962										Prepared: 12/16/2016	
Prep Method: EPA 3050B										Analyst: MAS	
Blank (A616962-BLK1)											
Mercury	ND	0.50	mg/kg wet							12/16/16	
Blank Spike (A616962-BS2)											
Mercury	2.3	0.50	mg/kg wet	2.5		92	75-125			12/19/16	
Blank Spike Dup (A616962-BSD2)											
Mercury	2.4	0.50	mg/kg wet	2.5		97	75-125	5	20	12/19/16	
Matrix Spike (A616962-MS1), Source: V6L0137-20											
Mercury	2.7	0.66	mg/kg dry	3.3	ND	82	75-125			12/16/16	
Matrix Spike Dup (A616962-MSD1), Source: V6L0137-20											
Mercury	2.7	0.66	mg/kg dry	3.3	ND	81	75-125	0	20	12/16/16	

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General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 2540B - Quality Control											
Batch: V601501										Prepared: 12/9/2016	
Prep Method: Method Specific Preparation										Analyst: PYA	
Duplicate (V601501-DUP1), Source: V6L0137-01											
Percent Solids	74	0.10	% by Weight		75			1	20	12/10/16	
Duplicate (V601501-DUP2), Source: V6L0137-18											
Percent Solids	76	0.10	% by Weight		78			3	20	12/10/16	

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Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
NWTPH-HCID - Quality Control											
Batch: V601500										Prepared: 12/9/2016	
Prep Method: NWTPH-HCID										Analyst: PYA	
Blank (V601500-BLK1)											
Diesel Range Organics (C10-24)	ND	50	mg/kg wet							12/10/16	
Gasoline Range Organics (C6-10)	ND	20	mg/kg wet							12/10/16	
Motor Oil Range Organics (C24-C40)	ND	100	mg/kg wet							12/10/16	
Surrogate: Tetracosane	*8.4*			*10*		*84*	*50-150*			12/10/16	
Blank Spike (V601500-BS1)											
Diesel Range Organics (C10-24)	DET	50	mg/kg wet	100		99	50-150			12/10/16	
Surrogate: Tetracosane	*8.4*			*10*		*84*	*50-150*			12/10/16	
Duplicate (V601500-DUP1), Source: V6L0137-01											
Diesel Range Organics (C10-24)	ND	67	mg/kg dry		ND				30	12/10/16	
Gasoline Range Organics (C6-10)	ND	27	mg/kg dry		ND					12/10/16	
Motor Oil Range Organics (C24-C40)	ND	130	mg/kg dry		ND				30	12/10/16	
Surrogate: Tetracosane	*11*			*13*		*82*	*50-150*			12/10/16	
Duplicate (V601500-DUP2), Source: V6L0137-18											
Diesel Range Organics (C10-24)	ND	64	mg/kg dry		ND				30	12/10/16	
Gasoline Range Organics (C6-10)	ND	26	mg/kg dry		ND					12/10/16	
Motor Oil Range Organics (C24-C40)	ND	130	mg/kg dry		ND				30	12/10/16	
Surrogate: Tetracosane	*11*			*13*		*83*	*50-150*			12/10/16	

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	Picocuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent Recovered (surrogates)	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP program for the following parameters: **NA**

Percent Solids	Percent Solids

Certifications: **Please refer to our website for a copy of our Accredited Fields of Testing under each certification.**

Fresno			
State of California - ELAP	1180	State of Hawaii	4021
State of Nevada	CA000792016-1	State of Oregon - NELAP	4021
EPA - UCMR3	CA00079	State of Washington	C997-16
Sacramento			
State of California - ELAP	2435		
San Bernardino			
State of California - ELAP	2993	State of Oregon - NELAP	4119-001
Vancouver			
State of Oregon - NELAP	WA100008-008	State of Washington	C824-16

BSK ASSOCIATES

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Page 1 of 3

Turnaround Time Request
[X] Standard - 10 business days
[ ] Rush (Surcharge may apply)
Date needed:

V6L0137 12/08/2016
MFAVA2691 10

*Required Fields

Temp: **11.6C

Company/Client Name*: Maul Foster & Alongi, Inc.	Report Attention*: Kyle Roslund Additional cc's: Emily Hess	Invoice To*: MFA PO#: 1200.01.02	Phone*: Fax*: E-mail*: kroslund@maulfoster.com
Address*: 400 E Mill Plain Blvd St 400	City*: Vancouver	State*: WA	Zip*: 98660
Project: Skamania Co: Rock Cove Ph. 2	Project #: 1200.01.02	Reporting Options: [ ] E-Mail [ ] Fax [ ] Mail [ ] Trace (J-Flag) [ ] Swamp [X] EDD Type: Equis 4	
Sampler Name (Printed/Signature)*: Emily Hess / Emily Hess			

Compliance?: [ ] Yes [ ] No State: [X] WA [ ] OR System/PWS ID: _____ DOH Source/Source ID: _____

Water System Name: _____ County: _____

Sample Composition: [ ] Single Source [ ] **Blended [X] **Composite [ ] Distribution Sample

**List sources in Source ID field

Sample Taken: [ ] Before Treatment [ ] After Treatment [X] No Treatment Group (WA only): [ ] A [ ] B

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description/Location*	Sampled* Date	Sampled* Time	Matrix*	Comments	# of cont.	NWTPH-HCID	MTCA 5 Metals - 6020 Arsenic, Cd, Cr, Pb, Hg	Dioxins - 8290							
1	TP1-S-2.5	12-7-16	8:10	SO	hold for followups	6	X									
2	TP1-S-7.5		8:20			6										
3	TP2-S-7.0		9:00			6										
4	TP2-S-2.5		9:10			6	X									
5	TP3-S-7.0		9:30			6										
6	TP3-S-2.0		9:40			6	X									
7	TP4-S-7.0		10:10			6	X									
8	TP4-S-2.0		10:20			6	X	X								
9	TP5-S-7.0		1045			6										
10	TP5-S-2.0		10:55			6	X									

Receipt Conditions in Vancouver: Temp: Received Via: UPS WALK-IN FED EX Courier: _____

Relinquished by: (Signature and Printed Name) Emily Hess Emily Hess	Company MFA	Date 12-7-16	Time 1730	Received by: (Signature and Printed Name)	Company BSK
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received for Lab by: (Signature and Printed Name)	

12-8-16 1105

12-8-16 1115 BSK

Payment Received at Delivery: Check / Cash Date: Amount: PIA#: Init.

Shipping Method: ONTRAC UPS GSO WALK-IN FED EX Alaskan Airlines Courier: BSK JAS Custody Seal: Y/N

Cooling Method: Wet Blue None – Refrigerated, transported w/o ice pack Chilling Process Begun: Y/N

Payment for services rendered as noted herein are due in full within 30 days from the date invoiced. If not so paid, account balances are deemed delinquent. Delinquent balances are subject to monthly service charges and interest specified in BSK's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are either the Client or an authorized agent to the Client, that the Client agrees to be responsible for payment for the services on this Chain of Custody, and agrees to BSK's terms and conditions for laboratory services unless contractually bound otherwise. BSK's current terms and conditions can be found at www.bskassociates.com/BSKLabTermsConditions.pdf

BSK ASSOCIATES

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Turnaround Time Request
[X] Standard - 10 business days
[ ] Rush (Surcharge may apply)
Date needed:

V6L0137 12/08/2016
MFAVA2691 10

Y

*Required Fields Temp:

Company/Client Name*:	Report Attention*:	Invoice To*:	Phone*:	Fax*:
MFA	Kyle Koslund	MFA		
	Additional cc's: Emily Hess	PO#: 1200.01.02	E-mail*: kroslund@maulfoster.com	

Address*: City*: Vancouver State*: WA Zip*:

Project: Skamania Co: Rock Cove Ph. 2
Project #: 1200. 01. 02
Sampler Name (Printed/Signature)*: Emily Hess / Emily Hess

Reporting Options: [ ] Trace (J-Flag) [X] E-Mail [ ] Swamp [ ] Fax [X] EDD Type: [ ] Mail

Compliance?: [ ] Yes [ ] No State: [X] WA [ ] OR System/PWS ID: _____ DOH Source/Source ID: _____

Water System Name: _____ County: _____

Sample Composition: [ ] Single Source [ ] **Blended [X] **Composite [ ] Distribution Sample
**List sources in Source ID field

Sample Taken: [ ] Before Treatment [ ] After Treatment [X] No Treatment Group (WA only): [ ] A [ ] B

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description/Location*	Sampled* Date	Sampled* Time	Matrix*	Comments	# of cont.	NWTPH-HCID	MTCA 5 Metals - 6020 Arsenic, Cd, Cr, Pb, Hg	Dioxins - 8290						
11	TP6-S-8.0	12.7.16	1120	SO	hold for followups	6									
12	TP6-S-2.0 *	↓	1130	↓	↓	6	X	X							
13	TP7-S-0.5		1135			1			X						
14	TP7-S-9.0 *		1145		hold for followups	6	X								
15	TP7-S-3.0		1155		↓	6									
16	TP8-S-7.0		1245			6									
17	TP8-S-2.0		1255			6	X								
18	TP9-S-6.5 *		1330			6	X								
19	TP10-S-7.0		1355			6									
20	TP10-S-2.0	↓	1405	↓	↓	6	X	X							

Receipt Conditions in Vancouver: Temp: Received Via: UPS WALK-IN FED EX Courier: _____

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Emy Hess / Emily Hess	MFA	12.7.16	1730		
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received for Lab by: (Signature and Printed Name)	

Payment Received at Delivery: Check / Cash Date: Amount: PIA#: Init.

Shipping Method: ONTRAC UPS GSO WALK-IN FED EX Alaskan Airlines Courier: _____ Custody Seal: Y / N

Cooling Method: Wet Blue None Chilling Process Begun: Y / N

BSK ASSOCIATES

2517 E. Evergreen Blvd.
Vancouver, WA 98661
P 360.750.0055
F 360.750.0057
www.bskassociates.com

Page 3 of 3

Turnaround Time Request
[X] Standard - 10 business days
[ ] Rush (Surcharge may apply)
Date needed:

V6L0137
MFAVA2691
12/08/2016
10

*Required Fields Temp:

Company/Client Name*:	Report Attention*:	Invoice To*:	Phone*:	Fax*:
MFA	Kyle Roslund Additional cc's: Emily Hess	MFA PO#: 1200.01.02	E-mail*: kroslund@mayfaster.com	

Address*: City*: Vancouver State*: WA Zip*:

Project: Skamania Co: Rock Cove Ph. 2
Project #: 1200.01.02
Sampler Name (Printed/Signature)*: Emily Hess / Emily Hess

Reporting Options: [X] E-Mail [ ] Fax [ ] Mail [ ] Trace (J-Flag) [ ] Swamp [X] EDD Type:

Compliance?: [ ] Yes [ ] No State: [X] WA [ ] OR System/PWS ID: _____ DOH Source/Source ID: _____

Water System Name: _____ County: _____

Sample Composition: [ ] Single Source [ ] **Blended [X] **Composite [ ] Distribution Sample
**List sources in Source ID field

Sample Taken: [ ] Before Treatment [ ] After Treatment [X] No Treatment Group (WA only): [ ] A [ ] B

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description/Location*	Sampled* Date	Sampled* Time	Matrix*	Comments	# of cont.	NWTPH-HCID	MTCA 5 metals-6020 Arsenic, Cd, Cr, Pb, Hg	Dioxins-8290							
21	TP-S-2.0-DUP	12.7.16	1405	SO	hold for followups	6	X									
						X										

Receipt Conditions in Vancouver: Temp: Received Via: UPS WALK-IN FED EX Courier: _____

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Emily Hess Emily Hess	MFA	12.7.16	1730		
				Received for Lab by: (Signature and Printed Name)	

Payment Received at Delivery: Check / Cash Date: Amount: PIA#: Init.

Shipping Method: ONTRAC UPS GSO WALK-IN FED EX Alaskan Airlines Courier: _____ Custody Seal: Y / N

Cooling Method: Wet Blue None Chilling Process Begun: Y / N

BSK Associates VAL-FL-0048-00

Sample Integrity

V6L0137
MFAVA2691
12/08/2016
10

BSK Bottles: Yes No Page 1 of 1

COC Info

Was temperature within range? Chemistry ≤ 6°C Micro < 10°C	Yes (No) NA	Were correct containers received for the tests requested?	NA
If samples were taken today, is there evidence that chilling has begun?	(Yes) No NA	Were there bubbles in the VOA vials? (Volatiles Only)	Yes No (NA)
Did all bottles arrive unbroken and intact?	(Yes) No	Was a sufficient amount of sample received?	(Yes) No
Did all bottle labels agree with COC?	(Yes) No	Do samples have a hold time <72 hours?	Yes No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No (NA)	Was PM notified of discrepancies? PM: By/Time:	Yes No (NA)

Bottles Received

"—" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?	1-12	13	14-21		
Bacti $Na_2S_2O_3$	—	—					
None (P) White Cap	—	—					
Cr6 (P) Lt. Green Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **DW**	Cl, pH > 8	Y N					
Cr6 (P) Pink Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **WW**	pH 9.3-9.7	Y N					
Cr6 (P) Black Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **7199** ***24 HOUR HOLD TIME***	pH 9.0-9.5	Y N					
HNO_3 (P) Red Cap or HCl (P) Purple Cap/Lt. Blue Label	—	—					
H_2SO_4 (P) or (AG) Yellow Cap/Label	pH < 2	Y N					
NaOH (P) Green Cap	Cl, pH >10	Y N					
NaOH + ZnAc (P)	pH > 9	Y N					
Dissolved Oxygen 300ml (g)	—	—					
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—					
HCl (AG) Lt. Blue Label O&G, Diesel	—	—					
Ascorbic, EDTA, KH_2Ct (AG) Pink Label 525	—	—					
Na_2O_3S 250mL (AG) Neon Green Label 515	—	—					
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—					
$Na_2S_2O_3$ (AG) Blue Label 548, THM, 524	—	—					
$Na_2S_2O_3$ (CG) Blue Label 504, 505, 547	—	—					
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH < 3	Y N					
NH_4Cl (AG) Purple Label 552	—	—					
EDA (AG) Brown Label DBPs	—	—					
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—					
Buffer pH 4 (CG)	—	—					
H_3PO_4 (CG) Salmon Label	—	—					
Other: Terra Cotta kit			1		1		
Asbestos 1Liter Plastic w/ Foil	—	—					
Low Level Hg / Metals Double Baggie	—	—					
Bottled Water (12 5)	—	—					
Clear Glass 250mL / (500mL) / 1 Liter	—	—	1 EA	1-125	1 EA		
Soil Tube Brass / Steel / Plastic	—	—					
Tedlar Bag / Plastic Bag	—	—					

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

* 5mL Methanol was not inside vial - samples transferred to new vials containing methanol. RLR 12/8/16

** Temp of storage refrigerator at Client's office was 5.4°C @ time of pick-up by BSK staff. RLR

Labeled by: _____ @ _____

Maxxam
A Bureau Veritas Group Company

Your Project #: V6L0137
Your C.O.C. #: NA

Attention:Debra Richards-Karlsson

BSK Analytical Laboratories
1414 Stanislaus Street
Fresno, CA
USA 93706

Report Date: 2017/01/06
Report #: R4312987
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B6R2388
Received: 2016/12/14, 15:17

Sample Matrix: Soil
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Dioxins/Furans in Soil (8290A) (1)	1	2016/12/19	2016/12/26	BRL SOP-00406	EPA 8290A m
Moisture	1	N/A	2016/12/16	CAM SOP-00445	Carter 2nd ed 51.2 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods. Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Soils are reported on a dry weight basis unless otherwise specified.

Confirmatory runs for 2,3,7,8-TCDF are performed only if the primary result is greater than the RDL.

U = Undetected at the limit of quantitation.
J = Estimated concentration between the EDL & RDL.
B = Blank Contamination.
Q = One or more quality control criteria failed.
E = Analyte concentration exceeds the maximum concentration level.
K = Estimated maximum possible concentration due to ion abundance ratio failure.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Your Project #: V6L0137
Your C.O.C. #: NA

Attention:Debra Richards-Karlsson

BSK Analytical Laboratories
1414 Stanislaus Street
Fresno, CA
USA 93706

Report Date: 2017/01/06
Report #: R4312987
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B6R2388
Received: 2016/12/14, 15:17

Encryption Key

Stephanie Pollen
Project Manager
06 Jan 2017 15:31:56

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: SPollen@maxxam.ca
Phone# (905) 817-5700

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam Job #: B6R2388
Report Date: 2017/01/06

BSK Analytical Laboratories
Client Project #: V6L0137
Sampler Initials: DK

RESULTS OF ANALYSES OF SOIL

Maxxam ID		DQA131			
Sampling Date		2016/12/07 11:35			
COC Number		NA			
	UNITS	**V6L0137-13**	**RDL**	**MDL**	**QC Batch**
Moisture	%	29	1.0	0.50	4795728

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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DIOXINS AND FURANS BY HRMS (SOIL)

Maxxam ID		DQA131							
Sampling Date		2016/12/07 11:35							
COC Number		NA				TOXIC EQUIVALENCY		# of	
	UNITS	V6L0137-13	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDD *	pg/g	0.17 U	0.17	2.0	0.40	1.00	0.170	N/A	4806034
1,2,3,7,8-Penta CDD *	pg/g	0.28 U	0.28	5.0	0.40	1.00	0.280	N/A	4806034
1,2,3,4,7,8-Hexa CDD *	pg/g	0.23 J	0.17	5.0	0.40	0.100	0.0230	N/A	4806034
1,2,3,6,7,8-Hexa CDD *	pg/g	0.49 J	0.16	5.0	0.40	0.100	0.0490	N/A	4806034
1,2,3,7,8,9-Hexa CDD *	pg/g	0.63 J (1)	0.16	5.0	0.40	0.100	0.0630	N/A	4806034
1,2,3,4,6,7,8-Hepta CDD *	pg/g	6.19	0.13	5.0	0.40	0.0100	0.0619	N/A	4806034
Octa CDD *	pg/g	19.8	0.15	10	0.80	0.000300	0.00594	N/A	4806034
Total Tetra CDD *	pg/g	1.39 J	0.17	2.0	0.40	N/A	N/A	3	4806034
Total Penta CDD *	pg/g	0.42 J	0.28	5.0	0.40	N/A	N/A	1	4806034
Total Hexa CDD *	pg/g	3.66 J	0.17	5.0	0.40	N/A	N/A	5	4806034
Total Hepta CDD *	pg/g	11.5	0.13	5.0	0.40	N/A	N/A	2	4806034
2,3,7,8-Tetra CDF **	pg/g	1.06 J	0.17	2.0	0.40	0.100	0.106	N/A	4806034
1,2,3,7,8-Penta CDF **	pg/g	0.27 J	0.18	5.0	0.40	0.0300	0.00810	N/A	4806034
2,3,4,7,8-Penta CDF **	pg/g	0.36 J	0.18	5.0	0.40	0.300	0.108	N/A	4806034
1,2,3,4,7,8-Hexa CDF **	pg/g	0.75 J (1)	0.16	5.0	0.40	0.100	0.0750	N/A	4806034
1,2,3,6,7,8-Hexa CDF **	pg/g	0.29 J	0.16	5.0	0.40	0.100	0.0290	N/A	4806034
2,3,4,6,7,8-Hexa CDF **	pg/g	0.36 J	0.16	5.0	0.40	0.100	0.0360	N/A	4806034
1,2,3,7,8,9-Hexa CDF **	pg/g	0.19 U	0.19	5.0	0.40	0.100	0.0190	N/A	4806034
1,2,3,4,6,7,8-Hepta CDF **	pg/g	1.65 J	0.15	5.0	0.40	0.0100	0.0165	N/A	4806034
1,2,3,4,7,8,9-Hepta CDF **	pg/g	0.19 U	0.19	5.0	0.40	0.0100	0.00190	N/A	4806034
Octa CDF **	pg/g	2.25 J	0.14	10	0.80	0.000300	0.000675	N/A	4806034
Total Tetra CDF **	pg/g	4.12	0.17	2.0	0.40	N/A	N/A	10	4806034
Total Penta CDF **	pg/g	2.78 J	0.18	5.0	0.40	N/A	N/A	6	4806034
Total Hexa CDF **	pg/g	2.90 J	0.16	5.0	0.40	N/A	N/A	6	4806034
Total Hepta CDF **	pg/g	3.24 J	0.17	5.0	0.40	N/A	N/A	2	4806034
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	1.05	N/A	N/A

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin -like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

(1) EMPC / Merged Peak

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DIOXINS AND FURANS BY HRMS (SOIL)

Maxxam ID		DQA131							
Sampling Date		2016/12/07 11:35							
COC Number		NA				TOXIC EQUIVALENCY		# of	
	UNITS	V6L0137-13	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Surrogate Recovery (%)									
C13-1234678 HeptaCDD *	%	83	N/A	N/A	N/A	N/A	N/A	N/A	4806034
C13-1234678 HeptaCDF **	%	89	N/A	N/A	N/A	N/A	N/A	N/A	4806034
C13-123478 HexaCDF **	%	87	N/A	N/A	N/A	N/A	N/A	N/A	4806034
C13-123678 HexaCDD *	%	85	N/A	N/A	N/A	N/A	N/A	N/A	4806034
C13-12378 PentaCDD *	%	109	N/A	N/A	N/A	N/A	N/A	N/A	4806034
C13-12378 PentaCDF **	%	109	N/A	N/A	N/A	N/A	N/A	N/A	4806034
C13-2378 TetraCDD *	%	108	N/A	N/A	N/A	N/A	N/A	N/A	4806034
C13-2378 TetraCDF **	%	98	N/A	N/A	N/A	N/A	N/A	N/A	4806034
C13-OCDD *	%	76	N/A	N/A	N/A	N/A	N/A	N/A	4806034

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin -like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

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Maxxam Job #: B6R2388
Report Date: 2017/01/06

BSK Analytical Laboratories
Client Project #: V6L0137
Sampler Initials: DK

TEST SUMMARY

Maxxam ID: DQA131
Sample ID: V6L0137-13
Matrix: Soil

Collected: 2016/12/07
Shipped:
Received: 2016/12/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dioxins/Furans in Soil (8290A)	HRMS/MS	4806034	2016/12/19	2016/12/26	Owen Cosby
Moisture	BAL	4795728	N/A	2016/12/16	Prgya Panchal

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Maxxam Job #: B6R2388
Report Date: 2017/01/06

BSK Analytical Laboratories
Client Project #: V6L0137
Sampler Initials: DK

GENERAL COMMENTS

Revised Report (2017/01/06): Furans included as per client request.

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B6R2388
Report Date: 2017/01/06

BSK Analytical Laboratories
Client Project #: V6L0137
Sampler Initials: DK

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
4795728	GYA	RPD - Sample/Sample Dup	Moisture	2016/12/16	2.2		%	20
4806034	OBC	Matrix Spike	2,3,7,8-Tetra CDD	2016/12/25		96	%	80 - 140
			1,2,3,7,8-Penta CDD	2016/12/25		107	%	80 - 140
			1,2,3,4,7,8-Hexa CDD	2016/12/25		98	%	80 - 140
			1,2,3,6,7,8-Hexa CDD	2016/12/25		89	%	80 - 140
			1,2,3,7,8,9-Hexa CDD	2016/12/25		102	%	80 - 140
			1,2,3,4,6,7,8-Hepta CDD	2016/12/25		104	%	80 - 140
			Octa CDD	2016/12/25		104	%	80 - 140
			2,3,7,8-Tetra CDF	2016/12/25		97	%	80 - 140
			1,2,3,7,8-Penta CDF	2016/12/25		97	%	80 - 140
			2,3,4,7,8-Penta CDF	2016/12/25		99	%	80 - 140
			1,2,3,4,7,8-Hexa CDF	2016/12/25		101	%	80 - 140
			1,2,3,6,7,8-Hexa CDF	2016/12/25		98	%	80 - 140
			2,3,4,6,7,8-Hexa CDF	2016/12/25		97	%	80 - 140
			1,2,3,7,8,9-Hexa CDF	2016/12/25		99	%	80 - 140
			1,2,3,4,6,7,8-Hepta CDF	2016/12/25		95	%	80 - 140
			1,2,3,4,7,8,9-Hepta CDF	2016/12/25		95	%	80 - 140
			Octa CDF	2016/12/25		111	%	80 - 140
4806034	OBC	Matrix Spike DUP	2,3,7,8-Tetra CDD	2016/12/25		95	%	80 - 140
			1,2,3,7,8-Penta CDD	2016/12/25		104	%	80 - 140
			1,2,3,4,7,8-Hexa CDD	2016/12/25		98	%	80 - 140
			1,2,3,6,7,8-Hexa CDD	2016/12/25		91	%	80 - 140
			1,2,3,7,8,9-Hexa CDD	2016/12/25		102	%	80 - 140
			1,2,3,4,6,7,8-Hepta CDD	2016/12/25		104	%	80 - 140
			Octa CDD	2016/12/25		102	%	80 - 140
			2,3,7,8-Tetra CDF	2016/12/25		96	%	80 - 140
			1,2,3,7,8-Penta CDF	2016/12/25		97	%	80 - 140
			2,3,4,7,8-Penta CDF	2016/12/25		99	%	80 - 140
			1,2,3,4,7,8-Hexa CDF	2016/12/25		101	%	80 - 140
			1,2,3,6,7,8-Hexa CDF	2016/12/25		101	%	80 - 140
			2,3,4,6,7,8-Hexa CDF	2016/12/25		95	%	80 - 140
			1,2,3,7,8,9-Hexa CDF	2016/12/25		99	%	80 - 140
			1,2,3,4,6,7,8-Hepta CDF	2016/12/25		94	%	80 - 140
			1,2,3,4,7,8,9-Hepta CDF	2016/12/25		96	%	80 - 140
			Octa CDF	2016/12/25		111	%	80 - 140
4806034	OBC	MS/MSD RPD	2,3,7,8-Tetra CDD	2016/12/25	1.0		%	25
			1,2,3,7,8-Penta CDD	2016/12/25	2.8		%	25
			1,2,3,4,7,8-Hexa CDD	2016/12/25	0		%	25
			1,2,3,6,7,8-Hexa CDD	2016/12/25	2.2		%	25
			1,2,3,7,8,9-Hexa CDD	2016/12/25	0		%	25
			1,2,3,4,6,7,8-Hepta CDD	2016/12/25	0		%	25
			Octa CDD	2016/12/25	1.9		%	25
			2,3,7,8-Tetra CDF	2016/12/25	1.0		%	25
			1,2,3,7,8-Penta CDF	2016/12/25	0		%	25
			2,3,4,7,8-Penta CDF	2016/12/25	0		%	25
			1,2,3,4,7,8-Hexa CDF	2016/12/25	0		%	25
			1,2,3,6,7,8-Hexa CDF	2016/12/25	3.0		%	25
			2,3,4,6,7,8-Hexa CDF	2016/12/25	2.1		%	25
			1,2,3,7,8,9-Hexa CDF	2016/12/25	0		%	25
			1,2,3,4,6,7,8-Hepta CDF	2016/12/25	1.1		%	25
			1,2,3,4,7,8,9-Hepta CDF	2016/12/25	1.0		%	25
			Octa CDF	2016/12/25	0		%	25
4806034	OBC	Spiked Blank	C13-1234678 HeptaCDD	2016/12/25		81	%	40 - 135

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			C13-1234678 HeptaCDF	2016/12/25		84	%	40 - 135
			C13-123478 HexaCDF	2016/12/25		83	%	40 - 135
			C13-123678 HexaCDD	2016/12/25		84	%	40 - 135
			C13-12378 PentaCDD	2016/12/25		111	%	40 - 135
			C13-12378 PentaCDF	2016/12/25		105	%	40 - 135
			C13-2378 TetraCDD	2016/12/25		112	%	40 - 135
			C13-2378 TetraCDF	2016/12/25		103	%	40 - 135
			C13-OCDD	2016/12/25		76	%	40 - 135
			2,3,7,8-Tetra CDD	2016/12/25		95	%	80 - 140
			1,2,3,7,8-Penta CDD	2016/12/25		106	%	80 - 140
			1,2,3,4,7,8-Hexa CDD	2016/12/25		99	%	80 - 140
			1,2,3,6,7,8-Hexa CDD	2016/12/25		91	%	80 - 140
			1,2,3,7,8,9-Hexa CDD	2016/12/25		106	%	80 - 140
			1,2,3,4,6,7,8-Hepta CDD	2016/12/25		103	%	80 - 140
			Octa CDD	2016/12/25		106	%	80 - 140
			2,3,7,8-Tetra CDF	2016/12/25		96	%	80 - 140
			1,2,3,7,8-Penta CDF	2016/12/25		98	%	80 - 140
			2,3,4,7,8-Penta CDF	2016/12/25		105	%	80 - 140
			1,2,3,4,7,8-Hexa CDF	2016/12/25		99	%	80 - 140
			1,2,3,6,7,8-Hexa CDF	2016/12/25		99	%	80 - 140
			2,3,4,6,7,8-Hexa CDF	2016/12/25		99	%	80 - 140
			1,2,3,7,8,9-Hexa CDF	2016/12/25		98	%	80 - 140
			1,2,3,4,6,7,8-Hepta CDF	2016/12/25		94	%	80 - 140
			1,2,3,4,7,8,9-Hepta CDF	2016/12/25		94	%	80 - 140
			Octa CDF	2016/12/25		112	%	80 - 140
4806034	OBC	Spiked Blank DUP	C13-1234678 HeptaCDD	2016/12/25		80	%	40 - 135
			C13-1234678 HeptaCDF	2016/12/25		84	%	40 - 135
			C13-123478 HexaCDF	2016/12/25		82	%	40 - 135
			C13-123678 HexaCDD	2016/12/25		83	%	40 - 135
			C13-12378 PentaCDD	2016/12/25		111	%	40 - 135
			C13-12378 PentaCDF	2016/12/25		106	%	40 - 135
			C13-2378 TetraCDD	2016/12/25		112	%	40 - 135
			C13-2378 TetraCDF	2016/12/25		104	%	40 - 135
			C13-OCDD	2016/12/25		75	%	40 - 135
			2,3,7,8-Tetra CDD	2016/12/25		96	%	80 - 140
			1,2,3,7,8-Penta CDD	2016/12/25		104	%	80 - 140
			1,2,3,4,7,8-Hexa CDD	2016/12/25		98	%	80 - 140
			1,2,3,6,7,8-Hexa CDD	2016/12/25		93	%	80 - 140
			1,2,3,7,8,9-Hexa CDD	2016/12/25		106	%	80 - 140
			1,2,3,4,6,7,8-Hepta CDD	2016/12/25		103	%	80 - 140
			Octa CDD	2016/12/25		104	%	80 - 140
			2,3,7,8-Tetra CDF	2016/12/25		95	%	80 - 140
			1,2,3,7,8-Penta CDF	2016/12/25		95	%	80 - 140
			2,3,4,7,8-Penta CDF	2016/12/25		101	%	80 - 140
			1,2,3,4,7,8-Hexa CDF	2016/12/25		98	%	80 - 140
			1,2,3,6,7,8-Hexa CDF	2016/12/25		97	%	80 - 140
			2,3,4,6,7,8-Hexa CDF	2016/12/25		96	%	80 - 140
			1,2,3,7,8,9-Hexa CDF	2016/12/25		99	%	80 - 140
			1,2,3,4,6,7,8-Hepta CDF	2016/12/25		92	%	80 - 140
			1,2,3,4,7,8,9-Hepta CDF	2016/12/25		95	%	80 - 140
			Octa CDF	2016/12/25		112	%	80 - 140
4806034	OBC	RPD	2,3,7,8-Tetra CDD	2016/12/25	1.0		%	25
			1,2,3,7,8-Penta CDD	2016/12/25	1.9		%	25

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			1,2,3,4,7,8-Hexa CDD	2016/12/25	1.0		%	25
			1,2,3,6,7,8-Hexa CDD	2016/12/25	2.2		%	25
			1,2,3,7,8,9-Hexa CDD	2016/12/25	0		%	25
			1,2,3,4,6,7,8-Hepta CDD	2016/12/25	0		%	25
			Octa CDD	2016/12/25	1.9		%	25
			2,3,7,8-Tetra CDF	2016/12/25	1.0		%	25
			1,2,3,7,8-Penta CDF	2016/12/25	3.1		%	25
			2,3,4,7,8-Penta CDF	2016/12/25	3.9		%	25
			1,2,3,4,7,8-Hexa CDF	2016/12/25	1.0		%	25
			1,2,3,6,7,8-Hexa CDF	2016/12/25	2.0		%	25
			2,3,4,6,7,8-Hexa CDF	2016/12/25	3.1		%	25
			1,2,3,7,8,9-Hexa CDF	2016/12/25	1.0		%	25
			1,2,3,4,6,7,8-Hepta CDF	2016/12/25	2.2		%	25
			1,2,3,4,7,8,9-Hepta CDF	2016/12/25	1.1		%	25
			Octa CDF	2016/12/25	0		%	25
4806034	OBC	Method Blank	C13-1234678 HeptaCDD	2016/12/25		80	%	40 - 135
			C13-1234678 HeptaCDF	2016/12/25		82	%	40 - 135
			C13-123478 HexaCDF	2016/12/25		79	%	40 - 135
			C13-123678 HexaCDD	2016/12/25		81	%	40 - 135
			C13-12378 PentaCDD	2016/12/25		108	%	40 - 135
			C13-12378 PentaCDF	2016/12/25		102	%	40 - 135
			C13-2378 TetraCDD	2016/12/25		112	%	40 - 135
			C13-2378 TetraCDF	2016/12/25		101	%	40 - 135
			C13-OCDD	2016/12/25		73	%	40 - 135
			2,3,7,8-Tetra CDD	2016/12/25	0.14 U, EDL=0.14		pg/g	
			1,2,3,7,8-Penta CDD	2016/12/25	0.19 U, EDL=0.19		pg/g	
			1,2,3,4,7,8-Hexa CDD	2016/12/25	0.16 U, EDL=0.16		pg/g	
			1,2,3,6,7,8-Hexa CDD	2016/12/25	0.16 U, EDL=0.16		pg/g	
			1,2,3,7,8,9-Hexa CDD	2016/12/25	0.16 U, EDL=0.16		pg/g	
			1,2,3,4,6,7,8-Hepta CDD	2016/12/25	0.20 J, EDL=0.15		pg/g	
			Octa CDD	2016/12/25	0.66 U, EDL=0.66 (1)		pg/g	
			Total Tetra CDD	2016/12/25	0.14 U, EDL=0.14		pg/g	
			Total Penta CDD	2016/12/25	0.19 U, EDL=0.19		pg/g	
			Total Hexa CDD	2016/12/25	0.16 U, EDL=0.16		pg/g	
			Total Hepta CDD	2016/12/25	0.20 J, EDL=0.15		pg/g	
			2,3,7,8-Tetra CDF	2016/12/25	0.15 U, EDL=0.15		pg/g	
			1,2,3,7,8-Penta CDF	2016/12/25	0.17 U, EDL=0.17		pg/g	
			2,3,4,7,8-Penta CDF	2016/12/25	0.17 U, EDL=0.17		pg/g	

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			1,2,3,4,7,8-Hexa CDF	2016/12/25	0.16 U, EDL=0.16		pg/g	
			1,2,3,6,7,8-Hexa CDF	2016/12/25	0.16 U, EDL=0.16		pg/g	
			2,3,4,6,7,8-Hexa CDF	2016/12/25	0.16 U, EDL=0.16		pg/g	
			1,2,3,7,8,9-Hexa CDF	2016/12/25	0.18 U, EDL=0.18		pg/g	
			1,2,3,4,6,7,8-Hepta CDF	2016/12/25	0.12 U, EDL=0.12		pg/g	
			1,2,3,4,7,8,9-Hepta CDF	2016/12/25	0.15 U, EDL=0.15		pg/g	
			Octa CDF	2016/12/25	0.17 U, EDL=0.17		pg/g	
			Total Tetra CDF	2016/12/25	0.15 U, EDL=0.15		pg/g	
			Total Penta CDF	2016/12/25	0.17 U, EDL=0.17		pg/g	
			Total Hexa CDF	2016/12/25	0.16 U, EDL=0.16		pg/g	
			Total Hepta CDF	2016/12/25	0.13 U, EDL=0.13		pg/g	
4806034	OBC	RPD - Sample/Sample Dup	2,3,7,8-Tetra CDD	2016/12/25	NC		%	25
			1,2,3,7,8-Penta CDD	2016/12/25	NC		%	25
			1,2,3,4,7,8-Hexa CDD	2016/12/25	NC		%	25
			1,2,3,6,7,8-Hexa CDD	2016/12/25	NC		%	25
			1,2,3,7,8,9-Hexa CDD	2016/12/25	NC		%	25
			1,2,3,4,6,7,8-Hepta CDD	2016/12/25	NC		%	25
			Octa CDD	2016/12/25	NC		%	25
			Total Tetra CDD	2016/12/25	NC		%	25
			Total Penta CDD	2016/12/25	NC		%	25
			Total Hexa CDD	2016/12/25	NC		%	25
			Total Hepta CDD	2016/12/25	NC		%	25
			2,3,7,8-Tetra CDF	2016/12/25	NC		%	25
			1,2,3,7,8-Penta CDF	2016/12/25	NC		%	25
			2,3,4,7,8-Penta CDF	2016/12/25	NC		%	25
			1,2,3,4,7,8-Hexa CDF	2016/12/25	NC		%	25
			1,2,3,6,7,8-Hexa CDF	2016/12/25	NC		%	25
			2,3,4,6,7,8-Hexa CDF	2016/12/25	NC		%	25
			1,2,3,7,8,9-Hexa CDF	2016/12/25	NC		%	25
			1,2,3,4,6,7,8-Hepta CDF	2016/12/25	NC		%	25
			1,2,3,4,7,8,9-Hepta CDF	2016/12/25	NC		%	25
			Octa CDF	2016/12/25	NC		%	25
			Total Tetra CDF	2016/12/25	NC		%	25
			Total Penta CDF	2016/12/25	NC		%	25
			Total Hexa CDF	2016/12/25	NC		%	25

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-57

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Total Hepta CDF	2016/12/25	NC		%	25

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

(1) EMPC / NDR - Peak detected does not meet ratio criteria and has resulted in an elevated detection limit.

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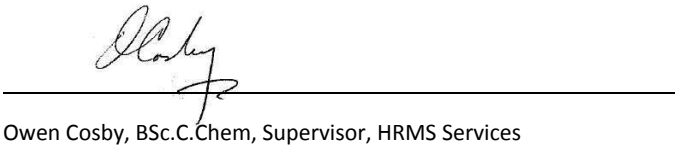
Maxxam Job #: B6R2388
Report Date: 2017/01/06

BSK Analytical Laboratories
Client Project #: V6L0137
Sampler Initials: DK

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Brad Newman, Scientific Specialist



Owen Cosby, BSc.C.Chem, Supervisor, HRMS Services

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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BSK Analytical Laboratories
Engineers & Laboratories

SUBCONTRACT ORDER

V6L0137

SENDING LABORATORY:

BSK Associates Vancouver
2517 E. Evergreen Blvd.
Vancouver, WA 98661
Phone: 360-750-0055
Fax: 360-750-0057
Project Manager: Debra Karlsson
E-mail: dkarlsson@bskassociates.com

RECEIVING LABORATORY:

Maxxam Analytics
PO Box 57437, Station A
Toronto, ON M5W5M5
Phone :(905) 817-5784
Fax: -
Turnaround (Days): Standard
QC Deliverables: I Std III IV

Sample ID	Samp Desc	Comments	Sample Date
V6L0137-13	TP7-S-0.5		12/07/2016 11:35
Matrix:	Solid		
	Analysis:		
	EXT-EPA 8290 Dioxins, ~~Furans~~	Dioxin only	

14-Dec-16 15:17
Melissa DiGrazia
B6R2388
KP7 env-1305

International Solid Sample
Heat Treat Required
High Risk material
Controlled Storage and Disposal

Released By | Date | Received By | Date

Released By | Date | Received By | Date

Page 1 of 1

ATTACHMENT D

DATA VALIDATION MEMORANDUM

DATA QUALITY ASSURANCE/QUALITY CONTROL REVIEW

PROJECT NO. 1200.01.02 | JANUARY 16, 2017 | SKAMANIA COUNTY

Maul Foster & Alongi, Inc. (MFA) conducted an independent review of the quality of analytical results for soil samples collected at the former Hegewald Timber Mill in Stevenson, Washington. The samples were collected on December 7, 2016.

BSK Associates—Vancouver Analytical Lab dba AddyLab (BSK) and Maxxam Analytics International Corporation (Maxxam) performed the analyses. BSK report number V6L0137 and Maxxam report number B6R2388, which is appended to the BSK report, were reviewed. The analyses performed and samples analyzed are listed below. Some analyses may not have been performed on every sample. Samples that were not analyzed are indicated with "(hold)" below.

Analysis	Reference
Dioxins/Furans	USEPA 8290B
HCID	NWTPH-HCID
Percent solids	SM 2540B
Mercury	USEPA 6020A
Metals	USEPA 6020

HCID = Hydrocarbon Identification.
NWTPH = Northwest Total Petroleum Hydrocarbons.
SM = Standard Methods for the Examination of Water and Wastewater.
USEPA = U.S. Environmental Protection Agency.

Samples		
Report V6L0137/B6R2388		
TP1-S-2.5	TP4-S-2.0	TP7-S-3.0 (hold)
TP1-S-7.5 (hold)	TP5-S-7.0 (hold)	TP8-S-7.0 (hold)
TP2-S-7.0 (hold)	TP5-S-2.0	TP8-S-2.0
TP2-S-2.5	TP6-S-8.0 (hold)	TP9-S-6.5
TP3-S-7.0 (hold)	TP6-S-2.0	TP10-S-7.0 (hold)
TP3-S-2.0	TP7-S-0.5	TP10-S-2.0
TP4-S-7.0	TP7-S-9.0	TP-S-2.0-DUP

DATA QUALIFICATIONS

Analytical results were evaluated according to applicable sections of USEPA procedures (USEPA, 2014, 2016a,b,c) and appropriate laboratory and method-specific guidelines (BSK, 2015; Maxxam, 2015; USEPA, 1986).

Positive identification of 2,3,7,8- tetrachlorodibenzofuran (TCDF) cannot be achieved using typical USEPA Method 8290B columns; therefore, any detections above the method reporting

limit (MRL) are confirmed and quantified using a second column. The 2,3,7,8-TCDF result was below the MRL; thus, confirmation was not required.

USEPA Method 8290B detected results that were reported as an estimated maximum potential concentration (EMPC) were assigned a "U" qualifier (non-detect) at the reported EMPC value.

Report	Sample	Component	Original Result (pg/g)	Qualified Result (pg/g)
V6L0137/B6R2388	TP7-S-0.5	1,2,3,7,8,9-HxCDD	0.63 J	0.63 U
		1,2,3,4,7,8-HxCDF	0.75 J	0.75 U

HxCDD = hexachlorodibenzo-p-dioxin.
HxCDF = hexachlorodibenzo-p-furan.
J = Result is an estimated value.
pg/g = picograms per gram.
U = Result is non-detect.

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

Sample were received by BSK at 11.6 degrees Celsius (°C), which is above the upper recommended storage temperature limit of 6°C. It was determined that the temperature blank that was measured had been stored in ambient conditions. Two additional temperature blanks had been correctly refrigerated along with the samples, but were not measured by BSK. The reviewer confirmed that the samples were stored overnight in a refrigerator prior to transport to the laboratory by a BSK courier, and that the refrigerator temperature was recorded as 5.4°C at the time of pickup; thus, no results were qualified.

BSK noted that samples were transported to the laboratory in coolers without ice; however, the transport time of ten minutes was not long enough to allow a significant increase in temperature. No action was required.

BSK noted on the sample integrity form that samples TP6-S-2.0, TP7-S-9.0, and TP9-S-6.5 were not preserved with methanol and that the samples were transferred to new containers with methanol. The reviewer confirmed that the methanol-preserved containers were not used for any of the analyses; thus, no action was required.

The remaining 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.

In Maxxam report B6R2388, the USEPA Method 8290B method blank had some detections between the MRL and the estimated detection limit (EDL) for 1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin (HpCDD) (0.20 pg/g), and total HpCDD (0.20 pg/g). The associated sample results were significantly above the MRL; thus, no results were qualified by the reviewer.

All remaining laboratory method blanks were non-detect.

Trip Blanks

Trip blanks were not submitted for this sampling event, as volatile organic compounds were not analyzed.

Equipment Rinsate Blanks

Equipment rinsate blanks were not submitted for this sampling event.

SURROGATE RECOVERY RESULTS

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

LABELED ANALOG RECOVERY RESULTS

USEPA Method 8290B samples were spiked with carbon-13 (C13) labeled standards to quantify the relative response of analytes in each sample. All C13 labeled analog standard recoveries were within acceptance limits.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS

Matrix spike/matrix spike duplicate (MS/MSD) results are used to evaluate laboratory precision and accuracy. All MS/MSD samples were extracted and analyzed at the required frequency. All MS/MSD results were within acceptance limits for percent recovery and relative percent differences (RPDs).

LABORATORY DUPLICATE RESULTS

Duplicate results are used to evaluate laboratory precision. All duplicate samples were extracted and analyzed at the required frequency. All laboratory duplicate RPDs were within acceptance limits.

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RESULTS

A laboratory control sample/laboratory control sample duplicate (LCS/LCSD) is spiked with target analytes to provide information on laboratory precision and accuracy. The LCS/LCSD samples were extracted and analyzed at the required frequency. All LCS/LCSD analytes were within acceptance limits for percent recovery and RPD.

FIELD DUPLICATE RESULTS

Field duplicate samples measure both field and laboratory precision. One field duplicate was submitted for analysis (TP10-S-2.0/TP-S-2.0-DUP). MFA uses acceptance criteria of 100 percent RPD for results that are less than five times the MRL, or 50 percent RPD for results that are greater than five times the MRL. Non-detect data are not used in the evaluation of field duplicate results. All analytes were within the acceptance criteria.

REPORTING LIMITS

BSK used routine reporting limits for non-detect results. Maxxam reported percent moisture results to method detection limits and USEPA Method 8290B results to EDLs. Results reported between the EDL and MRL were flagged by the laboratory with "J" as estimated.

DATA PACKAGE

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

REFERENCES

BSK. 2015. Quality assurance manual. BSK Associates, Vancouver Analytical Lab dba AddyLab, Vancouver, Washington.

Maxxam. 2015. Quality manual. Maxxam Analytics International Corporation, Mississauga, Ontario, Canada.

USEPA. 1986. Test methods for evaluating solid waste: physical/chemical methods. EPA-530/SW-846. Update V. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response. September (revision 1, July 2014).

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USEPA. 2016a. USEPA contract laboratory program, national functional guidelines for high resolution superfund methods data review. EPA 542-B-16-001. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation. April.

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MAUL FOSTER ALONGI
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February 2, 2017
Project No. 1200.01.02

Ms. Sandy Seaman
Skamania County Economic Development Council
PO Box 436
Stevenson, Washington 98648

Re: Phase II environmental site assessment—former Hegewald Timber Mill

Dear Ms. Seaman:

On behalf of Skamania County (the County) Economic Development Council (EDC), Maul Foster & Alongi, Inc. (MFA) has conducted a phase II environmental site assessment (ESA) to evaluate the potential for environmental impacts associated with historical operations at the former Hegewald Timber Mill, located at the approximate address of 880 Southwest Rock Creek Road in Stevenson, Washington (collectively referred to in this document as the Property) (see Figure 1). The work was conducted using funding set aside for economic development. The following is a summary of the findings.

The Property, which is owned by the County, comprises three tax parcels (County Tax Parcel Numbers 02070100130200, 02070100130300, and 02070100130400). The Property is mostly unused at this time, but was used as a timber peeling plant from approximately 1950 to the early 1980s. Although there are some remnants of historical buildings and operating infrastructure on the Property, the Property is currently undeveloped.

The purpose of the phase II ESA was to generate data to evaluate the potential for environmental impacts associated with historical operations in selected areas of the Property. in the data generated from the soil samples were compared to see if they were above Model Toxics Control Act (MTCA) cleanup levels (CULs), or above Method B CULs for analytes for which no Method A CULs are available.

BRIEF BACKGROUND

The approximately 6.4-acre Property is located in donation land claim 42, township 2 north, range 7 east, of the Willamette Meridian (see Figure 1). The Property is a peninsula that extends into Rock Cove on the northern, eastern, and southern perimeter. It is bounded inland to the west by Southwest Rock Creek Drive. Site features and investigation locations are presented on Figure 2.

A timber peeling/veneer facility operated on the Property from approximately 1950 to sometime in the 1980s. The facility was owned and operated by the Hegewald Timber Company, Inc. In the 1970s, Louisiana Pacific acquired the Property and operated the facility.

Historical photographs depict a large, factory-type building; a second, smaller, structure of unknown use; and two wigwam burners on the Property. The wigwam burners appear to have been fed with woodwaste (sawdust, scraps, chips, etc.) obtained from the timber-peeling work and also from the timber-milling work conducted by Hegewald Timber Company, Inc. on a nearby property to the west/southwest.

Historical photographs depict what appears to be a conveyor system leading from the timber mill to the southern wigwam burner, and a second conveyor leading from the timber peeling/veneer building to the northern wigwam burner. Pilings and shoreline piers, once used for timber handling and timber raft moorage, are visible at and surrounding the Property.

The Property is currently vacant and is overgrown by vegetation. The Property is not utilized, with the exception of a small area used to stockpile straw and horse manure from the County Fairgrounds. The Property currently consists of a mix of cleared and forested land, with unpaved drives circumscribing much of the Property. Two concrete slab foundations for historical buildings remain, but otherwise historical development features are not visibly present on the Property.

For a full background on the Property description and history, refer to the work plan for this investigation (MFA, 2016).

SITE GEOLOGY AND HYDROGEOLOGY

As part of this assessment, test pits were advanced on the Property. The subsurface soil was observed to be generally composed of sandy silt and silty sand with cobbles and boulders, some as large as 3 feet in diameter, from the surface to 10 feet below ground surface (bgs), the maximum depth explored.

Groundwater was not encountered during the assessment. Based on topography and adjacent surface water, groundwater in the vicinity of the site is inferred to flow southeast. The nearest surface water in the vicinity of the site is Rock Cove, which drains to the Columbia River. The Columbia River is located approximately 850 feet south-southwest of the Property, on the southern side of Washington State Highway 14 (see Figure 1).

FIELDWORK

To evaluate the potential for environmental contamination on the Property, soil samples were collected from test pits and analyzed for metals, petroleum hydrocarbons, and chlorinated dibenzo-p-dioxins/dibenzofurans (collectively referred to as dioxins).

A work plan for this field sampling event was provided to the County on November 9, 2016 (MFA, 2016). A geophysical survey was conducted at the Property on November 14 to 16, 2016. Soil sampling fieldwork was performed on December 7, 2016. The investigation was conducted consistent with the work plan.

Before the geophysical survey was conducted, an area that included remnants of former site features (i.e., building and wigwam foundations) and an approximately 50-foot boundary around those remnants were cleared/grubbed to the extent practicable. These areas were cleared of brush so that the contractors could conduct a geophysical survey and the test pits could be advanced.

MFA coordinated a geophysical survey using ground penetrating radar and electromagnetics to check for the presence of shallow subsurface anomalies (e.g., tanks, tank pits, piping, septic system features). MFA coordinated with Pacific Geophysics, a geophysical survey contactor, to conduct the survey on November 14 to November 16, 2016. The results of the survey helped inform Property decisions, evaluated potential remaining subsurface features associated with historical Property uses, and informed the selection of proposed test pit locations. The geophysical survey report is included as Attachment A.

Twelve magnetic anomalies were identified at the Property, likely caused by surface and buried metallic debris, as well as metal in the concrete building material. No anomalies typical for metallic underground tanks were detected in the geophysical survey.

Before excavation began, public and private underground utility locating services checked for underground utilities. Ten test pits were advanced by the County, under the supervision of an MFA geologist, on December 7, 2016. A photographic log of observations made during the fieldwork is available in Attachment B. MFA collected soil samples, described soil types, and measured volatilization in soil headspace, using a photoionization detector (PID). The PID soil headspace readings were 0.1 to 0.5 part per million.

Investigation locations are shown on Figure 2. These locations were selected based on the findings of the geophysical survey and known site features (e.g., former wigwam burner locations, former building locations, fill material locations). Consistent with the work plan, the test pits were advanced to 8 to 10 feet bgs.

The following is a description of the test pit locations:

- **TP1:** Adjacent to the northeastern corner foundation of the former large building, near Anomaly A, identified in the geophysical survey. Anomaly A is in the vicinity of a trench and pipe feature; therefore, TP1 was advanced north of Anomaly A.
- **TP2:** Adjacent to the eastern foundation boundary of the former large veneer building.
- **TP3:** Adjacent to the western foundation boundary of the former large building in an area identified in the geophysical survey as Anomaly D.
- **TP4:** In the stockpile location, near an area identified in the geophysical survey as Anomaly E.
- **TP5:** In the central part of the Property near an area identified in the geophysical survey as Anomaly I.
- **TP6:** Within or near the footprint of the southern former wigwam burner near an area identified in the geophysical survey as Anomaly J. A large slab of concrete assumed to be associated with the former wigwam burner foundation was encountered approximately 2.5 feet bgs during the advancement of TP6.
- **TP7:** Within or near the footprint of the southern former wigwam burner near an area identified in the geophysical survey as Anomaly K.
- **TP8:** Adjacent to the northeastern corner foundation of the former small structure.
- **TP9:** Near the northern former wigwam burner in an area identified in the geophysical survey as Anomaly G. Approximately 5 feet of angular cobbles and boulders was encountered when advancing this test pit.
- **TP10:** Fill material on the eastern peninsula near an area identified in the geophysical survey as Anomaly L.

The sampling was conducted in accordance with the methodology outlined in the work plan (MFA, 2016). With the exception of test pits TP7 and TP9, two soil samples were collected from each test pit: one shallow sample and one deep sample. Only one sample was collected from TP9 because the upper 5 feet of the excavation was rock with limited fine-grained soil to sample. Additionally, three soil samples were collected at TP7 because one composite surface soil sample was collected from the vicinity of the former wigwam burners to assess the presence of dioxins.

The samples were collected as grab samples from the excavator bucket, with soil collected from a sidewall of the test pit. After subsurface samples were collected, the test pits were finished to generally match the surrounding surface material.

ANALYTICAL WORK

In general, one soil sample for each test pit was submitted to the laboratory for analysis, with the exception of test pits TP4 and TP7, where two samples were submitted for analysis. Two samples were submitted for TP4 because this location had the highest PID readings; two samples from TP7 were submitted because of the addition of the surface soil sample for dioxin analysis.

Additional soil samples collected but not initially analyzed were archived. One sample was analyzed for dioxins by U.S. Environmental Protection Agency (USEPA) Method 8290; three samples were analyzed for MTCA five metals (arsenic, cadmium, chromium, lead, and mercury) by USEPA Method 6020; and 11 samples were analyzed for petroleum hydrocarbons by Northwest Total Petroleum Hydrocarbons Method for hydrocarbon identification.

Consistent with the Washington Administrative Code (WAC) 173-340-708(8), mixtures of dioxins/furans are considered as single hazardous substances when evaluating compliance with CULs such that the toxicity of a particular congener is expressed relative to the most toxic congener (i.e., 2,3,7,8-tetrachloro dibenzo-p-dioxin [TCDD]). The toxicity of dioxins as groups was assessed using a toxic equivalency approach.

Each congener in the group is assigned a toxic equivalency factor (TEF) describing the toxicity of that congener relative to the toxicity of the reference compound, specifically TCDD. For example, a congener that is equal in toxicity to TCDD would have a TEF of 1.0. Similarly, a congener that is half as toxic as TCDD would have a TEF of 0.5, and so on. Multiplying the concentration of a congener by its TEF produces the concentration of TCDD that is equivalent in toxicity to the congener concentration of concern; this is known as the toxicity equivalent concentration (TEC).

Computing the TEC for each congener (Ci in the equation below) in a sample, followed by summing the TEC values, permits expression of the congener concentrations in terms of a total TCDD toxicity equivalent (TEQ) (i.e., dioxin TEQ):

$$\text{Dioxin/Furan TEQ} = \sum_{i=1}^{k} \text{Ci x TEFi}$$

Dioxin TEQs were qualified and calculated as follows:

- Congeners qualified as non-detect and flagged with a "U" are used in the TEQ calculation at one-half the associated method reporting limit value.
- Congeners qualified as estimated and flagged with a "J" are used without modification in the TEQ calculation.

- Congeners qualified as non-detect with an estimated limit (i.e., flagged with a "UJ") are used in the TEQ calculation at one-half the associated method reporting value.
- If all congeners in a chemical group qualify as non-detect, the group sum is reported as undetected.

See Attachment C for the laboratory analytical reports and Attachment D for the data validation memorandum. The data are considered acceptable for their intended use, with the appropriate data qualifiers assigned.

RESULTS

Petroleum hydrocarbons were not detected in the soil samples (see attached table). Therefore, no followup analyses were performed.

Among the soil samples analyzed for metals, TP4-S-2.0 had a total lead concentration of 12 milligrams per kilogram (mg/kg) and the duplicate from TP10-S-2.0 had a total arsenic concentration of 5 mg/kg and a total chromium concentration of 26 mg/kg (see attached table).

The detections for arsenic, chromium, and lead were below the MTCA Method A CULs for unrestricted land use of 20 mg/kg, 2,000 mg/kg, and 250 mg/kg, respectively. Metals were not detected in TP6-S-2.0 above laboratory reporting limits.

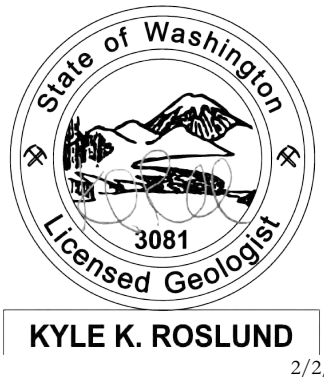
Additionally, one composite surface soil sample was collected from TP7 (located within or near the footprint of the former wigwam burner) and was analyzed for dioxins (see attached table). Analytical results show the presence of some dioxin compounds but not at concentrations exceeding the MTCA Method B CULs (there is no established Method A value).

CONCLUSIONS

The geophysical survey did not identify anomalies typical of metallic tanks or other subsurface structures at the Property. There were no field-observed impacts in soil. Petroleum hydrocarbons were not detected in the soil samples. Metals and dioxins were detected in soil samples, but not above the MTCA Method A or Method B soil CULs. Based on the field observations and lack of detections there are no exceedances of state cleanup levels for hazardous substances on the property. No further investigation is considered warranted or recommended.

Sincerely,

Maul Foster & Alongi, Inc.



Kyle K. Roslund, LG
Project Geologist

James J. Maul, LHG
Principal Hydrogeologist

Attachments: Limitations
References
Figures
Table
A—Geophysical Survey Report
B—Photographic Log
C—Laboratory Analytical Report
D—Data Validation Memorandum

Cc:

Gabe Spencer
Skamania County Assessor

Kari Fagerness
Skamania County Economic Development Council

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

MFA. 2016. Phase II environmental site assessment work plan, former Hegewald Timber Mill, 800 Southwest Rock Creek Road, Stevenson, Washington. Prepared for Skamania County, Washington. Maul Foster & Alongi, Inc. November 9.

TABLE

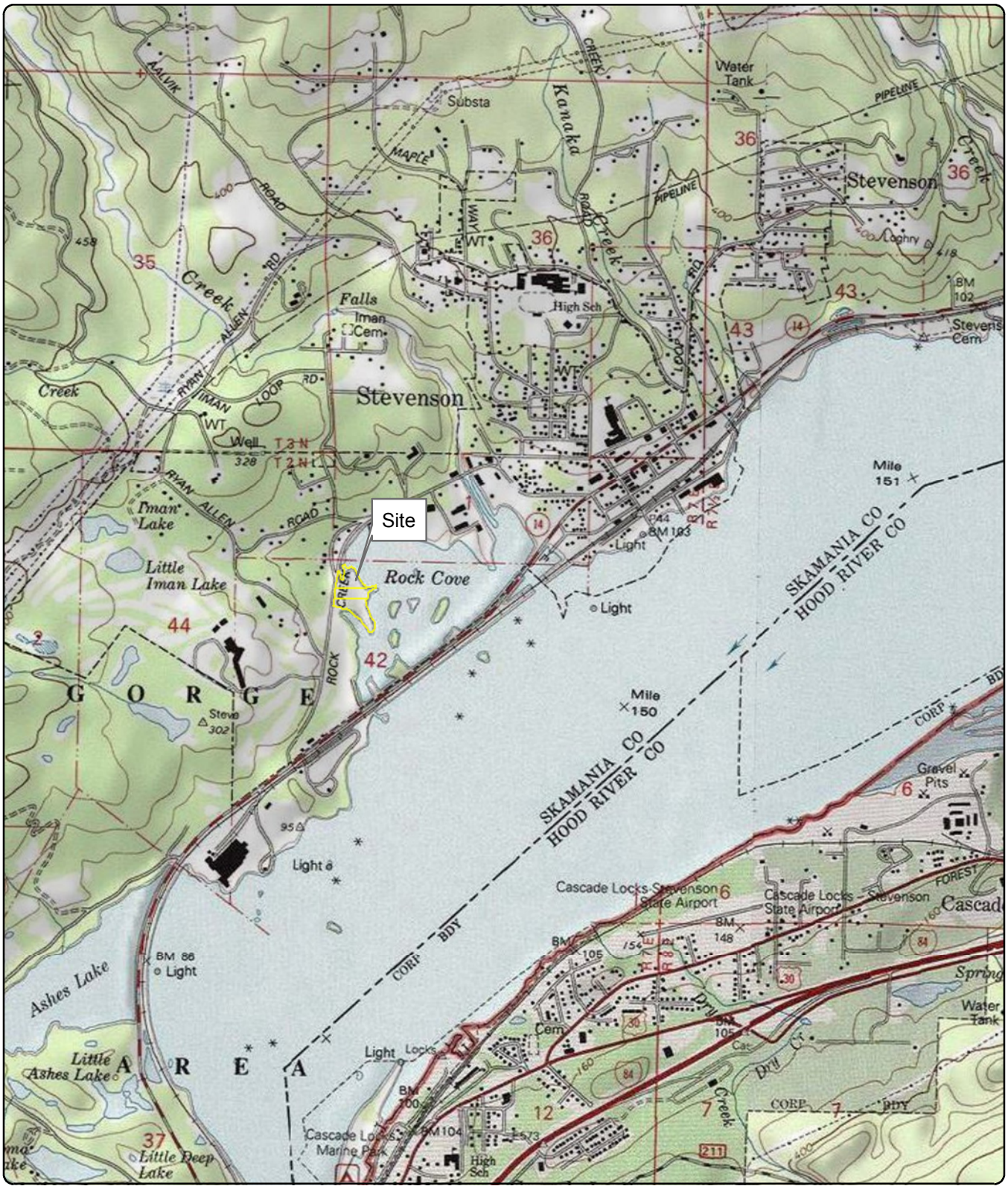
Table
Summary of Soil Analytical Results
Former Hegewald Timber Mill
Skamania County
Stevenson, Washington

		Location:	TP1	TP2	TP3	TP4	TP4	TP5	TP6	TP7	TP7	TP8	TP9	TP10	TP10
		Sample Name:	TP1-S-2.5	TP2-S-2.5	TP3-S-2.0	TP4-S-2.0	TP4-S-7.0	TP5-S-2.0	TP6-S-2.0	TP7-S-0.5	TP7-S-9.0	TP8-S-2.0	TP9-S-6.5	TP10-S-2.0	TP-S-2.0-DUP
		Collection Date:	12/07/2016	12/07/2016	12/07/2016	12/07/2016	12/07/2016	12/07/2016	12/07/2016	12/07/2016	12/07/2016	12/07/2016	12/07/2016	12/07/2016	12/07/2016
		Collection Depth (ft bgs):	2.5	2.5	2	2	7	2	2	0.5	9	2	6.5	2	2
	MTCA A	MTCA B													
Metals (mg/kg)															
Arsenic	20	NA	--	--	--	3 U	--	--	3.1 U	--	--	--	--	5.5	--
Cadmium	2	NA	--	--	--	1.5 U	--	--	1.5 U	--	--	--	--	1.6 U	--
Chromium	2000[a]	NA	--	--	--	15 U	--	--	15 U	--	--	--	--	26	--
Lead	250	NA	--	--	--	12	--	--	7.7 U	--	--	--	--	8.2 U	--
Mercury	2	NA	--	--	--	0.6 U	--	--	0.62 U	--	--	--	--	0.66 U	--
Hydrocarbon Identification (detect/non-detect)															
Diesel	NV	NV	ND	ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND
Gasoline	NV	NV	ND	ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND
Lube Oil	NV	NV	ND	ND	ND	ND	ND	ND	ND	--	ND	ND	ND	ND	ND
Dioxins/Furans (pg/g)															
1,2,3,4,6,7,8-HpCDD	NV	NV	--	--	--	--	--	--	--	6.19	--	--	--	--	--
1,2,3,4,6,7,8-HpCDF	NV	NV	--	--	--	--	--	--	--	1.65 J	--	--	--	--	--
1,2,3,4,7,8,9-HpCDF	NV	NV	--	--	--	--	--	--	--	0.19 U	--	--	--	--	--
1,2,3,4,7,8-HxCDD	NV	NV	--	--	--	--	--	--	--	0.23 J	--	--	--	--	--
1,2,3,4,7,8-HxCDF	NV	NV	--	--	--	--	--	--	--	0.75 U	--	--	--	--	--
1,2,3,6,7,8-HxCDD	NV	NV	--	--	--	--	--	--	--	0.49 J	--	--	--	--	--
1,2,3,4,7,8-HxCDF	NV	NV	--	--	--	--	--	--	--	0.75 U	--	--	--	--	--
1,2,3,6,7,8-HxCDD	NV	NV	--	--	--	--	--	--	--	0.49 J	--	--	--	--	--
1,2,3,6,7,8-HxCDF	NV	NV	--	--	--	--	--	--	--	0.29 J	--	--	--	--	--
1,2,3,7,8,9-HxCDD	NV	NV	--	--	--	--	--	--	--	0.63 U	--	--	--	--	--
1,2,3,7,8,9-HxCDF	NV	NV	--	--	--	--	--	--	--	0.19 U	--	--	--	--	--
1,2,3,7,8-PeCDD	NV	NV	--	--	--	--	--	--	--	0.28 U	--	--	--	--	--
1,2,3,7,8-PeCDF	NV	NV	--	--	--	--	--	--	--	0.27 J	--	--	--	--	--
2,3,4,6,7,8-HxCDF	NV	NV	--	--	--	--	--	--	--	0.36 J	--	--	--	--	--
2,3,4,7,8-PeCDF	NV	NV	--	--	--	--	--	--	--	0.36 J	--	--	--	--	--
2,3,7,8-TCDD	NV	13	--	--	--	--	--	--	--	0.17 U	--	--	--	--	--
2,3,7,8-TCDF	NV	NV	--	--	--	--	--	--	--	1.06 J	--	--	--	--	--
OCDD	NV	NV	--	--	--	--	--	--	--	19.8	--	--	--	--	--
OCDF	NV	NV	--	--	--	--	--	--	--	2.25 J	--	--	--	--	--
Total HpCDDs	NV	NV	--	--	--	--	--	--	--	11.5	--	--	--	--	--
Total HpCDFs	NV	NV	--	--	--	--	--	--	--	3.24 J	--	--	--	--	--
Total HxCDDs	NV	NV	--	--	--	--	--	--	--	3.66 J	--	--	--	--	--
Total HxCDFs	NV	NV	--	--	--	--	--	--	--	2.9 J	--	--	--	--	--
Total PeCDDs	NV	NV	--	--	--	--	--	--	--	0.42 J	--	--	--	--	--
Total PeCDFs	NV	NV	--	--	--	--	--	--	--	2.78 J	--	--	--	--	--
Total TCDDs	NV	NV	--	--	--	--	--	--	--	1.39 J	--	--	--	--	--
Total TCDFs	NV	NV	--	--	--	--	--	--	--	4.12	--	--	--	--	--
Dioxin TEQ (U = 0.5)	NV	13	--	--	--	--	--	--	--	0.75 J	--	--	--	--	--

Table
Summary of Soil Analytical Results
Former Hegewald Timber Mill
Skamania County
Stevenson, Washington

NOTES:
Detections above screening criteria are in **bold** font.
Dioxin TEQ is calculated with non-detect values multiplied by one-half.
-- = not analyzed.
ft bgs = feet below ground surface.
J = Result is an estimated value.
mg/kg = milligrams per kilogram.
MTCA = Model Toxics Control Act.
MTCA A = MTCA method A for unrestricted land use.
MTCA B = MTCA method B, lower of available cancer or noncancer cleanup level.
NA = not applicable.
ND = not detected.
NV = no value.
pg/g = picograms per gram (parts per trillion).
TEQ = toxicity equivalence quotient.
U = Result is non-detect at or above the method reporting limits.
[a]Value is for trivalent chromium.

FIGURES



Approximate Site Address:
880 Southwest Rock Creek Road
Stevenson, Washington.

Source: US Geological Survey (1994) 7.5-minute topographic quadrangle: Bonneville Dam
Donation Land Claim 42, Township 2 North, Range 7 East

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Figure 1
Site Location

Phase II Environmental Site Assessment

Former Hegewald Timber Mill
Stevenson, Washington

0 960 1,920
Feet

Source: Aerial photograph obtained from Esri ArcGIS Online

Legend

- Test Pit
- Utility Feature
- Utility Line
- Stockpile
- Approximate Location of Former Wigwam Burner
- Approximate Location of Foundation
- Skamania County Parcel

DRAFT

Figure 2
Investigation Locations

Former Hegewald Timber Mill
Stevenson, Washington

0 40 80
Feet

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Project: 1200.01.02-01
Produced By: estrandhagen Approved By: E. Hess
Print Date: 1/13/2017

ATTACHMENT A

GEOPHYSICAL SURVEY REPORT

PACIFIC GEOPHYSICS
Applied Geophysics

GEOPHYSICAL SURVEY REPORT

Former Lumber Mill Site

SW Rock Creek Drive
Stevenson, Washington

Project Number: 160812
Survey Dates: November 14, 15, 16, 2016

Prepared for:
Maul Foster Alongi, Inc.

Contents

List of Figures:

List of Appendices:

Introduction

Pacific Geophysics conducted a geophysical survey across accessible areas of the former lumber mill site located on SW Rock Creek Drive in Stevenson, Washington, for Maul Foster Alongi. The scope of the survey was to detect possible underground storage tanks (USTs) and other metallic features across the site.

Remnants of buildings were seen at various locations. Steep slopes, trees, piles of sawdust and berry bushes obstructed the survey. A recording magnetometer was used to scan the site. Ground penetrating radar (GPR) and hand-held metal detecting instruments were used to investigate magnetic anomalies.

Several magnetic anomalies were detected but all appeared to be caused by surface or buried debris.

This report includes descriptions of the site, the scope of work, the equipment and methodology and the results of the survey.

Site Description

Figure 1 shows the location of the site and the survey coverage. Magnetic data were collected across the gravel-, soil-, and concrete-covered peninsula with the aid of a Trimble GPS system, coupled to the magnetometer. No data were collected across several areas with dense bushes, trees, steep slopes and horse-manure-filled sawdust.

Several building footprints were seen on the surface. The most prominent is located in the center-north part of the site and is partly surrounded by a short wall containing embedded bolts and pieces of rebar. Metal straps, cables, and other metallic debris were seen on the ground surface at several locations.

The former walls, as well as a heavily reinforced building floor near the eastern side of the peninsula, and a parked trailer created magnetic interference that limited the effectiveness of all the metal-detecting instruments. The magnetometer data were unusable within about 5 feet of the trailer and the building foundation.

No suspicious UST-related objects like fill ports were seen on the ground surface.

Scope of Work

The main goal of the survey was to detect possible USTs and other metallic objects. The magnetometer survey was conducted to detect ferrous objects that could be USTs. Hand-held instruments and GPR were used to investigate magnetic anomalies.

Nikos Tzetos and Cody Sheaffer of Pacific Geophysics conducted the survey for Maul, Foster Alongi [MFA] on November 14-16, 2016. This report was written by Nikos Tzetos and emailed to Mr. Kyle Roslund of MFA on November 22, 2016.

Geophysical Equipment and Survey Procedures

General Procedures:

A magnetometer is the first instrument used to investigate a site for subsurface ferrous metallic objects because it enables the operator to rapidly scan the subsurface. Data are collected across an accurately measured survey grid established on the site. For larger areas, where it would be difficult to set up an accurate survey grid, like this site, the magnetometer can be coupled to a GPS antenna.

Upon completing the data acquisition phase of the survey, a contour map of the earth's local magnetic field is produced. Small, hand-held metal detectors are then used to more thoroughly investigate the magnetic anomalies detected with the magnetometer. These instruments are excellent at detecting and characterizing buried metal objects; however, they do not record data, and are not adequate to survey large areas.

Ground Penetrating Radar (GPR) is usually the last method used to investigate a site for buried metallic objects. The shape of radar reflections produced by buried objects may assist in the interpretation of magnetic anomalies.

Magnetic Survey:

At this site, a Geometrics G-858-G Portable Cesium Magnetometer was used to acquire the magnetic data. Magnetic data locations were controlled with a Trimble GPS system coupled to the magnetometer. GPS was not used across the former large building and to its east, up to a steep drop-off, because of large trees obstructing the sky. An orthogonal survey grid was established over this area with measuring tapes. For this UST survey a line spacing of 5 feet was used. Data points along lines are spaced about 1-foot apart at normal walking speed.

A colored contour map showing the earth's local magnetic field was created in the field. Magnetic anomalies higher in amplitude than the normal local magnetic background are shown in red, and are usually found over areas where ferrous objects are located below the sensor. The objects may be surface objects such as manholes or other surface features, or buried objects of interest, such as USTs, drums, pipes, and debris. Magnetic anomalies at or below the amplitude of the local magnetic field are shown in blue and are caused by ferrous objects located above the sensor, such as buildings, poles, chain-link fences, and other surface objects.

Surface objects including buildings and fences can produce significant magnetic interference that can conceal buried objects of interest.

Hand-held instruments:

An Aqua-Tronics A6 Tracer and a Schonstedt GA92XTd magnetic gradiometer are used to locate and investigate the anomalies detected by the magnetometer. These instruments can pinpoint the peaks and troughs of the anomalies, and in many cases determine if an object is linear (pipe or utility) or three-dimensional (UST). Because they are small, they may be used to scan areas inaccessible to the recording magnetometer. Neither records data.

The transmitter unit of a Radio Detection RD8000 PDL pipe and cable detector may be used to electrically charge an accessible metal pipe or utility. The charged object

can then be “traced” using the receiver unit. The receiver can also detect some metallic features indirectly, using the system’s “radio” function.

Ground Penetrating Radar:

Following the hand-held instrument survey, a GSSI SIR-2000 GPR system coupled to a 400 MHz antenna was used to investigate suspicious magnetic anomalies. Radar reflections across the anomalies may give clues to the size and shape of the buried metallic objects producing them. Objects themselves are not actually seen.

The collection of radar data is very time-consuming and the data may be ambiguous; therefore, GPR is not a cost-effective method to “blindly” scan a site for buried metallic objects. Radar is, however, one of the only methods capable of detecting non-metallic features, including PVC and clay pipes, septic tanks, drywells, trenches and excavations.

GPR data may be collected on a grid when searching for non-conductive features like UST pits or pipes.

GPR is used in borehole clearance surveys: parallel traverses in orthogonal directions are taken and the profiles are inspected in the field. Boreholes may be moved to clear locations, based on the interpretation of the radar data.

Additional information regarding these instruments, methods, surveys and limitations with references can be found in the Appendix.

Results

The colored magnetic contour map produced as a result of the survey is shown in figure 2, contoured using an interval of 500 nT. The data were interpreted at a contour interval of 250 nT in the field. Red contours are magnetic highs caused by ferrous objects on or below the ground surface (including USTs). Blue contours indicate magnetic values lower than the earth’s local background level and are generally caused by ferrous objects situated above the magnetometer sensor, carried at a height of about 3 feet. Fences, poles and buildings typically produce magnetic lows.

Twelve magnetic anomalies are labeled alphabetically in figure 2:

Anomaly A extends from the narrow area between two building walls up to several feet east of the former building. The Tracer indicated three-dimensional objects were causing the western and eastern portions of this anomaly (indicated with two pointer lines in the figure). GPR was used in this area. Interface with the ground surface was not optimal because of wet leaves; as a result, signal penetration was limited. No suspicious radar reflectors were seen in radar profiles, although signal quality was poor. An exposed I-beam is partly causing this anomaly.

Anomalies B and C are interpreted to be caused by metal in the building wall.

A small mound was seen at the surface at the location of anomaly D. According to hand-held instruments and GPR, the mound consists of metallic debris.

Magnetic anomaly E appears to be caused by the corner of the building's reinforced-concrete floor and by a pipe that extends from this location toward a concrete-walled enclosure, several feet to the southwest.

Anomaly F is caused by I-beams and metal embedded in the concrete floor of the former building.

Anomaly G appears to be caused by small, buried metallic debris, while anomaly H is caused by surface metallic debris.

A three-dimensional metallic object was detected with the Tracer across anomaly I. No recognizable radar reflectors were detected in profiles across this anomaly. Again, radar-ground interface was poor due to berry-bush stubble. The anomaly is interpreted to be caused by metallic debris.

Magnetic anomaly J was investigated with metal detectors and coincides with a large mound in the center of the south promontory. It coincides with the reported location of a former mill structure. The anomaly is interpreted to be caused by metallic debris within the mound and up to several feet to the southwest. The anomaly labeled J1 was investigated with the Tracer. A small three-dimensional object was detected at this location; no suspicious object was detected with radar here.

Anomaly K is caused by metallic debris, including a possible crushed drum seen on the mound's surface.

Anomaly L is caused by the beam-reinforced floor of the concrete structure exposed on the east promontory.

No anomalies caused by tanks were detected with this survey.

Conclusion

A magnetometer coupled with a GPS system was used to survey all accessible areas at this site for USTs and other metallic features. No tanks were detected. Several areas with buried and surface metallic debris were found, including a large mound at the south end of the site.

Limitations

The conclusions presented in this report were based upon widely accepted geophysical principles, methods and equipment. This survey was conducted with limited knowledge of the site, the site history and the subsurface conditions.

The goal of near-surface geophysics is to provide a rapid means of characterizing the subsurface using non-intrusive methods. Conclusions based upon these methods are generally reliable; however, due to the inherent ambiguity of the methods, no single interpretation of the data can be made. As an example, rocks and roots produce radar reflections that may appear the same as pipes and tanks.

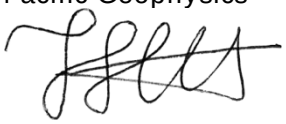
Under reasonable site conditions, geophysical surveys are good at detecting changes in the subsurface caused by manmade objects or variations in subsurface conditions, but they are poor at identifying those objects or subsurface conditions.

Objects of interest are not always detectable due to surface and subsurface conditions. The deeper an object is buried, the more difficult it is to detect, and the less accurately it can be located.

The only way to see an object is to physically expose it.

Nikos Tzetos
Pacific Geophysics

November 22, 2016

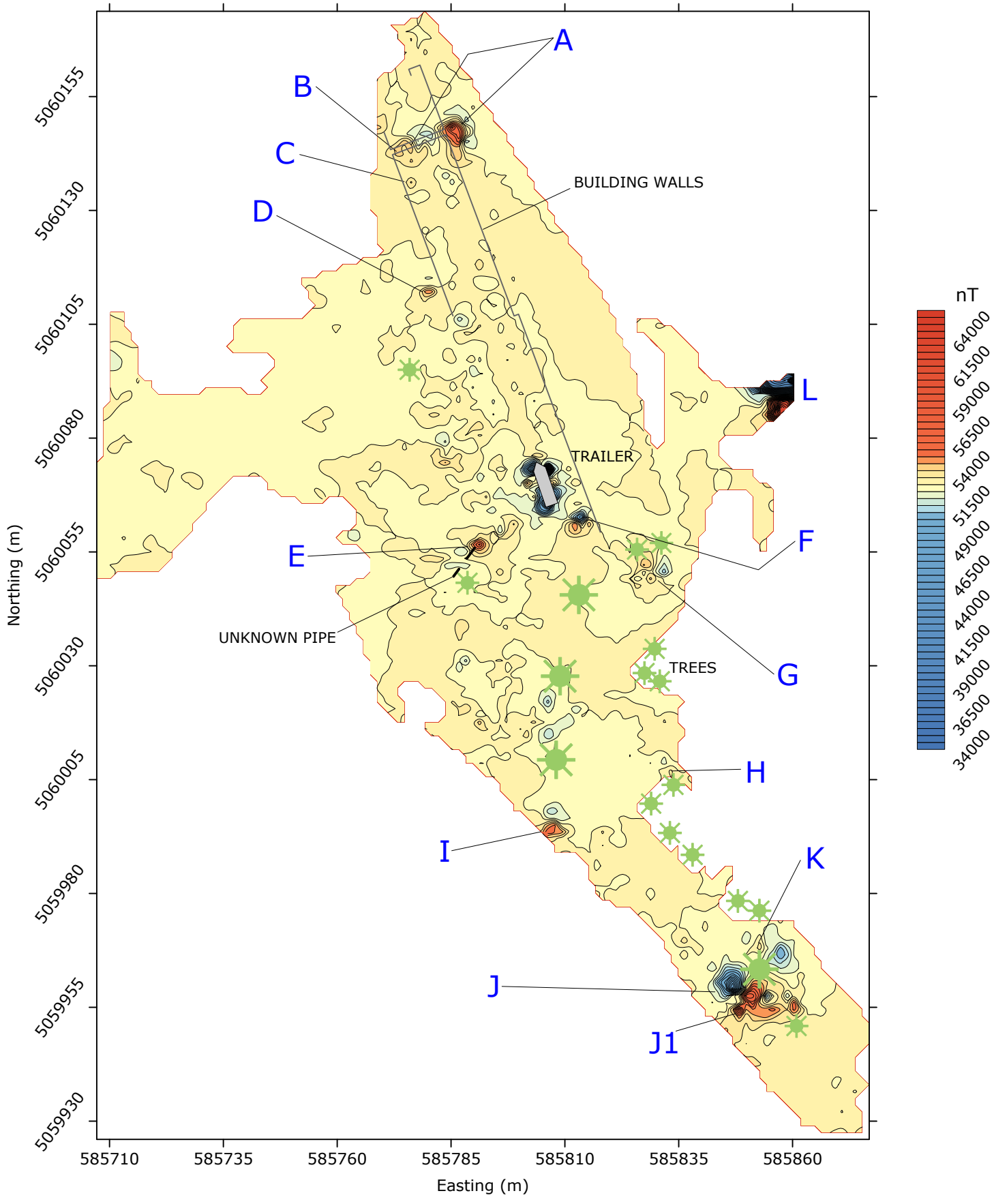


PACIFIC GEOPHYSICS
Applied Geophysics

FIGURE 1

Survey Location and Coverage

Project: 160812	Former Lumber Mill Site SW Rock Creek Drive Stevenson, Washington
Drawn by : NT	Prepared for: MFA
	Survey Date: November 14-16, 2016



PACIFIC GEOPHYSICS
Applied Geophysics

N

FIGURE 2	Magnetic Contour Map - C.I.=500 nT	
	Project: 160812	Former Lumber Mill Site SW Rock Creek Drive Stevenson, Washington
	Drawn by : NT	Prepared for: MFA
		Survey Date: November 14-16, 2016

Appendix A. Geophysical Survey Methods

Magnetometer Surveys

Small disturbances in the Earth's local magnetic field are called "magnetic anomalies". These may be caused by naturally occurring features such as metallic mineral ore bodies, or from manmade features such as metal buildings, vehicles, fences, and underground storage tanks. The magnetometer only detects changes produced by ferrous objects. Aluminum and brass are non-ferrous metals and cannot be detected using a magnetometer.

A magnetometer is an electronic instrument designed to detect small changes in the Earth's local magnetic field. Over the years different technologies have been used in magnetometers. The Geometrics G-858 Portable Cesium Magnetometer used to collect magnetic data for Pacific Geophysics uses one of the most recent methods to detect magnetic anomalies. A detailed discussion describing the method this unit uses is available at Geometrics.com.

This magnetometer enables the operator to collect data rapidly and continuously rather than the older instruments that collected data at discreet points only. The G-858 is carried by hand across the site. The sensor is carried at waist level. Typically individual data points collected at normal walking speed are about 6" apart along survey lines usually 5 feet apart, depending on the dimensions of the target objects.

It is critical to know the exact location of each data point so that if an anomaly is detected it can be accurately plotted on a magnetic contour map. At most small sites, data are collected along straight, parallel survey lines set up on the site before the data collection stage begins. For very large, complex sites, the G-858 can be connected to a Global Positioning System (GPS) antenna which allows the operator to collect accurately-located data without establishing a survey grid. With GPS, data are collected and positioned wherever the operator walks. A limitation using GPS is that the GPS antenna must have line of sight with the GPS satellites. Data can be mislocated if the GPS antenna is under trees or near tall buildings.

Data are stored in the unit's memory for later downloading and processing. A magnetic contour map of the data is plotted in the field. Geographical features are plotted on the map. Magnetic anomalies appearing to be caused by objects of interest are then investigated on the site using several small hand-held metal detectors. If an object appears to be a possible object of interest, it may be investigated with GPR.

Magnetic contour maps may be printed in color in order to highlight anomalies caused by ferrous objects located under the magnetic sensor. Usually, ferrous objects situated below the sensor produce magnetic "highs" and anomalies located above the sensor produce magnetic "lows". Magnetic highs are of interest to the operator since most objects of interest are located underground.

Depending on the orientation, shape and mass of a metallic object, a high/low pair of magnetic anomalies may be present. In the northern hemisphere the magnetic low is located north of the object and the magnetic high toward the south. The object producing the anomaly is located part way between the high and the low anomalies.

Magnetometer surveys have limitations. Magnetometers only detect objects made of ferrous (iron-containing) metal. Large ferrous objects (buildings, cars, fences, etc.) within several feet of the magnetometer create interference that may hide the anomaly produced by a nearby object of interest.

Ground Penetrating Radar

A Geophysical Survey Systems, Inc. (GSSI) SIR-2000 GPR system coupled to a 270-, 400-, or 900-MHz GSSI antenna is used to obtain the radar data for our surveys.

GPR antennas both transmit and receive electromagnetic energy. EM energy is transmitted into the material the antenna passes over. A portion of that energy is reflected back to the antenna and amplified. Reflections are displayed in real-time in a continuous cross section. Reflections are produced where there is a sufficient electrical contrast between two materials. Changes in the electrical properties (namely the dielectric constant) that produce radar reflections include the moisture content, porosity, mineralogy, and texture of the material. Metallic objects of interest exhibit a strong electrical contrast with the surrounding material and thus produce relatively strong reflections. Non-metallic objects of interest (septic tanks, cesspools, dry wells, PVC and clay tile pipes) are not always good reflectors.

Radar data are ambiguous. It can be difficult to distinguish the reflection produced by an object of interest from the reflection caused by some natural feature. Rocks or tree roots have reflections that appear similar to reflections from pipes. In concrete investigations reflections produced by metal rebar look exactly like those from electrical conduit or post-tension cables. Objects with too small an electrical contrast may produce no reflections at all and may be missed. Target objects buried below objects with contrasting properties that also produce reflections may be missed (e.g. USTs below roots, concrete pieces, pipes or rocks). If an object of interest like a UST is buried below the depth of penetration of the radar signal, it will be missed.

In addition to interpreting ambiguous data, radar has several limitations that cannot be controlled by the operator. The radar signal is severely attenuated by electrically conductive material, including wet, clay-rich soil and reinforced concrete. The quality of the data is affected by the surface conditions over which the antenna is pulled. Ideally the antenna should rest firmly on a smooth surface. Rough terrain and tall grass reduce the quality of radar data.

It is the job of an experienced interpreter to examine the GPR profiles and deduce if reflections are from objects of interest. A GPR interpreter cannot see underground, but can only interpret reflections based on experience.

The only way to truly identify an object is to excavate.

Hand-held Metal detectors

Two small, non-recording metal detectors are used to locate suspect magnetic anomalies detected using the G-858 Magnetometer in order to determine the likely cause of the anomaly. First, the magnetic contour map and a Schonstedt Magnetic Gradiometer are used to locate the center of the magnetic anomalies.

Once the anomaly is located an Aqua-Tronics Tracer is used to determine if the object producing the anomaly is a possible object of interest. Most anomalies are at least in part produced by features observed on the ground surface.

Schonstedt Magnetic Gradiometer: This magnetometer has two magnetic sensors separated vertically by 10”. The magnetic field surrounding a ferrous object is strongest near the object and decreases rapidly as the distance increases. If the magnitude measured by the sensor located in the tip of the Schonstedt is very high, and the magnetic field measured by the sensor located farther up the shaft of the Schonstedt is low, there is a large vertical magnetic gradient and the instrument responds with a loud whistle indicating the object is near the surface. If there is a small difference in the magnitudes measured by the two sensors, the object is deeper. The instrument responds with a softer tone. A discussion of this instrument is available at Schonstedt.com.

Aqua-Tronics A-6 Tracer: The Aqua-Tronics A-6 Tracer uses a different method of detecting metallic objects. This instrument measures the electrical conductivity of a metal object. It is capable of detecting any electrically conductive metal, including non-ferrous aluminum and brass. The Tracer is capable of detecting three-dimensional objects as well as pipes.

The Tracer consists of a transmitter coil and a receiver coil. In the absence of any electrically conductive material in the vicinity of the Tracer, the electromagnetic field around each coil is balanced.

Basically the electromagnetic field produced by the transmitter induces an electric current into the area surrounding the instrument. Nearby conductive objects distort the EM field. The balance between the two coils is disturbed and the instrument produces an audible tone and meter indication.

ATTACHMENT B

PHOTOGRAPHIC LOG

PHOTOGRAPHS

Project Name: Former Hegewald Timber Mill
Project Number: 1200.01.02
Approximate Location: 880 Southwest Rock Creek Road
Stevenson, Washington 98648

Photograph 1: Trench feature that crosses the northern part of the large building foundation. Photograph taken facing east.

Photograph 2: Water valve feature in central portion of Property. Photograph taken facing west.

PHOTOGRAPHS

Project Name: Former Hegewald Timber Mill
Project Number: 1200.01.02
Approximate Location: 880 Southwest Rock Creek Road
Stevenson, Washington 98648

Photograph 3: Excavation TP2 along the eastern foundation of the large building. Photograph taken facing south.

Photograph 4: Western sidewall of TP4, showing varied soil lenses in the upper 3 feet. Photograph taken facing northwest.

PHOTOGRAPHS

Project Name: Former Hegewald Timber Mill
Project Number: 1200.01.02
Approximate Location: 880 Southwest Rock Creek Road
Stevenson, Washington 98648

Photograph 5: Excavation of TP6 within the footprint of the southern former wigwam burner. The shelf feature in the photograph is a concrete slab encountered during advancement of the test pit. Photograph taken facing northwest.

Photograph 6: Excavation TP8 adjacent to the northeast corner of the small structure foundation. Photograph taken facing west.

PHOTOGRAPHS

Project Name: Former Hegewald Timber Mill
Project Number: 1200.01.02
Approximate Location: 880 Southwest Rock Creek Road
Stevenson, Washington 98648

Photograph 7: Excavation TP9, which had angular cobble fill from surface to approximately 5 feet below ground surface. Photograph taken facing south.

Photograph 8: Small peninsula, on the eastern boundary of the Property, that extends into Rock Cove. TP10 was advanced to the west of the foundation. Photograph taken facing east.

ATTACHMENT C

LABORATORY ANALYTICAL REPORT

BSK Associates Vancouver
2517 E. Evergreen Blvd.
Vancouver, WA 98661
360-750-0055 (Main)
360-750-0057 (FAX)

V6L0137
1/09/2017
Invoice: V700058

Kyle Roslund
Maul Foster and Alongi, Inc.
400 East Mill Plain Boulevard, Suite 400
Vancouver, WA 98660

RE: Report for V6L0137 Skamania Phase II 1200.01.02

Dear Kyle Roslund,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 12/8/2016. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

If additional clarification of any information is required, please contact your Project Manager, Debra Karlsson , at (360) 750-0055.

Thanks again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

Renea Rangell

Renea Rangell, Laboratory Director - Vancouver

Accredited in Accordance with NELAP
ORELAP #4021

BSK ASSOCIATES

Case Narrative

Project and Report Details		Invoice Details	
Client:	Maul Foster and Alongi, Inc.	**Invoice To:**	Maul Foster and Alongi, Inc.
Report To:	Kyle Roslund	**Invoice Attn:**	Accounting
Project #:	Rock Cove	**Project PO#:**	1200.01.02
Received:	12/08/2016 - 12:43		
Report Due:	12/22/2016		

Sample Receipt Conditions

Cooler: Default Cooler
Temperature on Receipt ºC: 11.6

Containers Intact
COC/Labels Agree
Received with no thermal preservation.
Initial receipt at BSK-VAL

Detailed Narrative

Chain of Custody Notes

Date: 01/06/2016
Initials: RLR
Note: A BSK Temp Blank was placed in each of the four ice chests delivered to the client with sample bottle delivery. Upon sampling, only two of the Temp Blanks were placed in the storage refrigerator with the samples at the client's location. The remaining Temp Blanks were stored ambient with the unused ice chests. Upon receipt at the lab, the technican did not read the temperature of all the Temp Blanks and only recorded the temperature from the ambient Temp Blank.

Analysis Comment

Date: 01/09/2016
Initials: RLR
Comment: Per client, sample TP7-S-0.5 to be analyzed for Dioxins and Furans.

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

None applied

Report Distribution

Recipient(s)	Report Format	CC:
Kyle Roslund	FINAL.RPT	ehess@maulfoster.com
Mary Benzinger	FINAL.RPT	
Merideth D'Andrea	FINAL.RPT	

Certificate of Analysis

Sample ID: V6L0137-01
Sampled By: Emily Hess
Sample Description: TP1-S-2.5

Sample Date - Time: 12/07/16 - 08:10
Matrix: Soil
Sample Type: Grab

BSK Associates Vancouver

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Percent Solids	SM 2540B	**75**	0.10	% by Weight	1	V601501	12/09/16	12/10/16	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Hydrocarbon Identification by NWTPH-HCID									
Diesel Range Organics (C10-24)	NWTPH-HCID	ND	67	mg/kg dry	1	V601500	12/09/16	12/10/16	
Gasoline Range Organics (C6-10)	NWTPH-HCID	ND	27	mg/kg dry	1	V601500	12/09/16	12/10/16	
Motor Oil Range Organics (C24-C40)	NWTPH-HCID	ND	130	mg/kg dry	1	V601500	12/09/16	12/10/16	
Surrogate: Tetracosane	NWTPH-HCID	87 %	*Acceptable range: 50-150 %*						

Certificate of Analysis

Sample ID: V6L0137-04
Sampled By: Emily Hess
Sample Description: TP2-S-2.5

Sample Date - Time: 12/07/16 - 09:10
Matrix: Soil
Sample Type: Grab

BSK Associates Vancouver

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Percent Solids	SM 2540B	**70**	0.10	% by Weight	1	V601501	12/09/16	12/10/16	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Hydrocarbon Identification by NWTPH-HCID									
Diesel Range Organics (C10-24)	NWTPH-HCID	ND	71	mg/kg dry	1	V601500	12/09/16	12/10/16	
Gasoline Range Organics (C6-10)	NWTPH-HCID	ND	28	mg/kg dry	1	V601500	12/09/16	12/10/16	
Motor Oil Range Organics (C24-C40)	NWTPH-HCID	ND	140	mg/kg dry	1	V601500	12/09/16	12/10/16	
Surrogate: Tetracosane	NWTPH-HCID	82 %	*Acceptable range: 50-150 %*						

Certificate of Analysis

Sample ID: V6L0137-06
Sampled By: Emily Hess
Sample Description: TP3-S-2.0

Sample Date - Time: 12/07/16 - 09:40
Matrix: Soil
Sample Type: Grab

BSK Associates Vancouver

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Percent Solids	SM 2540B	**77**	0.10	% by Weight	1	V601501	12/09/16	12/10/16	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Hydrocarbon Identification by NWTPH-HCID									
Diesel Range Organics (C10-24)	NWTPH-HCID	ND	65	mg/kg dry	1	V601500	12/09/16	12/10/16	
Gasoline Range Organics (C6-10)	NWTPH-HCID	ND	26	mg/kg dry	1	V601500	12/09/16	12/10/16	
Motor Oil Range Organics (C24-C40)	NWTPH-HCID	ND	130	mg/kg dry	1	V601500	12/09/16	12/10/16	
Surrogate: Tetracosane	NWTPH-HCID	85 %	*Acceptable range: 50-150 %*						

Certificate of Analysis

Sample ID: V6L0137-07
Sampled By: Emily Hess
Sample Description: TP4-S-7.0

Sample Date - Time: 12/07/16 - 10:10
Matrix: Soil
Sample Type: Grab

BSK Associates Vancouver

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Percent Solids	SM 2540B	**76**	0.10	% by Weight	1	V601501	12/09/16	12/10/16	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Hydrocarbon Identification by NWTPH-HCID									
Diesel Range Organics (C10-24)	NWTPH-HCID	ND	65	mg/kg dry	1	V601500	12/09/16	12/10/16	
Gasoline Range Organics (C6-10)	NWTPH-HCID	ND	26	mg/kg dry	1	V601500	12/09/16	12/10/16	
Motor Oil Range Organics (C24-C40)	NWTPH-HCID	ND	130	mg/kg dry	1	V601500	12/09/16	12/10/16	
Surrogate: Tetracosane	NWTPH-HCID	86 %	*Acceptable range: 50-150 %*						

Certificate of Analysis

Sample ID: V6L0137-08
Sampled By: Emily Hess
Sample Description: TP4-S-2.0

Sample Date - Time: 12/07/16 - 10:20
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	ND	3.0	mg/kg dry	1	A616839	12/14/16	12/14/16	
Cadmium	EPA 6020	ND	1.5	mg/kg dry	1	A616839	12/14/16	12/14/16	
Chromium	EPA 6020	ND	15	mg/kg dry	1	A616839	12/14/16	12/14/16	
Lead	EPA 6020	**12**	7.4	mg/kg dry	1	A616839	12/14/16	12/14/16	
Mercury	EPA 6020A	ND	0.60	mg/kg dry	1	A616839	12/14/16	12/14/16	

BSK Associates Vancouver

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Percent Solids	SM 2540B	**84**	0.10	% by Weight	1	V601501	12/09/16	12/10/16	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Hydrocarbon Identification by NWTPH-HCID									
Diesel Range Organics (C10-24)	NWTPH-HCID	ND	59	mg/kg dry	1	V601500	12/09/16	12/10/16	
Gasoline Range Organics (C6-10)	NWTPH-HCID	ND	24	mg/kg dry	1	V601500	12/09/16	12/10/16	
Motor Oil Range Organics (C24-C40)	NWTPH-HCID	ND	120	mg/kg dry	1	V601500	12/09/16	12/10/16	
Surrogate: Tetracosane	NWTPH-HCID	84 %	*Acceptable range: 50-150 %*						

Certificate of Analysis

Sample ID: V6L0137-10
Sampled By: Emily Hess
Sample Description: TP5-S-2.0

Sample Date - Time: 12/07/16 - 10:55
Matrix: Soil
Sample Type: Grab

BSK Associates Vancouver

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Percent Solids	SM 2540B	**74**	0.10	% by Weight	1	V601501	12/09/16	12/10/16	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Hydrocarbon Identification by NWTPH-HCID									
Diesel Range Organics (C10-24)	NWTPH-HCID	ND	67	mg/kg dry	1	V601500	12/09/16	12/10/16	
Gasoline Range Organics (C6-10)	NWTPH-HCID	ND	27	mg/kg dry	1	V601500	12/09/16	12/10/16	
Motor Oil Range Organics (C24-C40)	NWTPH-HCID	ND	130	mg/kg dry	1	V601500	12/09/16	12/10/16	
Surrogate: Tetracosane	NWTPH-HCID	80 %	*Acceptable range: 50-150 %*						

Certificate of Analysis

Sample ID: V6L0137-12
Sampled By: Emily Hess
Sample Description: TP6-S-2.0

Sample Date - Time: 12/07/16 - 11:30
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	ND	3.1	mg/kg dry	1	A616839	12/14/16	12/14/16	
Cadmium	EPA 6020	ND	1.5	mg/kg dry	1	A616839	12/14/16	12/14/16	
Chromium	EPA 6020	ND	15	mg/kg dry	1	A616839	12/14/16	12/14/16	
Lead	EPA 6020	ND	7.7	mg/kg dry	1	A616839	12/14/16	12/14/16	
Mercury	EPA 6020A	ND	0.62	mg/kg dry	1	A616839	12/14/16	12/14/16	

BSK Associates Vancouver

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Percent Solids	SM 2540B	**81**	0.10	% by Weight	1	V601501	12/09/16	12/10/16	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Hydrocarbon Identification by NWTPH-HCID									
Diesel Range Organics (C10-24)	NWTPH-HCID	ND	62	mg/kg dry	1	V601500	12/09/16	12/10/16	
Gasoline Range Organics (C6-10)	NWTPH-HCID	ND	25	mg/kg dry	1	V601500	12/09/16	12/10/16	
Motor Oil Range Organics (C24-C40)	NWTPH-HCID	ND	120	mg/kg dry	1	V601500	12/09/16	12/10/16	
Surrogate: Tetracosane	NWTPH-HCID	85 %	*Acceptable range: 50-150 %*						

Certificate of Analysis

Sample ID: V6L0137-14
Sampled By: Emily Hess
Sample Description: TP7-S-9.0

Sample Date - Time: 12/07/16 - 11:45
Matrix: Soil
Sample Type: Grab

BSK Associates Vancouver

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Percent Solids	SM 2540B	**80**	0.10	% by Weight	1	V601501	12/09/16	12/10/16	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Hydrocarbon Identification by NWTPH-HCID									
Diesel Range Organics (C10-24)	NWTPH-HCID	ND	62	mg/kg dry	1	V601500	12/09/16	12/10/16	
Gasoline Range Organics (C6-10)	NWTPH-HCID	ND	25	mg/kg dry	1	V601500	12/09/16	12/10/16	
Motor Oil Range Organics (C24-C40)	NWTPH-HCID	ND	120	mg/kg dry	1	V601500	12/09/16	12/10/16	
Surrogate: Tetracosane	NWTPH-HCID	84 %	*Acceptable range: 50-150 %*						

Certificate of Analysis

Sample ID: V6L0137-17
Sampled By: Emily Hess
Sample Description: TP8-S-2.0

Sample Date - Time: 12/07/16 - 12:55
Matrix: Soil
Sample Type: Grab

BSK Associates Vancouver

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Percent Solids	SM 2540B	**81**	0.10	% by Weight	1	V601501	12/09/16	12/10/16	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Hydrocarbon Identification by NWTPH-HCID									
Diesel Range Organics (C10-24)	NWTPH-HCID	ND	62	mg/kg dry	1	V601500	12/09/16	12/10/16	
Gasoline Range Organics (C6-10)	NWTPH-HCID	ND	25	mg/kg dry	1	V601500	12/09/16	12/10/16	
Motor Oil Range Organics (C24-C40)	NWTPH-HCID	ND	120	mg/kg dry	1	V601500	12/09/16	12/10/16	
Surrogate: Tetracosane	NWTPH-HCID	84 %	*Acceptable range: 50-150 %*						

Certificate of Analysis

Sample ID: V6L0137-18
Sampled By: Emily Hess
Sample Description: TP9-S-6.5

Sample Date - Time: 12/07/16 - 13:30
Matrix: Soil
Sample Type: Grab

BSK Associates Vancouver

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Percent Solids	SM 2540B	**78**	0.10	% by Weight	1	V601501	12/09/16	12/10/16	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Hydrocarbon Identification by NWTPH-HCID									
Diesel Range Organics (C10-24)	NWTPH-HCID	ND	64	mg/kg dry	1	V601500	12/09/16	12/10/16	
Gasoline Range Organics (C6-10)	NWTPH-HCID	ND	26	mg/kg dry	1	V601500	12/09/16	12/10/16	
Motor Oil Range Organics (C24-C40)	NWTPH-HCID	ND	130	mg/kg dry	1	V601500	12/09/16	12/10/16	
Surrogate: Tetracosane	NWTPH-HCID	82 %	*Acceptable range: 50-150 %*						

Certificate of Analysis

Sample ID: V6L0137-20
Sampled By: Emily Hess
Sample Description: TP10-S-2.0

Sample Date - Time: 12/07/16 - 14:05
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 6020	**5.5**	3.3	mg/kg dry	1	A616962	12/16/16	12/16/16	
Cadmium	EPA 6020	ND	1.6	mg/kg dry	1	A616962	12/16/16	12/16/16	
Chromium	EPA 6020	**26**	16	mg/kg dry	1	A616962	12/16/16	12/16/16	
Lead	EPA 6020	ND	8.2	mg/kg dry	1	A616962	12/16/16	12/16/16	
Mercury	EPA 6020A	ND	0.66	mg/kg dry	1	A616962	12/16/16	12/16/16	

BSK Associates Vancouver

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Percent Solids	SM 2540B	**76**	0.10	% by Weight	1	V601501	12/09/16	12/10/16	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Hydrocarbon Identification by NWTPH-HCID									
Diesel Range Organics (C10-24)	NWTPH-HCID	ND	66	mg/kg dry	1	V601500	12/09/16	12/10/16	
Gasoline Range Organics (C6-10)	NWTPH-HCID	ND	26	mg/kg dry	1	V601500	12/09/16	12/10/16	
Motor Oil Range Organics (C24-C40)	NWTPH-HCID	ND	130	mg/kg dry	1	V601500	12/09/16	12/10/16	
Surrogate: Tetracosane	NWTPH-HCID	71 %	*Acceptable range: 50-150 %*						

Certificate of Analysis

Sample ID: V6L0137-21
Sampled By: Emily Hess
Sample Description: TP-S-2.0-DUP

Sample Date - Time: 12/07/16 - 14:05
Matrix: Soil
Sample Type: Grab

BSK Associates Vancouver

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Percent Solids	SM 2540B	**74**	0.10	% by Weight	1	V601501	12/09/16	12/10/16	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Hydrocarbon Identification by NWTPH-HCID									
Diesel Range Organics (C10-24)	NWTPH-HCID	ND	68	mg/kg dry	1	V601500	12/09/16	12/10/16	
Gasoline Range Organics (C6-10)	NWTPH-HCID	ND	27	mg/kg dry	1	V601500	12/09/16	12/10/16	
Motor Oil Range Organics (C24-C40)	NWTPH-HCID	ND	140	mg/kg dry	1	V601500	12/09/16	12/10/16	
Surrogate: Tetracosane	NWTPH-HCID	85 %	*Acceptable range: 50-150 %*						

BSK Associates Laboratory Fresno

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 6020 - Quality Control											
Batch: A616839										Prepared: 12/14/2016	
Prep Method: EPA 3050B										Analyst: MAS	
Blank (A616839-BLK1)											
Arsenic	ND	2.5	mg/kg wet							12/14/16	
Cadmium	ND	1.2	mg/kg wet							12/14/16	
Chromium	ND	12	mg/kg wet							12/14/16	
Lead	ND	6.2	mg/kg wet							12/14/16	
Blank Spike (A616839-BS1)											
Arsenic	96	2.5	mg/kg wet	100		96	75-125			12/14/16	
Cadmium	94	1.2	mg/kg wet	100		94	75-125			12/14/16	
Chromium	97	12	mg/kg wet	100		97	75-125			12/14/16	
Lead	92	6.2	mg/kg wet	100		92	75-125			12/14/16	
Blank Spike Dup (A616839-BSD1)											
Arsenic	93	2.5	mg/kg wet	100		93	75-125	3	20	12/14/16	
Cadmium	95	1.2	mg/kg wet	100		95	75-125	0	20	12/14/16	
Chromium	95	12	mg/kg wet	100		95	75-125	2	20	12/14/16	
Lead	90	6.2	mg/kg wet	100		90	75-125	2	20	12/14/16	
Matrix Spike (A616839-MS1), Source: V6L0137-08											
Arsenic	110	3.0	mg/kg dry	120	ND	95	75-125			12/14/16	
Cadmium	110	1.5	mg/kg dry	120	ND	97	75-125			12/14/16	
Chromium	130	15	mg/kg dry	120	ND	98	75-125			12/14/16	
Lead	120	7.4	mg/kg dry	120	12	87	75-125			12/14/16	
Matrix Spike Dup (A616839-MSD1), Source: V6L0137-08											
Arsenic	110	3.0	mg/kg dry	120	ND	95	75-125	0	20	12/14/16	
Cadmium	110	1.5	mg/kg dry	120	ND	93	75-125	3	20	12/14/16	
Chromium	130	15	mg/kg dry	120	ND	99	75-125	1	20	12/14/16	
Lead	110	7.4	mg/kg dry	120	12	83	75-125	4	20	12/14/16	

BSK Associates Laboratory Fresno

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 6020 - Quality Control											
Batch: A616962										Prepared: 12/16/2016	
Prep Method: EPA 3050B										Analyst: MAS	
Blank (A616962-BLK1)											
Arsenic	ND	2.5	mg/kg wet							12/16/16	
Cadmium	ND	1.2	mg/kg wet							12/16/16	
Chromium	ND	12	mg/kg wet							12/16/16	
Lead	ND	6.2	mg/kg wet							12/16/16	
Blank Spike (A616962-BS1)											
Arsenic	84	2.5	mg/kg wet	100		84	75-125			12/16/16	
Cadmium	81	1.2	mg/kg wet	100		81	75-125			12/16/16	
Chromium	86	12	mg/kg wet	100		86	75-125			12/16/16	
Lead	83	6.2	mg/kg wet	100		83	75-125			12/16/16	
Blank Spike Dup (A616962-BSD1)											
Arsenic	90	2.5	mg/kg wet	100		90	75-125	7	20	12/16/16	
Cadmium	89	1.2	mg/kg wet	100		89	75-125	8	20	12/16/16	
Chromium	90	12	mg/kg wet	100		90	75-125	5	20	12/16/16	
Lead	88	6.2	mg/kg wet	100		88	75-125	6	20	12/16/16	
Matrix Spike (A616962-MS1), Source: V6L0137-20											
Arsenic	120	3.3	mg/kg dry	130	5.5	89	75-125			12/16/16	
Cadmium	120	1.6	mg/kg dry	130	ND	91	75-125			12/16/16	
Chromium	150	16	mg/kg dry	130	26	94	75-125			12/16/16	
Lead	120	8.2	mg/kg dry	130	ND	88	75-125			12/16/16	
Matrix Spike Dup (A616962-MSD1), Source: V6L0137-20											
Arsenic	120	3.3	mg/kg dry	130	5.5	91	75-125	2	20	12/16/16	
Cadmium	120	1.6	mg/kg dry	130	ND	90	75-125	1	20	12/16/16	
Chromium	150	16	mg/kg dry	130	26	93	75-125	1	20	12/16/16	
Lead	120	8.2	mg/kg dry	130	ND	86	75-125	2	20	12/16/16	

BSK Associates Laboratory Fresno

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 6020A - Quality Control											
Batch: A616839										Prepared: 12/14/2016	
Prep Method: EPA 3050B										Analyst: MAS	
Blank (A616839-BLK1)											
Mercury	ND	0.50	mg/kg wet							12/14/16	
Blank Spike (A616839-BS1)											
Mercury	2.1	0.50	mg/kg wet	2.5		84	75-125			12/14/16	
Blank Spike Dup (A616839-BSD1)											
Mercury	2.0	0.50	mg/kg wet	2.5		81	75-125	4	20	12/14/16	
Matrix Spike (A616839-MS1), Source: V6L0137-08											
Mercury	2.5	0.60	mg/kg dry	3.0	ND	83	75-125			12/14/16	
Matrix Spike Dup (A616839-MSD1), Source: V6L0137-08											
Mercury	2.6	0.60	mg/kg dry	3.0	ND	86	75-125	4	20	12/14/16	
EPA 6020A - Quality Control											
Batch: A616962										Prepared: 12/16/2016	
Prep Method: EPA 3050B										Analyst: MAS	
Blank (A616962-BLK1)											
Mercury	ND	0.50	mg/kg wet							12/16/16	
Blank Spike (A616962-BS2)											
Mercury	2.3	0.50	mg/kg wet	2.5		92	75-125			12/19/16	
Blank Spike Dup (A616962-BSD2)											
Mercury	2.4	0.50	mg/kg wet	2.5		97	75-125	5	20	12/19/16	
Matrix Spike (A616962-MS1), Source: V6L0137-20											
Mercury	2.7	0.66	mg/kg dry	3.3	ND	82	75-125			12/16/16	
Matrix Spike Dup (A616962-MSD1), Source: V6L0137-20											
Mercury	2.7	0.66	mg/kg dry	3.3	ND	81	75-125	0	20	12/16/16	

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General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 2540B - Quality Control											
Batch: V601501										Prepared: 12/9/2016	
Prep Method: Method Specific Preparation										Analyst: PYA	
Duplicate (V601501-DUP1), Source: V6L0137-01											
Percent Solids	74	0.10	% by Weight		75			1	20	12/10/16	
Duplicate (V601501-DUP2), Source: V6L0137-18											
Percent Solids	76	0.10	% by Weight		78			3	20	12/10/16	

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Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
NWTPH-HCID - Quality Control											
Batch: V601500										Prepared: 12/9/2016	
Prep Method: NWTPH-HCID										Analyst: PYA	
Blank (V601500-BLK1)											
Diesel Range Organics (C10-24)	ND	50	mg/kg wet							12/10/16	
Gasoline Range Organics (C6-10)	ND	20	mg/kg wet							12/10/16	
Motor Oil Range Organics (C24-C40)	ND	100	mg/kg wet							12/10/16	
Surrogate: Tetracosane	*8.4*			*10*		*84*	*50-150*			12/10/16	
Blank Spike (V601500-BS1)											
Diesel Range Organics (C10-24)	DET	50	mg/kg wet	100		99	50-150			12/10/16	
Surrogate: Tetracosane	*8.4*			*10*		*84*	*50-150*			12/10/16	
Duplicate (V601500-DUP1), Source: V6L0137-01											
Diesel Range Organics (C10-24)	ND	67	mg/kg dry		ND				30	12/10/16	
Gasoline Range Organics (C6-10)	ND	27	mg/kg dry		ND					12/10/16	
Motor Oil Range Organics (C24-C40)	ND	130	mg/kg dry		ND				30	12/10/16	
Surrogate: Tetracosane	*11*			*13*		*82*	*50-150*			12/10/16	
Duplicate (V601500-DUP2), Source: V6L0137-18											
Diesel Range Organics (C10-24)	ND	64	mg/kg dry		ND				30	12/10/16	
Gasoline Range Organics (C6-10)	ND	26	mg/kg dry		ND					12/10/16	
Motor Oil Range Organics (C24-C40)	ND	130	mg/kg dry		ND				30	12/10/16	
Surrogate: Tetracosane	*11*			*13*		*83*	*50-150*			12/10/16	

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	Picocuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent Recovered (surrogates)	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP program for the following parameters: **NA**

Percent Solids	Percent Solids

Certifications: **Please refer to our website for a copy of our Accredited Fields of Testing under each certification.**

Fresno			
State of California - ELAP	1180	State of Hawaii	4021
State of Nevada	CA000792016-1	State of Oregon - NELAP	4021
EPA - UCMR3	CA00079	State of Washington	C997-16
Sacramento			
State of California - ELAP	2435		
San Bernardino			
State of California - ELAP	2993	State of Oregon - NELAP	4119-001
Vancouver			
State of Oregon - NELAP	WA100008-008	State of Washington	C824-16

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Page 1 of 3

Turnaround Time Request
[X] Standard - 10 business days
[ ] Rush (Surcharge may apply)
Date needed:

V6L0137 12/08/2016
MFAVA2691 10

*Required Fields

Temp: **11.6C

Company/Client Name*: Maul Foster & Alongi, Inc.	Report Attention*: Kyle Roslund Additional cc's: Emily Hess	Invoice To*: MFA PO#: 1200.01.02	Phone*: Fax*: E-mail*: kroslund@maulfoster.com
Address*: 400 E Mill Plain Blvd St 400	City*: Vancouver	State*: WA	Zip*: 98660
Project: Skamania Co: Rock Cove Ph. 2	Project #: 1200.01.02	Reporting Options: [ ] E-Mail [ ] Fax [ ] Mail [ ] Trace (J-Flag) [ ] Swamp [X] EDD Type: Equis 4	
Sampler Name (Printed/Signature)*: Emily Hess / Emily Hess			

Compliance?: [ ] Yes [ ] No State: [X] WA [ ] OR System/PWS ID: _____ DOH Source/Source ID: _____

Water System Name: _____ County: _____

Sample Composition: [ ] Single Source [ ] **Blended [X] **Composite [ ] Distribution Sample

**List sources in Source ID field

Sample Taken: [ ] Before Treatment [ ] After Treatment [X] No Treatment Group (WA only): [ ] A [ ] B

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description/Location*	Sampled* Date	Sampled* Time	Matrix*	Comments	# of cont.	NWTPH-HCID	MTCA 5 Metals - 6020 Arsenic, Cd, Cr, Pb, Hg	Dioxins - 8290							
1	TP1-S-2.5	12-7-16	8:10	SO	hold for followups	6	X									
2	TP1-S-7.5		8:20			6										
3	TP2-S-7.0		9:00			6										
4	TP2-S-2.5		9:10			6	X									
5	TP3-S-7.0		9:30			6										
6	TP3-S-2.0		9:40			6	X									
7	TP4-S-7.0		10:10			6	X									
8	TP4-S-2.0		10:20			6	X	X								
9	TP5-S-7.0		1045			6										
10	TP5-S-2.0		10:55			6	X									

Receipt Conditions in Vancouver: Temp: Received Via: UPS WALK-IN FED EX Courier: _____

Relinquished by: (Signature and Printed Name) Emily Hess Emily Hess	Company MFA	Date 12-7-16	Time 1730	Received by: (Signature and Printed Name)	Company BSK
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received for Lab by: (Signature and Printed Name)	

12-8-16 1105

12-8-16 1115 BSK

Payment Received at Delivery: Check / Cash Date: Amount: PIA#: Init.

Shipping Method: ONTRAC UPS GSO WALK-IN FED EX Alaskan Airlines Courier: BSK JAS Custody Seal: Y/N

Cooling Method: Wet Blue None – Refrigerated, transported w/o ice pack Chilling Process Begun: Y/N

Payment for services rendered as noted herein are due in full within 30 days from the date invoiced. If not so paid, account balances are deemed delinquent. Delinquent balances are subject to monthly service charges and interest specified in BSK's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are either the Client or an authorized agent to the Client, that the Client agrees to be responsible for payment for the services on this Chain of Custody, and agrees to BSK's terms and conditions for laboratory services unless contractually bound otherwise. BSK's current terms and conditions can be found at www.bskassociates.com/BSKLabTermsConditions.pdf

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Turnaround Time Request
[X] Standard - 10 business days
[ ] Rush (Surcharge may apply)
Date needed:

V6L0137 12/08/2016
MFAVA2691 10

Y

*Required Fields Temp:

Company/Client Name*:	Report Attention*:	Invoice To*:	Phone*:	Fax*:
MFA	Kyle Koslund	MFA		
	Additional cc's: Emily Hess	PO#: 1200.01.02	E-mail*: kroslund@maulfoster.com	

Address*: City*: Vancouver State*: WA Zip*:

Project: Skamania Co: Rock Cove Ph. 2
Project #: 1200. 01. 02
Sampler Name (Printed/Signature)*: Emily Hess / Emily Hess

Reporting Options: [ ] Trace (J-Flag) [X] E-Mail [ ] Swamp [ ] Fax [X] EDD Type: [ ] Mail

Compliance?: [ ] Yes [ ] No State: [X] WA [ ] OR System/PWS ID: _____ DOH Source/Source ID: _____

Water System Name: _____ County: _____

Sample Composition: [ ] Single Source [ ] **Blended [X] **Composite [ ] Distribution Sample
**List sources in Source ID field

Sample Taken: [ ] Before Treatment [ ] After Treatment [X] No Treatment Group (WA only): [ ] A [ ] B

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description/Location*	Sampled* Date	Sampled* Time	Matrix*	Comments	# of cont.	NWTPH-HCID	MTCA 5 Metals - 6020 Arsenic, Cd, Cr, Pb, Hg	Dioxins - 8290						
11	TP6-S-8.0	12.7.16	1120	SO	hold for followups	6									
12	TP6-S-2.0 *	↓	1130	↓	↓	6	X	X							
13	TP7-S-0.5		1135			1			X						
14	TP7-S-9.0 *		1145		hold for followups	6	X								
15	TP7-S-3.0		1155		↓	6									
16	TP8-S-7.0		1245			6									
17	TP8-S-2.0		1255			6	X								
18	TP9-S-6.5 *		1330			6	X								
19	TP10-S-7.0		1355			6									
20	TP10-S-2.0	↓	1405	↓	↓	6	X	X							

Receipt Conditions in Vancouver: Temp: Received Via: UPS WALK-IN FED EX Courier: _____

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Emy Hess / Emily Hess	MFA	12.7.16	1730		
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received for Lab by: (Signature and Printed Name)	

Payment Received at Delivery: Check / Cash Date: Amount: PIA#: Init.

Shipping Method: ONTRAC UPS GSO WALK-IN FED EX Alaskan Airlines Courier: _____ Custody Seal: Y / N

Cooling Method: Wet Blue None Chilling Process Begun: Y / N

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Page 3 of 3

Turnaround Time Request
[X] Standard - 10 business days
[ ] Rush (Surcharge may apply)
Date needed:

V6L0137
MFAVA2691
12/08/2016
10

*Required Fields Temp:

Company/Client Name*:	Report Attention*:	Invoice To*:	Phone*:	Fax*:
MFA	Kyle Roslund Additional cc's: Emily Hess	MFA PO#: 1200.01.02	E-mail*: kroslund@mayfaster.com	

Address*: City*: Vancouver State*: WA Zip*:

Project: Skamania Co: Rock Cove Ph. 2
Project #: 1200.01.02
Sampler Name (Printed/Signature)*: Emily Hess / Emily Hess

Reporting Options: [X] E-Mail [ ] Fax [ ] Mail [ ] Trace (J-Flag) [ ] Swamp [X] EDD Type:

Compliance?: [ ] Yes [ ] No State: [X] WA [ ] OR System/PWS ID: _____ DOH Source/Source ID: _____

Water System Name: _____ County: _____

Sample Composition: [ ] Single Source [ ] **Blended [X] **Composite [ ] Distribution Sample
**List sources in Source ID field

Sample Taken: [ ] Before Treatment [ ] After Treatment [X] No Treatment Group (WA only): [ ] A [ ] B

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description/Location*	Sampled* Date	Sampled* Time	Matrix*	Comments	# of cont.	NWTPH-HCID	MTCA 5 metals-6020 Arsenic, Cd, Cr, Pb, Hg	Dioxins-8290							
21	TP-S-2.0-DUP	12.7.16	1405	SO	hold for followups	6	X									
						X										

Receipt Conditions in Vancouver: Temp: Received Via: UPS WALK-IN FED EX Courier: _____

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Emily Hess Emily Hess	MFA	12.7.16	1730		
				Received for Lab by: (Signature and Printed Name)	

Payment Received at Delivery: Check / Cash Date: Amount: PIA#: Init.

Shipping Method: ONTRAC UPS GSO WALK-IN FED EX Alaskan Airlines Courier: _____ Custody Seal: Y / N

Cooling Method: Wet Blue None Chilling Process Begun: Y / N

BSK Associates VAL-FL-0048-00

Sample Integrity

V6L0137
MFAVA2691
12/08/2016
10

BSK Bottles: Yes No Page 1 of 1

COC Info

Was temperature within range? Chemistry ≤ 6°C Micro < 10°C	Yes (No) NA	Were correct containers received for the tests requested?	NA
If samples were taken today, is there evidence that chilling has begun?	(Yes) No NA	Were there bubbles in the VOA vials? (Volatiles Only)	Yes No (NA)
Did all bottles arrive unbroken and intact?	(Yes) No	Was a sufficient amount of sample received?	(Yes) No
Did all bottle labels agree with COC?	(Yes) No	Do samples have a hold time <72 hours?	Yes No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No (NA)	Was PM notified of discrepancies? PM: By/Time:	Yes No (NA)

Bottles Received

"—" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?	1-12	13	14-21		
Bacti $Na_2S_2O_3$	—	—					
None (P) White Cap	—	—					
Cr6 (P) Lt. Green Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **DW**	Cl, pH > 8	Y N					
Cr6 (P) Pink Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **WW**	pH 9.3-9.7	Y N					
Cr6 (P) Black Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **7199** ***24 HOUR HOLD TIME***	pH 9.0-9.5	Y N					
HNO_3 (P) Red Cap or HCl (P) Purple Cap/Lt. Blue Label	—	—					
H_2SO_4 (P) or (AG) Yellow Cap/Label	pH < 2	Y N					
NaOH (P) Green Cap	Cl, pH >10	Y N					
NaOH + ZnAc (P)	pH > 9	Y N					
Dissolved Oxygen 300ml (g)	—	—					
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—					
HCl (AG) Lt. Blue Label O&G, Diesel	—	—					
Ascorbic, EDTA, KH_2Ct (AG) Pink Label 525	—	—					
Na_2O_3S 250mL (AG) Neon Green Label 515	—	—					
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—					
$Na_2S_2O_3$ (AG) Blue Label 548, THM, 524	—	—					
$Na_2S_2O_3$ (CG) Blue Label 504, 505, 547	—	—					
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH < 3	Y N					
NH_4Cl (AG) Purple Label 552	—	—					
EDA (AG) Brown Label DBPs	—	—					
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—					
Buffer pH 4 (CG)	—	—					
H_3PO_4 (CG) Salmon Label	—	—					
Other: Terra Cotta kit			1		1		
Asbestos 1Liter Plastic w/ Foil	—	—					
Low Level Hg / Metals Double Baggie	—	—					
Bottled Water (12 5)	—	—					
Clear Glass 250mL / (500mL) / 1 Liter	—	—	1 EA	1-125	1 EA		
Soil Tube Brass / Steel / Plastic	—	—					
Tedlar Bag / Plastic Bag	—	—					

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

* 5mL Methanol was not inside vial - samples transferred to new vials containing methanol. RLR 12/8/16

** Temp of storage refrigerator at Client's office was 5.4°C @ time of pick-up by BSK staff. RLR

Labeled by: _____ @ _____

Maxxam
A Bureau Veritas Group Company

Your Project #: V6L0137
Your C.O.C. #: NA

Attention:Debra Richards-Karlsson

BSK Analytical Laboratories
1414 Stanislaus Street
Fresno, CA
USA 93706

Report Date: 2017/01/06
Report #: R4312987
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B6R2388
Received: 2016/12/14, 15:17

Sample Matrix: Soil
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Dioxins/Furans in Soil (8290A) (1)	1	2016/12/19	2016/12/26	BRL SOP-00406	EPA 8290A m
Moisture	1	N/A	2016/12/16	CAM SOP-00445	Carter 2nd ed 51.2 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods. Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Soils are reported on a dry weight basis unless otherwise specified.

Confirmatory runs for 2,3,7,8-TCDF are performed only if the primary result is greater than the RDL.

U = Undetected at the limit of quantitation.
J = Estimated concentration between the EDL & RDL.
B = Blank Contamination.
Q = One or more quality control criteria failed.
E = Analyte concentration exceeds the maximum concentration level.
K = Estimated maximum possible concentration due to ion abundance ratio failure.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Your Project #: V6L0137
Your C.O.C. #: NA

Attention:Debra Richards-Karlsson

BSK Analytical Laboratories
1414 Stanislaus Street
Fresno, CA
USA 93706

Report Date: 2017/01/06
Report #: R4312987
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B6R2388
Received: 2016/12/14, 15:17

Encryption Key

Stephanie Pollen
Project Manager
06 Jan 2017 15:31:56

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: SPollen@maxxam.ca
Phone# (905) 817-5700

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam Job #: B6R2388
Report Date: 2017/01/06

BSK Analytical Laboratories
Client Project #: V6L0137
Sampler Initials: DK

RESULTS OF ANALYSES OF SOIL

Maxxam ID		DQA131			
Sampling Date		2016/12/07 11:35			
COC Number		NA			
	UNITS	**V6L0137-13**	**RDL**	**MDL**	**QC Batch**
Moisture	%	29	1.0	0.50	4795728

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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DIOXINS AND FURANS BY HRMS (SOIL)

Maxxam ID		DQA131							
Sampling Date		2016/12/07 11:35							
COC Number		NA				TOXIC EQUIVALENCY		# of	
	UNITS	V6L0137-13	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDD *	pg/g	0.17 U	0.17	2.0	0.40	1.00	0.170	N/A	4806034
1,2,3,7,8-Penta CDD *	pg/g	0.28 U	0.28	5.0	0.40	1.00	0.280	N/A	4806034
1,2,3,4,7,8-Hexa CDD *	pg/g	0.23 J	0.17	5.0	0.40	0.100	0.0230	N/A	4806034
1,2,3,6,7,8-Hexa CDD *	pg/g	0.49 J	0.16	5.0	0.40	0.100	0.0490	N/A	4806034
1,2,3,7,8,9-Hexa CDD *	pg/g	0.63 J (1)	0.16	5.0	0.40	0.100	0.0630	N/A	4806034
1,2,3,4,6,7,8-Hepta CDD *	pg/g	6.19	0.13	5.0	0.40	0.0100	0.0619	N/A	4806034
Octa CDD *	pg/g	19.8	0.15	10	0.80	0.000300	0.00594	N/A	4806034
Total Tetra CDD *	pg/g	1.39 J	0.17	2.0	0.40	N/A	N/A	3	4806034
Total Penta CDD *	pg/g	0.42 J	0.28	5.0	0.40	N/A	N/A	1	4806034
Total Hexa CDD *	pg/g	3.66 J	0.17	5.0	0.40	N/A	N/A	5	4806034
Total Hepta CDD *	pg/g	11.5	0.13	5.0	0.40	N/A	N/A	2	4806034
2,3,7,8-Tetra CDF **	pg/g	1.06 J	0.17	2.0	0.40	0.100	0.106	N/A	4806034
1,2,3,7,8-Penta CDF **	pg/g	0.27 J	0.18	5.0	0.40	0.0300	0.00810	N/A	4806034
2,3,4,7,8-Penta CDF **	pg/g	0.36 J	0.18	5.0	0.40	0.300	0.108	N/A	4806034
1,2,3,4,7,8-Hexa CDF **	pg/g	0.75 J (1)	0.16	5.0	0.40	0.100	0.0750	N/A	4806034
1,2,3,6,7,8-Hexa CDF **	pg/g	0.29 J	0.16	5.0	0.40	0.100	0.0290	N/A	4806034
2,3,4,6,7,8-Hexa CDF **	pg/g	0.36 J	0.16	5.0	0.40	0.100	0.0360	N/A	4806034
1,2,3,7,8,9-Hexa CDF **	pg/g	0.19 U	0.19	5.0	0.40	0.100	0.0190	N/A	4806034
1,2,3,4,6,7,8-Hepta CDF **	pg/g	1.65 J	0.15	5.0	0.40	0.0100	0.0165	N/A	4806034
1,2,3,4,7,8,9-Hepta CDF **	pg/g	0.19 U	0.19	5.0	0.40	0.0100	0.00190	N/A	4806034
Octa CDF **	pg/g	2.25 J	0.14	10	0.80	0.000300	0.000675	N/A	4806034
Total Tetra CDF **	pg/g	4.12	0.17	2.0	0.40	N/A	N/A	10	4806034
Total Penta CDF **	pg/g	2.78 J	0.18	5.0	0.40	N/A	N/A	6	4806034
Total Hexa CDF **	pg/g	2.90 J	0.16	5.0	0.40	N/A	N/A	6	4806034
Total Hepta CDF **	pg/g	3.24 J	0.17	5.0	0.40	N/A	N/A	2	4806034
TOTAL TOXIC EQUIVALENCY	pg/g	N/A	N/A	N/A	N/A	N/A	1.05	N/A	N/A

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin -like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

(1) EMPC / Merged Peak

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DIOXINS AND FURANS BY HRMS (SOIL)

Maxxam ID		DQA131							
Sampling Date		2016/12/07 11:35							
COC Number		NA				TOXIC EQUIVALENCY		# of	
	UNITS	V6L0137-13	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Surrogate Recovery (%)									
C13-1234678 HeptaCDD *	%	83	N/A	N/A	N/A	N/A	N/A	N/A	4806034
C13-1234678 HeptaCDF **	%	89	N/A	N/A	N/A	N/A	N/A	N/A	4806034
C13-123478 HexaCDF **	%	87	N/A	N/A	N/A	N/A	N/A	N/A	4806034
C13-123678 HexaCDD *	%	85	N/A	N/A	N/A	N/A	N/A	N/A	4806034
C13-12378 PentaCDD *	%	109	N/A	N/A	N/A	N/A	N/A	N/A	4806034
C13-12378 PentaCDF **	%	109	N/A	N/A	N/A	N/A	N/A	N/A	4806034
C13-2378 TetraCDD *	%	108	N/A	N/A	N/A	N/A	N/A	N/A	4806034
C13-2378 TetraCDF **	%	98	N/A	N/A	N/A	N/A	N/A	N/A	4806034
C13-OCDD *	%	76	N/A	N/A	N/A	N/A	N/A	N/A	4806034

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin -like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

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Maxxam Job #: B6R2388
Report Date: 2017/01/06

BSK Analytical Laboratories
Client Project #: V6L0137
Sampler Initials: DK

TEST SUMMARY

Maxxam ID: DQA131
Sample ID: V6L0137-13
Matrix: Soil

Collected: 2016/12/07
Shipped:
Received: 2016/12/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dioxins/Furans in Soil (8290A)	HRMS/MS	4806034	2016/12/19	2016/12/26	Owen Cosby
Moisture	BAL	4795728	N/A	2016/12/16	Prgya Panchal

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Maxxam Job #: B6R2388
Report Date: 2017/01/06

BSK Analytical Laboratories
Client Project #: V6L0137
Sampler Initials: DK

GENERAL COMMENTS

Revised Report (2017/01/06): Furans included as per client request.

Results relate only to the items tested.

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Maxxam Job #: B6R2388
Report Date: 2017/01/06

BSK Analytical Laboratories
Client Project #: V6L0137
Sampler Initials: DK

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
4795728	GYA	RPD - Sample/Sample Dup	Moisture	2016/12/16	2.2		%	20
4806034	OBC	Matrix Spike	2,3,7,8-Tetra CDD	2016/12/25		96	%	80 - 140
			1,2,3,7,8-Penta CDD	2016/12/25		107	%	80 - 140
			1,2,3,4,7,8-Hexa CDD	2016/12/25		98	%	80 - 140
			1,2,3,6,7,8-Hexa CDD	2016/12/25		89	%	80 - 140
			1,2,3,7,8,9-Hexa CDD	2016/12/25		102	%	80 - 140
			1,2,3,4,6,7,8-Hepta CDD	2016/12/25		104	%	80 - 140
			Octa CDD	2016/12/25		104	%	80 - 140
			2,3,7,8-Tetra CDF	2016/12/25		97	%	80 - 140
			1,2,3,7,8-Penta CDF	2016/12/25		97	%	80 - 140
			2,3,4,7,8-Penta CDF	2016/12/25		99	%	80 - 140
			1,2,3,4,7,8-Hexa CDF	2016/12/25		101	%	80 - 140
			1,2,3,6,7,8-Hexa CDF	2016/12/25		98	%	80 - 140
			2,3,4,6,7,8-Hexa CDF	2016/12/25		97	%	80 - 140
			1,2,3,7,8,9-Hexa CDF	2016/12/25		99	%	80 - 140
			1,2,3,4,6,7,8-Hepta CDF	2016/12/25		95	%	80 - 140
			1,2,3,4,7,8,9-Hepta CDF	2016/12/25		95	%	80 - 140
			Octa CDF	2016/12/25		111	%	80 - 140
4806034	OBC	Matrix Spike DUP	2,3,7,8-Tetra CDD	2016/12/25		95	%	80 - 140
			1,2,3,7,8-Penta CDD	2016/12/25		104	%	80 - 140
			1,2,3,4,7,8-Hexa CDD	2016/12/25		98	%	80 - 140
			1,2,3,6,7,8-Hexa CDD	2016/12/25		91	%	80 - 140
			1,2,3,7,8,9-Hexa CDD	2016/12/25		102	%	80 - 140
			1,2,3,4,6,7,8-Hepta CDD	2016/12/25		104	%	80 - 140
			Octa CDD	2016/12/25		102	%	80 - 140
			2,3,7,8-Tetra CDF	2016/12/25		96	%	80 - 140
			1,2,3,7,8-Penta CDF	2016/12/25		97	%	80 - 140
			2,3,4,7,8-Penta CDF	2016/12/25		99	%	80 - 140
			1,2,3,4,7,8-Hexa CDF	2016/12/25		101	%	80 - 140
			1,2,3,6,7,8-Hexa CDF	2016/12/25		101	%	80 - 140
			2,3,4,6,7,8-Hexa CDF	2016/12/25		95	%	80 - 140
			1,2,3,7,8,9-Hexa CDF	2016/12/25		99	%	80 - 140
			1,2,3,4,6,7,8-Hepta CDF	2016/12/25		94	%	80 - 140
			1,2,3,4,7,8,9-Hepta CDF	2016/12/25		96	%	80 - 140
			Octa CDF	2016/12/25		111	%	80 - 140
4806034	OBC	MS/MSD RPD	2,3,7,8-Tetra CDD	2016/12/25	1.0		%	25
			1,2,3,7,8-Penta CDD	2016/12/25	2.8		%	25
			1,2,3,4,7,8-Hexa CDD	2016/12/25	0		%	25
			1,2,3,6,7,8-Hexa CDD	2016/12/25	2.2		%	25
			1,2,3,7,8,9-Hexa CDD	2016/12/25	0		%	25
			1,2,3,4,6,7,8-Hepta CDD	2016/12/25	0		%	25
			Octa CDD	2016/12/25	1.9		%	25
			2,3,7,8-Tetra CDF	2016/12/25	1.0		%	25
			1,2,3,7,8-Penta CDF	2016/12/25	0		%	25
			2,3,4,7,8-Penta CDF	2016/12/25	0		%	25
			1,2,3,4,7,8-Hexa CDF	2016/12/25	0		%	25
			1,2,3,6,7,8-Hexa CDF	2016/12/25	3.0		%	25
			2,3,4,6,7,8-Hexa CDF	2016/12/25	2.1		%	25
			1,2,3,7,8,9-Hexa CDF	2016/12/25	0		%	25
			1,2,3,4,6,7,8-Hepta CDF	2016/12/25	1.1		%	25
			1,2,3,4,7,8,9-Hepta CDF	2016/12/25	1.0		%	25
			Octa CDF	2016/12/25	0		%	25
4806034	OBC	Spiked Blank	C13-1234678 HeptaCDD	2016/12/25		81	%	40 - 135

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			C13-1234678 HeptaCDF	2016/12/25		84	%	40 - 135
			C13-123478 HexaCDF	2016/12/25		83	%	40 - 135
			C13-123678 HexaCDD	2016/12/25		84	%	40 - 135
			C13-12378 PentaCDD	2016/12/25		111	%	40 - 135
			C13-12378 PentaCDF	2016/12/25		105	%	40 - 135
			C13-2378 TetraCDD	2016/12/25		112	%	40 - 135
			C13-2378 TetraCDF	2016/12/25		103	%	40 - 135
			C13-OCDD	2016/12/25		76	%	40 - 135
			2,3,7,8-Tetra CDD	2016/12/25		95	%	80 - 140
			1,2,3,7,8-Penta CDD	2016/12/25		106	%	80 - 140
			1,2,3,4,7,8-Hexa CDD	2016/12/25		99	%	80 - 140
			1,2,3,6,7,8-Hexa CDD	2016/12/25		91	%	80 - 140
			1,2,3,7,8,9-Hexa CDD	2016/12/25		106	%	80 - 140
			1,2,3,4,6,7,8-Hepta CDD	2016/12/25		103	%	80 - 140
			Octa CDD	2016/12/25		106	%	80 - 140
			2,3,7,8-Tetra CDF	2016/12/25		96	%	80 - 140
			1,2,3,7,8-Penta CDF	2016/12/25		98	%	80 - 140
			2,3,4,7,8-Penta CDF	2016/12/25		105	%	80 - 140
			1,2,3,4,7,8-Hexa CDF	2016/12/25		99	%	80 - 140
			1,2,3,6,7,8-Hexa CDF	2016/12/25		99	%	80 - 140
			2,3,4,6,7,8-Hexa CDF	2016/12/25		99	%	80 - 140
			1,2,3,7,8,9-Hexa CDF	2016/12/25		98	%	80 - 140
			1,2,3,4,6,7,8-Hepta CDF	2016/12/25		94	%	80 - 140
			1,2,3,4,7,8,9-Hepta CDF	2016/12/25		94	%	80 - 140
			Octa CDF	2016/12/25		112	%	80 - 140
4806034	OBC	Spiked Blank DUP	C13-1234678 HeptaCDD	2016/12/25		80	%	40 - 135
			C13-1234678 HeptaCDF	2016/12/25		84	%	40 - 135
			C13-123478 HexaCDF	2016/12/25		82	%	40 - 135
			C13-123678 HexaCDD	2016/12/25		83	%	40 - 135
			C13-12378 PentaCDD	2016/12/25		111	%	40 - 135
			C13-12378 PentaCDF	2016/12/25		106	%	40 - 135
			C13-2378 TetraCDD	2016/12/25		112	%	40 - 135
			C13-2378 TetraCDF	2016/12/25		104	%	40 - 135
			C13-OCDD	2016/12/25		75	%	40 - 135
			2,3,7,8-Tetra CDD	2016/12/25		96	%	80 - 140
			1,2,3,7,8-Penta CDD	2016/12/25		104	%	80 - 140
			1,2,3,4,7,8-Hexa CDD	2016/12/25		98	%	80 - 140
			1,2,3,6,7,8-Hexa CDD	2016/12/25		93	%	80 - 140
			1,2,3,7,8,9-Hexa CDD	2016/12/25		106	%	80 - 140
			1,2,3,4,6,7,8-Hepta CDD	2016/12/25		103	%	80 - 140
			Octa CDD	2016/12/25		104	%	80 - 140
			2,3,7,8-Tetra CDF	2016/12/25		95	%	80 - 140
			1,2,3,7,8-Penta CDF	2016/12/25		95	%	80 - 140
			2,3,4,7,8-Penta CDF	2016/12/25		101	%	80 - 140
			1,2,3,4,7,8-Hexa CDF	2016/12/25		98	%	80 - 140
			1,2,3,6,7,8-Hexa CDF	2016/12/25		97	%	80 - 140
			2,3,4,6,7,8-Hexa CDF	2016/12/25		96	%	80 - 140
			1,2,3,7,8,9-Hexa CDF	2016/12/25		99	%	80 - 140
			1,2,3,4,6,7,8-Hepta CDF	2016/12/25		92	%	80 - 140
			1,2,3,4,7,8,9-Hepta CDF	2016/12/25		95	%	80 - 140
			Octa CDF	2016/12/25		112	%	80 - 140
4806034	OBC	RPD	2,3,7,8-Tetra CDD	2016/12/25	1.0		%	25
			1,2,3,7,8-Penta CDD	2016/12/25	1.9		%	25

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			1,2,3,4,7,8-Hexa CDD	2016/12/25	1.0		%	25
			1,2,3,6,7,8-Hexa CDD	2016/12/25	2.2		%	25
			1,2,3,7,8,9-Hexa CDD	2016/12/25	0		%	25
			1,2,3,4,6,7,8-Hepta CDD	2016/12/25	0		%	25
			Octa CDD	2016/12/25	1.9		%	25
			2,3,7,8-Tetra CDF	2016/12/25	1.0		%	25
			1,2,3,7,8-Penta CDF	2016/12/25	3.1		%	25
			2,3,4,7,8-Penta CDF	2016/12/25	3.9		%	25
			1,2,3,4,7,8-Hexa CDF	2016/12/25	1.0		%	25
			1,2,3,6,7,8-Hexa CDF	2016/12/25	2.0		%	25
			2,3,4,6,7,8-Hexa CDF	2016/12/25	3.1		%	25
			1,2,3,7,8,9-Hexa CDF	2016/12/25	1.0		%	25
			1,2,3,4,6,7,8-Hepta CDF	2016/12/25	2.2		%	25
			1,2,3,4,7,8,9-Hepta CDF	2016/12/25	1.1		%	25
			Octa CDF	2016/12/25	0		%	25
4806034	OBC	Method Blank	C13-1234678 HeptaCDD	2016/12/25		80	%	40 - 135
			C13-1234678 HeptaCDF	2016/12/25		82	%	40 - 135
			C13-123478 HexaCDF	2016/12/25		79	%	40 - 135
			C13-123678 HexaCDD	2016/12/25		81	%	40 - 135
			C13-12378 PentaCDD	2016/12/25		108	%	40 - 135
			C13-12378 PentaCDF	2016/12/25		102	%	40 - 135
			C13-2378 TetraCDD	2016/12/25		112	%	40 - 135
			C13-2378 TetraCDF	2016/12/25		101	%	40 - 135
			C13-OCDD	2016/12/25		73	%	40 - 135
			2,3,7,8-Tetra CDD	2016/12/25	0.14 U, EDL=0.14		pg/g	
			1,2,3,7,8-Penta CDD	2016/12/25	0.19 U, EDL=0.19		pg/g	
			1,2,3,4,7,8-Hexa CDD	2016/12/25	0.16 U, EDL=0.16		pg/g	
			1,2,3,6,7,8-Hexa CDD	2016/12/25	0.16 U, EDL=0.16		pg/g	
			1,2,3,7,8,9-Hexa CDD	2016/12/25	0.16 U, EDL=0.16		pg/g	
			1,2,3,4,6,7,8-Hepta CDD	2016/12/25	0.20 J, EDL=0.15		pg/g	
			Octa CDD	2016/12/25	0.66 U, EDL=0.66 (1)		pg/g	
			Total Tetra CDD	2016/12/25	0.14 U, EDL=0.14		pg/g	
			Total Penta CDD	2016/12/25	0.19 U, EDL=0.19		pg/g	
			Total Hexa CDD	2016/12/25	0.16 U, EDL=0.16		pg/g	
			Total Hepta CDD	2016/12/25	0.20 J, EDL=0.15		pg/g	
			2,3,7,8-Tetra CDF	2016/12/25	0.15 U, EDL=0.15		pg/g	
			1,2,3,7,8-Penta CDF	2016/12/25	0.17 U, EDL=0.17		pg/g	
			2,3,4,7,8-Penta CDF	2016/12/25	0.17 U, EDL=0.17		pg/g	

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			1,2,3,4,7,8-Hexa CDF	2016/12/25	0.16 U, EDL=0.16		pg/g	
			1,2,3,6,7,8-Hexa CDF	2016/12/25	0.16 U, EDL=0.16		pg/g	
			2,3,4,6,7,8-Hexa CDF	2016/12/25	0.16 U, EDL=0.16		pg/g	
			1,2,3,7,8,9-Hexa CDF	2016/12/25	0.18 U, EDL=0.18		pg/g	
			1,2,3,4,6,7,8-Hepta CDF	2016/12/25	0.12 U, EDL=0.12		pg/g	
			1,2,3,4,7,8,9-Hepta CDF	2016/12/25	0.15 U, EDL=0.15		pg/g	
			Octa CDF	2016/12/25	0.17 U, EDL=0.17		pg/g	
			Total Tetra CDF	2016/12/25	0.15 U, EDL=0.15		pg/g	
			Total Penta CDF	2016/12/25	0.17 U, EDL=0.17		pg/g	
			Total Hexa CDF	2016/12/25	0.16 U, EDL=0.16		pg/g	
			Total Hepta CDF	2016/12/25	0.13 U, EDL=0.13		pg/g	
4806034	OBC	RPD - Sample/Sample Dup	2,3,7,8-Tetra CDD	2016/12/25	NC		%	25
			1,2,3,7,8-Penta CDD	2016/12/25	NC		%	25
			1,2,3,4,7,8-Hexa CDD	2016/12/25	NC		%	25
			1,2,3,6,7,8-Hexa CDD	2016/12/25	NC		%	25
			1,2,3,7,8,9-Hexa CDD	2016/12/25	NC		%	25
			1,2,3,4,6,7,8-Hepta CDD	2016/12/25	NC		%	25
			Octa CDD	2016/12/25	NC		%	25
			Total Tetra CDD	2016/12/25	NC		%	25
			Total Penta CDD	2016/12/25	NC		%	25
			Total Hexa CDD	2016/12/25	NC		%	25
			Total Hepta CDD	2016/12/25	NC		%	25
			2,3,7,8-Tetra CDF	2016/12/25	NC		%	25
			1,2,3,7,8-Penta CDF	2016/12/25	NC		%	25
			2,3,4,7,8-Penta CDF	2016/12/25	NC		%	25
			1,2,3,4,7,8-Hexa CDF	2016/12/25	NC		%	25
			1,2,3,6,7,8-Hexa CDF	2016/12/25	NC		%	25
			2,3,4,6,7,8-Hexa CDF	2016/12/25	NC		%	25
			1,2,3,7,8,9-Hexa CDF	2016/12/25	NC		%	25
			1,2,3,4,6,7,8-Hepta CDF	2016/12/25	NC		%	25
			1,2,3,4,7,8,9-Hepta CDF	2016/12/25	NC		%	25
			Octa CDF	2016/12/25	NC		%	25
			Total Tetra CDF	2016/12/25	NC		%	25
			Total Penta CDF	2016/12/25	NC		%	25
			Total Hexa CDF	2016/12/25	NC		%	25

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-57

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Total Hepta CDF	2016/12/25	NC		%	25

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

(1) EMPC / NDR - Peak detected does not meet ratio criteria and has resulted in an elevated detection limit.

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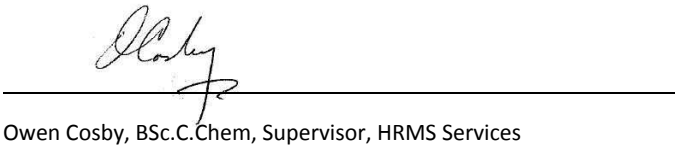
Maxxam Job #: B6R2388
Report Date: 2017/01/06

BSK Analytical Laboratories
Client Project #: V6L0137
Sampler Initials: DK

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Brad Newman, Scientific Specialist



Owen Cosby, BSc.C.Chem, Supervisor, HRMS Services

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

BSK Analytical Laboratories
Engineers & Laboratories

SUBCONTRACT ORDER

V6L0137

SENDING LABORATORY:

BSK Associates Vancouver
2517 E. Evergreen Blvd.
Vancouver, WA 98661
Phone: 360-750-0055
Fax: 360-750-0057
Project Manager: Debra Karlsson
E-mail: dkarlsson@bskassociates.com

RECEIVING LABORATORY:

Maxxam Analytics
PO Box 57437, Station A
Toronto, ON M5W5M5
Phone :(905) 817-5784
Fax: -
Turnaround (Days): Standard
QC Deliverables: I Std III IV

Sample ID	Samp Desc	Comments	Sample Date
V6L0137-13	TP7-S-0.5		12/07/2016 11:35
Matrix:	Solid		
	Analysis:		
	EXT-EPA 8290 Dioxins, ~~Furans~~	Dioxin only	

14-Dec-16 15:17
Melissa DiGrazia
B6R2388
KP7 env-1305

International Solid Sample
Heat Treat Required
High Risk material
Controlled Storage and Disposal

Released By | Date | Received By | Date

Released By | Date | Received By | Date

Page 1 of 1

ATTACHMENT D

DATA VALIDATION MEMORANDUM

DATA QUALITY ASSURANCE/QUALITY CONTROL REVIEW

PROJECT NO. 1200.01.02 | JANUARY 16, 2017 | SKAMANIA COUNTY

Maul Foster & Alongi, Inc. (MFA) conducted an independent review of the quality of analytical results for soil samples collected at the former Hegewald Timber Mill in Stevenson, Washington. The samples were collected on December 7, 2016.

BSK Associates—Vancouver Analytical Lab dba AddyLab (BSK) and Maxxam Analytics International Corporation (Maxxam) performed the analyses. BSK report number V6L0137 and Maxxam report number B6R2388, which is appended to the BSK report, were reviewed. The analyses performed and samples analyzed are listed below. Some analyses may not have been performed on every sample. Samples that were not analyzed are indicated with "(hold)" below.

Analysis	Reference
Dioxins/Furans	USEPA 8290B
HCID	NWTPH-HCID
Percent solids	SM 2540B
Mercury	USEPA 6020A
Metals	USEPA 6020

HCID = Hydrocarbon Identification.
NWTPH = Northwest Total Petroleum Hydrocarbons.
SM = Standard Methods for the Examination of Water and Wastewater.
USEPA = U.S. Environmental Protection Agency.

Samples		
Report V6L0137/B6R2388		
TP1-S-2.5	TP4-S-2.0	TP7-S-3.0 (hold)
TP1-S-7.5 (hold)	TP5-S-7.0 (hold)	TP8-S-7.0 (hold)
TP2-S-7.0 (hold)	TP5-S-2.0	TP8-S-2.0
TP2-S-2.5	TP6-S-8.0 (hold)	TP9-S-6.5
TP3-S-7.0 (hold)	TP6-S-2.0	TP10-S-7.0 (hold)
TP3-S-2.0	TP7-S-0.5	TP10-S-2.0
TP4-S-7.0	TP7-S-9.0	TP-S-2.0-DUP

DATA QUALIFICATIONS

Analytical results were evaluated according to applicable sections of USEPA procedures (USEPA, 2014, 2016a,b,c) and appropriate laboratory and method-specific guidelines (BSK, 2015; Maxxam, 2015; USEPA, 1986).

Positive identification of 2,3,7,8- tetrachlorodibenzofuran (TCDF) cannot be achieved using typical USEPA Method 8290B columns; therefore, any detections above the method reporting

limit (MRL) are confirmed and quantified using a second column. The 2,3,7,8-TCDF result was below the MRL; thus, confirmation was not required.

USEPA Method 8290B detected results that were reported as an estimated maximum potential concentration (EMPC) were assigned a "U" qualifier (non-detect) at the reported EMPC value.

Report	Sample	Component	Original Result (pg/g)	Qualified Result (pg/g)
V6L0137/B6R2388	TP7-S-0.5	1,2,3,7,8,9-HxCDD	0.63 J	0.63 U
		1,2,3,4,7,8-HxCDF	0.75 J	0.75 U

HxCDD = hexachlorodibenzo-p-dioxin.
HxCDF = hexachlorodibenzo-p-furan.
J = Result is an estimated value.
pg/g = picograms per gram.
U = Result is non-detect.

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

Sample were received by BSK at 11.6 degrees Celsius (°C), which is above the upper recommended storage temperature limit of 6°C. It was determined that the temperature blank that was measured had been stored in ambient conditions. Two additional temperature blanks had been correctly refrigerated along with the samples, but were not measured by BSK. The reviewer confirmed that the samples were stored overnight in a refrigerator prior to transport to the laboratory by a BSK courier, and that the refrigerator temperature was recorded as 5.4°C at the time of pickup; thus, no results were qualified.

BSK noted that samples were transported to the laboratory in coolers without ice; however, the transport time of ten minutes was not long enough to allow a significant increase in temperature. No action was required.

BSK noted on the sample integrity form that samples TP6-S-2.0, TP7-S-9.0, and TP9-S-6.5 were not preserved with methanol and that the samples were transferred to new containers with methanol. The reviewer confirmed that the methanol-preserved containers were not used for any of the analyses; thus, no action was required.

The remaining 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.

In Maxxam report B6R2388, the USEPA Method 8290B method blank had some detections between the MRL and the estimated detection limit (EDL) for 1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin (HpCDD) (0.20 pg/g), and total HpCDD (0.20 pg/g). The associated sample results were significantly above the MRL; thus, no results were qualified by the reviewer.

All remaining laboratory method blanks were non-detect.

Trip Blanks

Trip blanks were not submitted for this sampling event, as volatile organic compounds were not analyzed.

Equipment Rinsate Blanks

Equipment rinsate blanks were not submitted for this sampling event.

SURROGATE RECOVERY RESULTS

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

LABELED ANALOG RECOVERY RESULTS

USEPA Method 8290B samples were spiked with carbon-13 (C13) labeled standards to quantify the relative response of analytes in each sample. All C13 labeled analog standard recoveries were within acceptance limits.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS

Matrix spike/matrix spike duplicate (MS/MSD) results are used to evaluate laboratory precision and accuracy. All MS/MSD samples were extracted and analyzed at the required frequency. All MS/MSD results were within acceptance limits for percent recovery and relative percent differences (RPDs).

LABORATORY DUPLICATE RESULTS

Duplicate results are used to evaluate laboratory precision. All duplicate samples were extracted and analyzed at the required frequency. All laboratory duplicate RPDs were within acceptance limits.

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RESULTS

A laboratory control sample/laboratory control sample duplicate (LCS/LCSD) is spiked with target analytes to provide information on laboratory precision and accuracy. The LCS/LCSD samples were extracted and analyzed at the required frequency. All LCS/LCSD analytes were within acceptance limits for percent recovery and RPD.

FIELD DUPLICATE RESULTS

Field duplicate samples measure both field and laboratory precision. One field duplicate was submitted for analysis (TP10-S-2.0/TP-S-2.0-DUP). MFA uses acceptance criteria of 100 percent RPD for results that are less than five times the MRL, or 50 percent RPD for results that are greater than five times the MRL. Non-detect data are not used in the evaluation of field duplicate results. All analytes were within the acceptance criteria.

REPORTING LIMITS

BSK used routine reporting limits for non-detect results. Maxxam reported percent moisture results to method detection limits and USEPA Method 8290B results to EDLs. Results reported between the EDL and MRL were flagged by the laboratory with "J" as estimated.

DATA PACKAGE

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

REFERENCES

BSK. 2015. Quality assurance manual. BSK Associates, Vancouver Analytical Lab dba AddyLab, Vancouver, Washington.

Maxxam. 2015. Quality manual. Maxxam Analytics International Corporation, Mississauga, Ontario, Canada.

USEPA. 1986. Test methods for evaluating solid waste: physical/chemical methods. EPA-530/SW-846. Update V. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response. September (revision 1, July 2014).

USEPA. 2014. R10 data validation and review guidelines for polychlorinated dibenzo-p-dioxin and polychlorinated dibenzofuran data (PCDD/PCDF) using Method 1613B and SW846 Method 8290A. EPA-910-R-14-003. U.S. Environmental Protection Agency, Office of Environmental Assessment. May.

USEPA. 2016a. USEPA contract laboratory program, national functional guidelines for high resolution superfund methods data review. EPA 542-B-16-001. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation. April.

USEPA. 2016b. USEPA contract laboratory program, national functional guidelines for inorganic Superfund methods data review. EPA 540-R-2016-001. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation. August.

USEPA. 2016c. USEPA contract laboratory program, national functional guidelines for Superfund organic methods data review. EPA 540-R-2016-002. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation. August.

Ecological Land Services

June 16, 2020

Zachary Pyle, PE
FDM Development, Inc.
zpyle@fdmdevelopment.com
(210) 849-5592

Re: Critical areas report and conceptual mitigation plan for the Rock Creek Cove Hospitality proposal

Zach,

Ecological Land Services (ELS) has prepared the following critical areas report and conceptual mitigation plan for FDM Development (the applicant) as a component of the proposed mixed-use hospitality development adjacent to Rock Creek Cove on parcels 02070100130300, 02070100130400, and 02070100130200 (study area) in the City of Stevenson, Skamania County, Washington. The study area is in the SW ¼ of the NW ¼ of Section 1, Township 2 N, and Range 7 East of the Willamette Meridian, coordinates 45.6890, -121.8992, and is accessed from SW Rock Cove Dr (Figure 1). The study area's zoning is "Commercial" (C1). This report provides a description of existing critical areas on the proposed development site, a summary of proposed impacts from development, and a conceptual compensatory mitigation plan for unavoidable impacts.

ELS and Washington State Dept of Ecology (Ecology) completed fieldwork on December 30, 2019 to assess critical areas and fish and wildlife habitat in the study area. Together we concluded wetlands were not present but that all areas surrounding the study area are subject to fluctuations in water level in the Columbia River. We physically demarcated the ordinary high water mark (OHWM) of the Columbia River using consecutively numbered fluorescent tape flagging. S&F Land Services, a professional surveyor, recorded the flag locations on the same day. The findings from December 30, 2019 are presented here in accordance with Stevenson Municipal Code (SMC), Title 18 "Environmental Protection", Chapters 18.08 "Shoreline Management" and 18.13 "Critical Areas and Natural Resource Lands", and Stevenson's 2018 Shoreline Master Programs (SMP).

Proposal description:
The applicant is proposing a mixed-use hospitality development adjacent to Rock Creek Cove on the former Hegewald Lumber Mill Site in Stevenson, WA. The project seeks to complement the existing tourism industry in Stevenson by offering condo- and studio-sized units available for nightly and weekly rental, totaling 48 available bedrooms. A 15,000 square-foot commercial venue space will anchor the development and provide wide views of Rock Creek Cove and the Columbia River Gorge. The conceptual space planning of the commercial building consists of 5,000 open venue space, supported by 10,000 square feet of service, food preparation, and guest lounging area. The development seeks to attract both local and regional visitors, with venue space available for weddings, company parties, family reunions, and corporate retreats.

The project is proposed in three phases of development: Phase 1 includes condo-style units, operated by a single ownership group. Phase 2 will add the commercial venue space and restore water-side portions of the property for enhanced, publicly-accessible observation and enjoyment. Phase 3 completes the development with the studio-sized units, operated under the same ownership group as the remainder of the property.

Site Description

The study area consists of three parcels that form a peninsula in Rock Cove.[1] An unnamed tributary enters Rock Cove north of the study area (Figure 3). An open connection between Rock Cove and the Columbia River is present near its confluence with Rock Creek, southeast of the study area. The study area is currently undeveloped (there are no buildings) but it retains improvements from prior industrial land uses from the timber industry. These improvements include concrete and gravel surfaces, gravel roads accessing various points within the study area, a graveled boat launch, and armored embankments that span the majority of shoreline. A line of derelict wooden pilings is located just offshore southeast.

Methods

Stream Assessment:

ELS uses guidance provided by Ecology[2] and the U.S. Environmental Protection Agency[3] (EPA) to inform decisions about the location of an ordinary high water mark (OHWM) and to make determinations about stream characteristics, including habitat functions and flow dynamics. The Shoreline Management Act (SMA) of Washington State defines OHWM as a mark "…found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland…" (RCW 90.58.030(2)). ELS and Ecology used principles in this guidance and site-specific indicators to identify the OWHM of the Columbia River within the study area boundary. Site specific indicators included transitions in vegetation, wrack lines, scouring under trees and exposed roots, and breaks in topography.

Wetland Assessment:

ELS follows the Routine Determination Method developed by the U.S. Army Corps of Engineers (Corps) for wetland delineation.[4] The Routine Determination Method examines vegetation, soils, and hydrology to determine if wetland is present. EPA defines wetlands as "…areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."

[1] Rock Cove is a man-made side channel of the Columbia River formed by the berm for Lewis and Clark Hwy (WA 14) and an adjacent railroad.

[2] Publication No. 16-06-029: "Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State", revised October 2016.

[3] Publication No. 910-K-14-001: "Streamflow Duration Assessment Method for the Pacific Northwest", November 2015.

[4] "Corps of Engineers Wetlands Delineation Manual", Wetlands Research Program Technical Report Y-87-1 (Environmental Laboratory 1987) and the "Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region (Version 2.0)" (U.S. Army Corps of Engineers, May 2010)

Soil Assessment:
ELS uses the Natural Resource Conservation Service (NRCS) map unit descriptions to gather baseline soil data. NRCS identifies soils in the study area as Arents 0 to 5 percent slopes. Arents is described by NRCS as a well-drained, terraced soil with more than 80 inches depth to the groundwater table. A typical profile includes gravelly sandy loam from 0 to 24 inches and extremely gravelly sandy loam between 24 and 60 inches. Arents do not have diagnostic horizons because they have been deeply mixed by plowing, spading, or other methods of moving by humans (NRCS 2020).

Critical areas findings
ELS and Ecology identified one unnamed tributary to the Columbia River north of the study area (Figures 2 and 3). The tributary is identified as a Type F (fish-bearing) water by Washington Department of Natural Resources (DNR) (Figure 4). Rock Cove, a side channel of the Columbia River, surrounds the study area on three sides. The Columbia River is designated Type S and is a shoreline of statewide significance. One Oregon white oak (*Quercus garryana*) is rooted above the OHWM at the northeast end of the study area. It is considered a Priority Habitat by Washington State Dept of Fish and Wildlife (DFW) and is recommended for protection. SMC provides guidance for Oregon white oak protection in Table 18.13.095-2 *Mitigation for Vegetation Removal within Riparian Habitat Areas*. No other priority habitats or critical areas[5] were identified in the study area.

According to SMC 18.13.095(D), the area designated as a fish and wildlife habitat conservation area (FWHCA) for Type F waters is 100 feet and Type S waters is 150 feet.[6] FWHCAs in the study area are partially to significantly degraded, as buffer degradation is defined in SMC 18.13.010(B)(15); meaning, areas of the FWHCA are dominated by more than 30 percent aerial coverage of invasive vegetation (primarily Himalayan blackberry (*Rubus armeniacus*)) and/or by fill, gravel, debris, asphalt, and other non-native material. Existing vegetation consists of deciduous and evergreen trees spaced along the north, east, and southwest shoreline with woody shrubs and herbaceous species established in some locations, particularly in the northwest and southeast portions of shoreline near SW Rock Creek Dr. (Figure 2). Elsewhere, shrubs and herbaceous vegetation are sparse or absent due to existing impervious surfaces, armored embankments, and other disturbances from industrial activities.

FWCA regulation
In most places the transition from top-of-bank to the OHWM is relatively steep. Erosion control in the steeper portions of the shoreline has been historically achieved with riprap-like armoring. Approximately 65 percent of the shoreline is armored with material that consists of loose stones, gravel, fragments of concrete, and large pieces of metal (i.e. rebar, logging cable, and non-specific steel remnants). Derelict in-water pilings are located along the southeast shoreline of the study area and formerly supported timber industry infrastructure.

SMC 18.13.095(D)(3) identifies functionally isolated buffer as lawns, pre-existing roads and structures, vertical separation, and other areas that do not protect the FWHCA from adverse impacts. Shoreline

[5] "Critical areas" are aquifer recharge areas, fish and wildlife habitat conservation areas, frequently flooded areas, geologically hazardous areas, and wetlands as defined in RCW 36.70.A and designated by SMC 18.13.
[6] Table 18.13.095-1 - Fish & Wildlife Habitat Conservation Area Protective Buffer Widths

armoring meets the description of a preexisting structure that that does afford protection from adverse impacts. It lacks pervious surfacing for detaining and/or filtering sediment loads in surface runoff, an established and diverse native vegetation community able to provide forage, screening, refuge, or denning opportunities for wildlife species, and over-water shading for near-shore aquatic wildlife in the Columbia River. Accordingly, those portions of the study area that contain armoring satisfy the buffer exemption criteria per SMC 18.13.095(B)(3) (Figure 2).

Additional SMP requirements

The standard shoreline management area (or shoreline setback) for all designated shorelines in Washington State is 200 feet, measured landward from the OHWM. The study area is zoned "active waterfront"; according to the 2018 SMP, development setbacks in active waterfront is typically 50 feet.[7] Regarding the use of existing concrete, asphalt, and gravel surfaces for new development, a shoreline use lawfully constructed but does not conform to the current SMP standards is considered a nonconforming use. For the purposes of the December 2018 SMP, existing roads in the study area are considered nonconforming uses and do not need a Shoreline Conditional Use Permit to be retained or improved (SMP 2018).

Impacts and mitigation

The applicant's proposal follows the standard mitigation sequencing protocol of avoidance, minimization, and compensation for unavoidable impacts to critical areas. Critical areas associated with the proposal include the FWHCA for the unnamed tributary and the Columbia River, and one Oregon white oak tree. Phases 1 and 3 completely avoid FWHCA impacts and the oak tree will not be disturbed by development; however, Phase 2 of the development impacts approximately 0.12-acre of the Columbia River's FWHCA in an area where it is not functionally isolated by armoring (Figure 3). The proposed impact area is partially degraded by remnant debris that appears to consist of almost entirely of sawdust stockpiling.

Mitigation for buffer impacts is proposed as a combination of reduction and enhancement in accordance with SMC 18.13.095(D)(5). After reduction at the proposed impact site, all remaining buffer in the study area will be enhanced by removing non-native Himalayan blackberry (which currently has a dominant presence in shoreline vegetation) and installing native shrubs and herbaceous plants. A conservation covenant will be established for the entire enhancement area. Most buffer enhancement actions will take place in areas that are not functionally isolated by armoring to maximize functional and relevant habitat improvements. These portions of the FWHCAs total approximately 1.03 acres in the study area and achieve an enhancement ratio of approximately 8:1 for the impacts' mitigation (Figure 3). The applicant is also proposing to enhance portions of the 50-foot shoreline setback in the same manner (blackberry removal and native plant installation) to improve overall habitat function and ecological health in the study area. These proposed enhancement actions are anticipated to increase, diversify, and improve critical area functions above and beyond those provided by existing buffer conditions.

[7] Tables identifying setback distances per development type are attached to this letter for reference.

Accuracy and limitations

ELS bases this report's determinations on standard scientific methodology and best professional judgment. The information contained in this report should be considered preliminary and used at your own risk until it has been approved in writing by the City of Stevenson and any additional agency as determined necessary by the city. ELS is not responsible for the impacts of any changes in environmental standards, practices, or regulations after the date of this report.

Thank you for the opportunity to provide this information. If you have any questions, please contact me by phone (360) 578-1371 or email andrew@eco-land.com.

Sincerely,

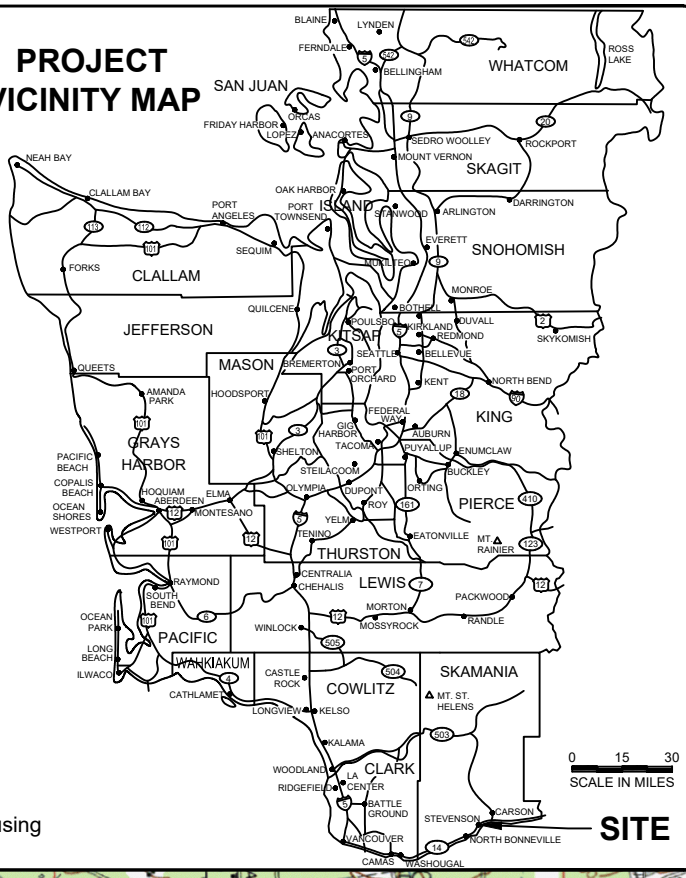
Andrew R. Allison
Wetland Scientist

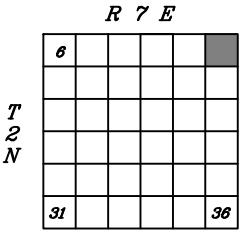
Attachments:
Figures
Photoplates
Engineered site plan

Latitude: 45.6886°
Longitude: -121.8981°

LOCATION MAP

PROJECT VICINITY MAP





NOTE:
USGS topographic quadrangle map reproduced using MAPTECH Inc., Terrain Navigator Pro software.

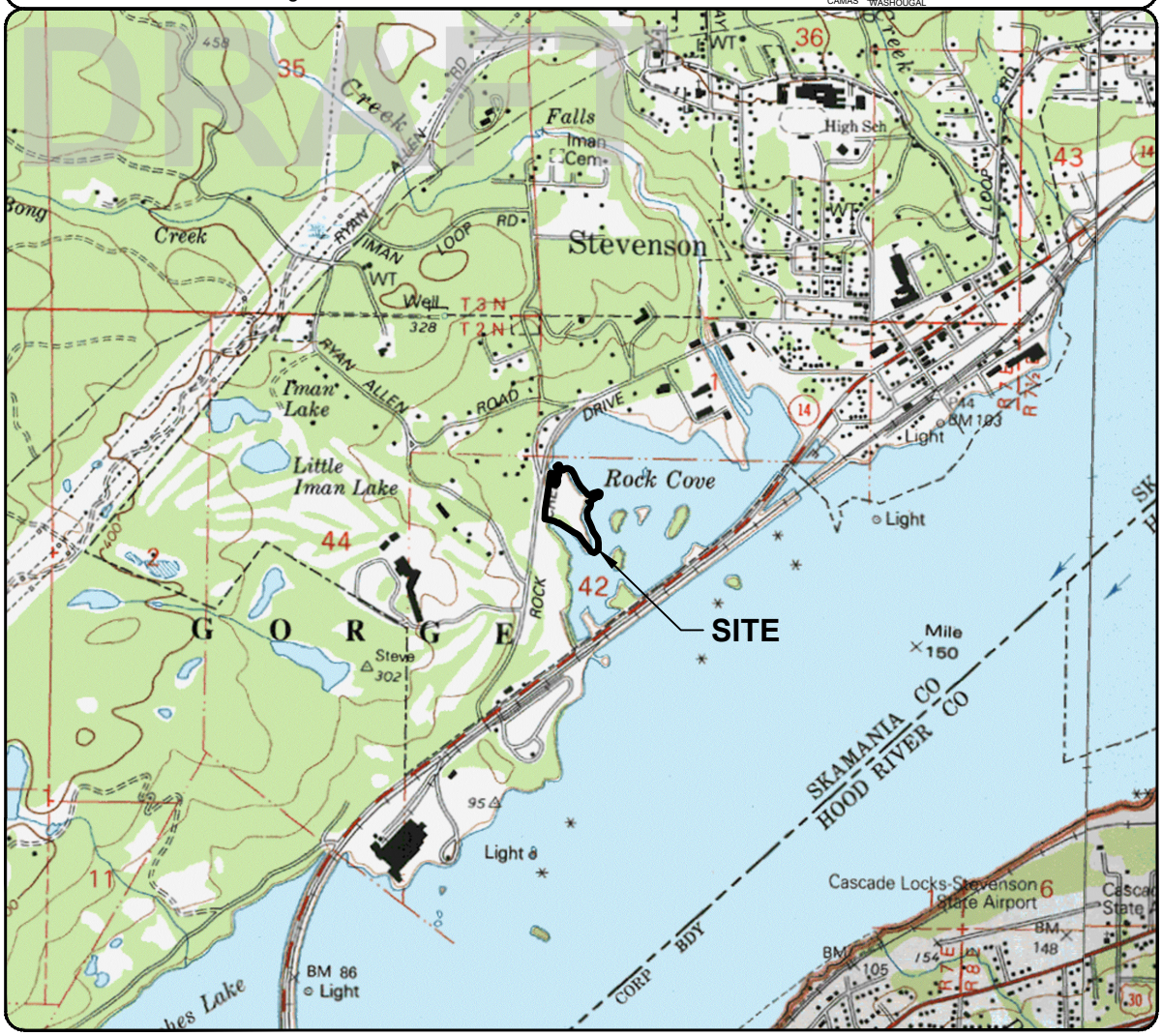


Figure 1
VICINITY MAP
Rock Cove CAR
FDM Development
City of Stevenson, Skamania County, Washington
Section 1, Township 2N, Range 7E, W.M.

DATE: 6/11/20
DWN: EF
REQ. BY: AA
PRJ. MGR: AA
CHK: AA
PROJECT NO: 2682.02

1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371
Fax: (360) 414-9305
www.eco-land.com
Ecological Land Services

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SCALE IN FEET

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Unnamed Tributary
(Type F)

100'

Rock Cove Drive

Rock Cove
(Type S)

50'

Maintained
Vegetation
Area

Maintained
Vegetation
Area

Rock Cove
(Type S)

LEGEND:

- Site Boundary
- OHWM
- Stream with Flow Direction
- FWHCA Buffer for Type F
- Functionally Isolated FWHCA Buffer for Type S
- Shoreline Management Plan Setback
- Culvert
- Oak Tree Location
- Existing Graveled or Concrete Surfacing
- Existing Rip Rap

NOTE(S):

1. Aerial from Google Earth™.
2. OHWM line was determined through a joint effort by Ecological Land Services and Washington Department of Ecology on December 30, 2019. OHWM flags were professionally surveyed by S&F Land Services December 30-31, 2019.

N W E S

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SCALE IN FEET

Ecological Land Services
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Longview, WA 98632
Phone: (360) 578-1371
Fax: (360) 414-9305
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DATE: 6/11/20
DWN: EF
REQ. BY: AA
PRJ. MGR: AA
CHK: AA
PROJECT NO: 2682.02

Figure 2
EXISTING CONDITIONS SITE MAP
Rock Cove CAR
FDM Development
City of Stevenson, Skamania County, Washington
Section 1, Township 2N, Range 7E, W.M.

LEGEND:

- Site Boundary
- OHWM
- Stream with Flow Direction
- FWHCA Buffer for Type F
- Functionally Isolated FWHCA Buffer for Type S
- Reduced FWHCA Buffer For Type S (105')
- Shoreline Management Plan Setback
- Culvert
- Oak Tree Location
- Proposed Graveled Surfacing
- Proposed Storm Line
- Proposed Storm Outfall
- Proposed Impacts (0.12 ac.)
- Buffer Enhancement Area (1.03 ac.) (1:8.6 Impact to Enhancement Area Ratio)
- Associated Habitat Improvement (1.43 ac.)

NOTE(S):

1. Aerial from Google Earth™.
2. OHWM line was determined through a joint effort by Ecological Land Services and Washington Department of Ecology on December 30, 2019. OHWM flags were professionally surveyed by S&F Land Services December 30-31, 2019. .
3. Site Plan provided by FDM Development, Inc.

N W E S

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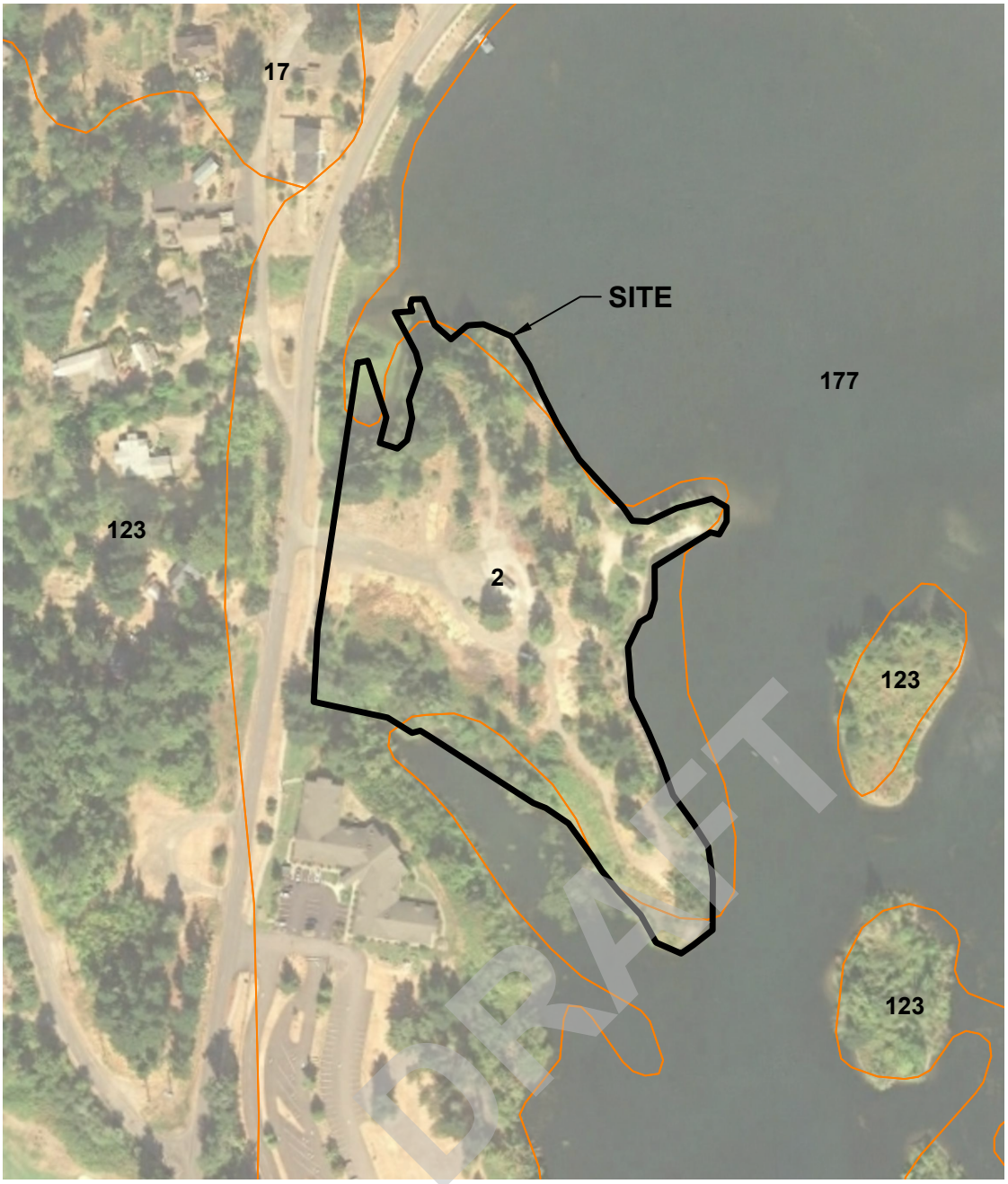
SCALE IN FEET

Ecological Land Services
1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371
Fax: (360) 414-9305
www.eco-land.com

DATE: 6/11/20
DWN: EF
REQ. BY: AA
PRJ. MGR: AA
CHK: AA
PROJECT NO: 2682.02

Figure 3
PROPOSED CONDITIONS MAP
Rock Cove CAR
FDM Development
City of Stevenson, Skamania County, Washington
Section 1, Township 2N, Range 7E, W.M.



LEGEND:

2	Arents, 0 to 5 percent slopes. Not hydric.
17	Bonneville stony sandy loam. Not hydric.
123	Steever stony clay loam, 2 to 30 percent slopes. Not hydric.
177	**Water.**

NOTE(S):

1. Map provided online by NRCS at web address: *http://websoilsurvey.nrcs.usda.gov/app/*

Figure 4
NRCS SOIL SURVEY
Rock Cove CAR
FDM Development
City of Stevenson, Skamania County, Washington
Section 1, Township 2N, Range 7E, W.M.

DATE: 6/11/20
DWN: EF
REQ. BY: AA
PRJ. MGR: AA
CHK: AA
PROJECT NO: 2682.02

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Longview, WA 98632
Phone: (360) 578-1371
Fax: (360) 414-9305
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Ecological Land Services

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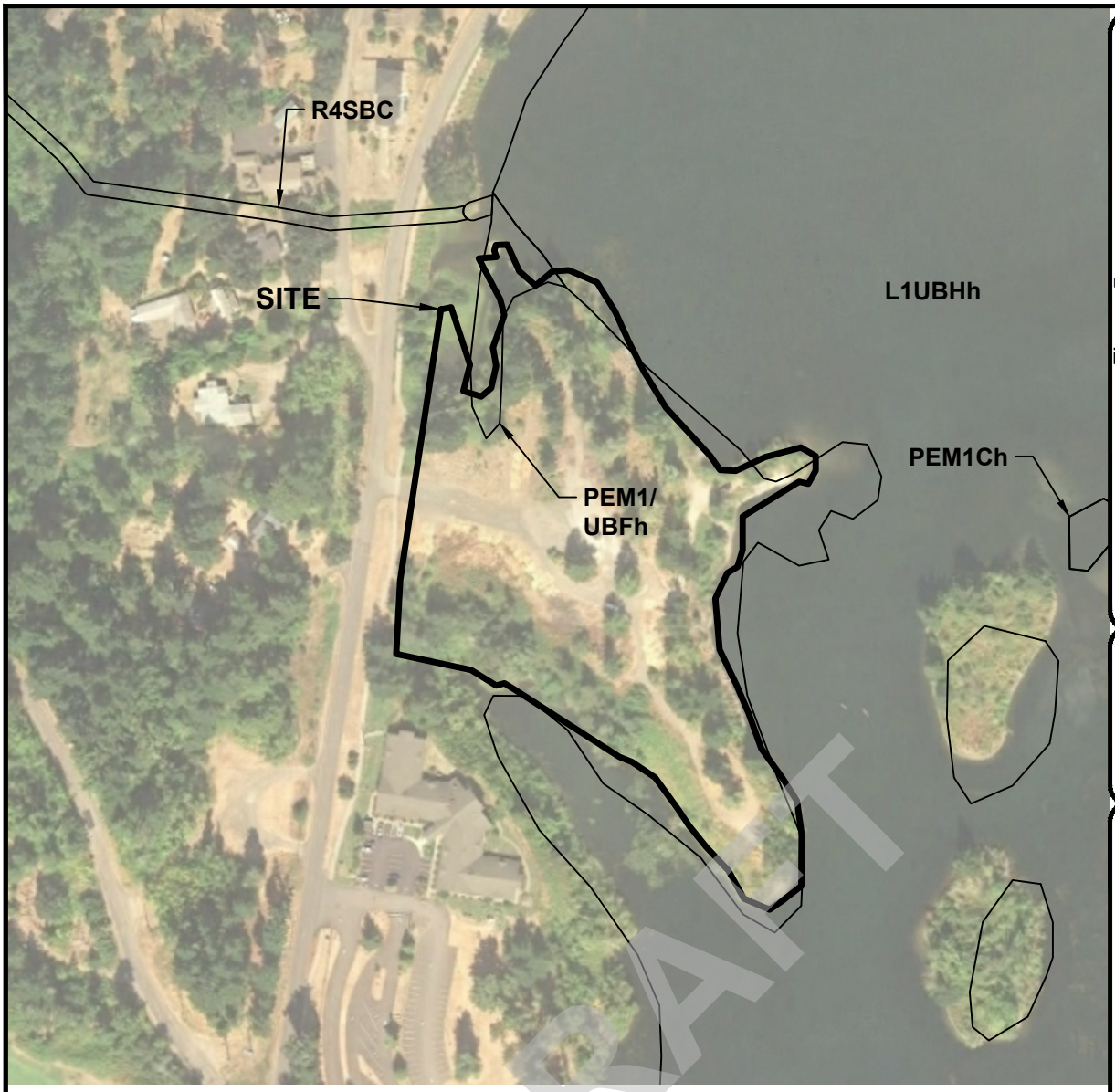

Figure 5
NATIONAL WETLANDS INVENTORY
Rock Cove CAR
FDM Development
City of Stevenson, Skamania County, Washington
Section 1, Township 2N, Range 7E, W.M.

DATE: 6/11/20
DWN: EF
REQ. BY: AA
PRJ. MGR: AA
CHK: AA
PROJECT NO: 2682.02

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Longview, WA 98632
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Fax: (360) 414-9305
www.eco-land.com
Ecological Land Services

SCALE IN FEET
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Mapped wetlands indicated onsite by US Fish & Wildlife Service.

LEGEND:

- Freshwater Emergent Wetland
- Lake
- Riverine

PEM1Ch	Palustrine, Emergent, Persistent, Seasonally Flooded, Diked/ Impounded.
PEM1/ UBFh	Palustrine, Emergent, Persistent, Unconsolidated Bottom, Semipermanently Flooded, Diked/ Impounded.
L1UBHh	Lacustrine, Limnetic, Unconsolidated Bottom, Permanently Flooded, Diked/ Impounded.
R4SBC	Riverine, Intermittent, Streambed, Seasonally Flooded.

NOTE(S):

1. Map provided online by US Fish & Wildlife Service at web address: *http://www.fws.gov/wetlands/data/index.html*

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No mapped streams indicated onsite by the Washington State Department of Natural Resources (DNR).

LEGEND:

Streams

Streams

- Type S
- Type F
- Type N, Np, Ns
- U, unknown
- X, non-typed per WAC 222-16

NOTE: Map provided online by Washington State Department of Natural Resources at web address: *https://fortress.wa.gov/dnr/protectiongis/fpamt/index.html*

Figure 6
DNR STREAM TYPE MAP
Rock Cove CAR
FDM Development
City of Stevenson, Skamania County, Washington
Section 1, Township 2N, Range 7E, W.M.

DATE: 6/11/20
DWN: EF
REQ. BY: AA
PRJ. MGR: AA
CHK: AA
PROJECT NO: 2682.02

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Longview, WA 98632
Phone: (360) 578-1371
Fax: (360) 414-9305
www.eco-land.com

Ecological Land Services

0 1500 3000
SCALE IN FEET

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Photo 1. Inflow point of the unnamed tributary via concrete culvert.

Photo 2. Unnamed tributary flowing toward Rock Cove.

Photo 3. Overview of unnamed tributary's confluence with Rock Cove.

Photo 4. Mud flat adjoining Rock Cove.

Ecological Land Services

1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371
Fax: (360) 414-9305

DATE: 1/17/20
DWN: ARBA
MGR: ARBA
PR#: 2682.02

Photoplate 1
Site Photos
Rock Cove Preliminary Critical Areas Assessment
FDM Development, Inc.
City of Stevenson, Washington

Photo 1. Vegetated shoreline on the north end of the study area.

Photo 2. Vegetated shoreline extending toward the unnamed tributary.

Photo 3. Riprap on the eastern shoreline, facing north.

Photo 4. Riprap on the eastern shoreline, facing south.

Ecological Land Services

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Longview, WA 98632
Phone: (360) 578-1371
Fax: (360) 414-9305

DATE: 1/17/20
DWN: ARBA
MGR: ARBA
PR#: 2682.02

Photoplate 2
Site Photos
Rock Cove Preliminary Critical Areas Assessment
FDM Development, Inc.
City of Stevenson, Washington

Photo 1. Graveled boat launch on the east side of the study area.

Photo 2. Vegetated shoreline on the west side, facing south.

Photo 3. Vegetated shoreline and mud flat in the southwest portion of the study area, facing south.

Photo 4. Groomed vegetation in the center of the study area.

Ecological Land Services

1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371
Fax: (360) 414-9305

DATE: 1/17/20
DWN: ARBA
MGR: ARBA
PR#: 2682.02

Photoplate 3
Site Photos
Rock Cove Preliminary Critical Areas Assessment
FDM Development, Inc.
City of Stevenson, Washington

Photo 1. Existing concrete and gravel surfacing.

Photo 2. Existing concrete and gravel surfacing.

Photo 3. Groomed vegetation in the center of the study area.

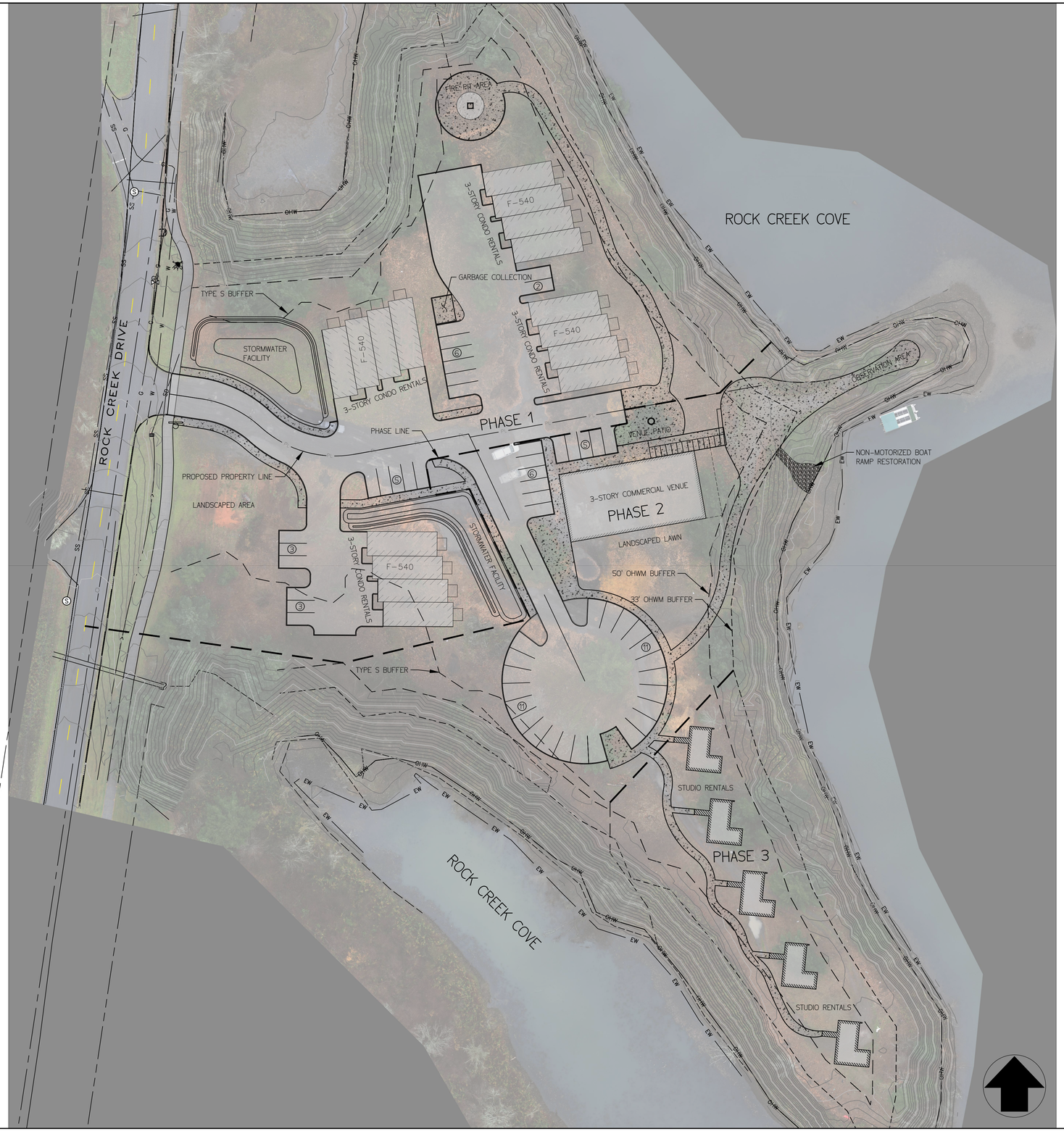
Photo 4. Existing gravel road.

Ecological Land Services

1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371
Fax: (360) 414-9305

DATE: 1/17/20
DWN: ARBA
MGR: ARBA
PR#: 2682.02

Photoplate 4
Site Photos
Rock Cove Preliminary Critical Areas Assessment
FDM Development, Inc.
City of Stevenson, Washington



PROJECT SUMMARY

PHASE 1
16 3-BEDROOM CONDO UNITS OPERATED AS HOTEL
TOTAL 48 BEDROOMS
TOTAL 32,950 SF
PEDESTRIAN ACCESS TO NORTHERN PENINSULA
COVERED FIRE PIT
LANDSCAPE IMPROVEMENTS
STORMWATER FACILITIES CONSTRUCTION
MASS GRADING
TYPE S BUFFER OFF-SITE MITIGATION
BOUNDARY LINE ADJUSTMENT

PHASE 2
15,000 SQ FT COMMERCIAL VENUE SPACE
LANDSCAPE IMPROVEMENTS
OBSERVATION AREA AND BOAT RAMP RESTORATION AND SAFETY IMPROVEMENTS

PHASE 3
5 STUDIO RENTALS
LANDSCAPE IMPROVEMENTS

FDM DEVELOPMENT INC.

ROCK CREEK COVE HOSPITALITY
MASTER PLAN
FDM DEVELOPMENT, INC.
STEVENSON, WA

ISSUE	DATE	DESCRIPTION
A	01/30/2020	PRELIMINARY

DESIGNED: Z. PYLE
SCALE
0' 40' 80'

SHEET TITLE
SITE PLAN

SHEET
C2.0

PLOTTED ON: 2020-01-31 12:45 PM PLOTTED BY: Zachary Pyle FILENAME: C:_CAD Drives\09_Rock Creek Cove\PLANS\C2.0 SITE PLAN.dwg

TREES

EXCELSA WESTERN RED CEDAR


GOLDEN DEODAR CEDAR


OREGON GREEN AUSTRIAN PINE

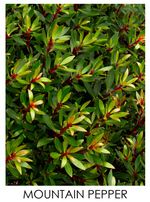

SCARLET OAK


PAIRIE GOLD ASPEN

SCREENING & BUFFERING


SHAMROCK INKBERRY


CALIFORNIA LILAC


MOUNTAIN PEPPER

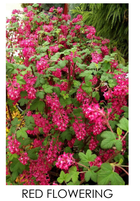

JAPANESE PRIVET

MITIGATION


SNOWBERRY


PACIFIC NINEBARK


NOOTKA ROSE


RED FLOWERING CURRANT

STORMWATER


COMMON RUSH


GOLDFLAME SPIREA


RED TWIG DOGWOOD


DWARF BLUE ARCTIC WILLOW

ORNAMENTAL


MORNING LIGHT MAIDEN GRASS


SUNGOLD CYPRESS


KALEIDESCOPE ABELIA


VARIEGATED DOGWOOD


HARDY SCHEFFLERA

PLANTING LEGEND

TREES

PROPOSED EVERGREEN TREE
- EXCELSA WESTERN RED CEDAR
- GOLDEN DEODAR CEDAR
- OREGON GREEN AUSTRIAN PINE

PROPOSED DECIDUOUS TREE
- SCARLET OAK
- VINE MAPLE
- PRAIRIE GOLD ASPEN

EXISTING EVERGREEN TREE

EXISTING DECIDUOUS TREE

PLANTING ZONES

1 SCREENING & BUFFERING
- JAPANESE PRIVET
- MOUNTAIN PEPPER
- SHAMROCK INKBERRY
- CEANOTHUS

2 MITIGATION - BUFFER ENHANCEMENT
- RED FLOWERING CURRANT
- NOOTKA ROSE
- SNOWBERRY
- PACIFIC NINEBARK
- OREGON GRAPE
- GOAT'S BEARD
- SALAL

3 STORMWATER FACILITY
- DWARF BLUE ARCTIC WILLOW
- RED TWIG DOGWOOD
- GOLDMOUND SPIREA
- COMMON RUSH
- SLOUGH SEDGE
- TUFTED HAIR GRASS

4 ORNAMENTAL
- HARDY SCHEFFLERA
- VARIEGATED DOGWOOD
- KALEIDESCOPE ABELIA
- SUNGOLD CYPRESS
- MORNING LIGHT MAIDEN GRASS
- RUSSIAN SAGE
- JAPANESE FOREST GRASS

5 NATIVE GRASS SEED MIX

DRAFT

MAUL FOSTER ALONGI
109 E 13TH STREET
VANCOUVER, WA 98660
PHONE: 360.694.2691
www.maulfoster.com

FDM DEVELOPMENT INC.

ROCK CREEK COVE HOSPITALITY
PHASE 1
STEVENSON, WA

ISSUE	DATE	DESCRIPTION
A	4/17/2020	CONCEPTUAL PLANTING PLAN

PROJECT: 1416.09.01
DESIGNED: C. RILEY
DRAWN: C. RILEY
CHECKED:
SCALE

0 20' 40'

NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

SHEET TITLE

CONCEPTUAL PLANTING PLAN

SHEET

L1

PLOTTED BY: Curtis Riley FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\1416.09 Rock Creek Cove\Exhibit\Concept\out Planting Plan\Concept\out Planting Plan.dwg
PLOTTED ON: 2020-04-17 5:01 PM

Washington State Department of Transportation

Southwest Region
11018 Northeast 51st Circle
Vancouver, WA 98668-1709
360-905-2000 / Fax 360-905-2222
TTY: 1-800-833-6388
www.wsdot.wa.gov

June 17, 2020

Ben Shumaker
Community Development Director
City of Stevenson
7121 East Loop Road
Stevenson, Washington, 98648

Re: SEPA 2020-01
Rock Cove Hospitality Center
SW Rock Creek Drive
State Route 14, MP 43.09

Dear Mr. Shumaker:

Washington State Department of Transportation (WSDOT) staff have reviewed the pre-application materials for the proposal to construct 48 short term housing units and a 15,000 square foot commercial event space at parcels 02070100130200, 02070100130300 and 02070100130400 (State Route 14, MP 43.09). WSDOT would like to offer the following comments.

In order to evaluate the impacts of this development proposal to the state transportation system, WSDOT requests that the developer provide a traffic impact study which includes all state route corridors and intersections impacted by 10 or more peak hour trips. This traffic study should address the impacts to State Route 14 and suggest mitigation measures to maintain the current level of service and meet WSDOT safety requirements. Based on the number of vehicle trips cited on page 12 of the SEPA checklist, the study should analyze the need for a right turn deceleration lane at westbound State Route 14 at the intersection with SW Rock Creek Drive. WSDOT reserves the right to require additional mitigation based on the results or recommendations in the study.

These comments are based on a preliminary review of the project. As this project progresses, there may be need for additional information by this department for further review. There may be other issues and requirements by this department that are not stated here. *This review does not constitute final approval by WSDOT.*

Thank you for the opportunity to comment on this project. If you have any questions regarding these comments or need additional information, please contact Mr. Jeff Barsness, Development Services Engineer, at BarsneJ@wsdot.wa.gov.

Sincerely,

Laurie Lebowsky
Planning Director
WSDOT Southwest Region

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

June 17, 2020

Ben Schumaker, Community Development Director
City of Stevenson
Community Development Department
7121 East Loop Road
PO Box 371
Stevenson, WA 98648

Dear Ben Schumaker:

Thank you for the opportunity to comment on the mitigated determination of nonsignificance for the Rock Creek Cove Mixed-Use Hospitality Development Project (SEPA2020-01, SHOR2020-01) as proposed by FDM Development. The Department of Ecology (Ecology) reviewed the environmental checklist and has the following comment(s):

SHORELANDS & ENVIRONMENTAL ASSISTANCE:
Miranda Adams, Wetlands/Shorelands Specialist (360) 690-7164

Ecology staff appreciates the applicant's efforts to coordinate with permitting agencies early on during the project design process; the information submitted is an improvement over previous iterations of the proposal. However, it appears that certain aspects of the project may require a shoreline conditional use permit and possibly a shoreline variance from the regulatory agencies.

Please note that there's no legend on Site Plan Sheet C2.0 plan, and it is difficult to discern certain features from one another. Please ensure that the applicant includes a legend for the shoreline permit submittal. In addition, it is preferable to use different colors for the various dashed lines (e.g., 50-foot setback, 33-foot setback, phases, and unidentified lines). It is unclear what the "Type S Buffer" is on this sheet; this needs to be clarified. How will impacts to this buffer be "mitigated off-site" as noted on the plans?

It is unclear what is meant by "landscape improvements" and what areas of the property this includes. Is there an intent to plant along the shoreline and, if so, what types of plants will be used? Shoreline buffer impacts should be mitigated with addition of native plants to prevent and/or minimize future impacts from recreational users along the shoreline; traditional landscaping (e.g. lawn, ornamentals) should not be used as an alternative to providing an ecologically sound, functional shoreline buffer consisting of native vegetation.

It is unclear what is planned for the “observation area” on the small peninsula in Phase 2. The entire peninsula is within the 50-foot setback; therefore, development can only be allowed in that area with a shoreline variance. If development is proposed within the setback, it must meet all variance criteria in WAC 173-27-170. Development includes grading, placement of gravel, and placement of structures, among other things (see WAC 173-27-030(6) for a complete definition of development).

If the existing boat ramp and observation deck were legally authorized when they were first installed, then repair or replacement without a variance is generally allowed if the structure is in a degraded condition. However, they would have to meet the following exemption criteria:

WAC 173-27-040(2)(b) Normal maintenance or repair of existing structures or developments, including damage by accident, fire or elements. "Normal maintenance" includes those usual acts to prevent a decline, lapse, or cessation from a lawfully established condition. "Normal repair" means to restore a development to a state comparable to its original condition, including but not limited to its size, shape, configuration, location and external appearance, within a reasonable period after decay or partial destruction, except where repair causes substantial adverse effects to shoreline resource or environment. Replacement of a structure or development may be authorized as repair where such replacement is the common method of repair for the type of structure or development and the replacement structure or development is comparable to the original structure or development including but not limited to its size, shape, configuration, location and external appearance and the replacement does not cause substantial adverse effects to shoreline resources or environment.

SOLID WASTE MANAGEMENT: Derek Rockett (360) 407-6287

All grading and filling of land must utilize only clean fill. All other materials may be considered solid waste and permit approval may be required from the local jurisdictional health department prior to filling. All removed debris resulting from this project must be disposed of at an approved site. Contact the local jurisdictional health department for proper management of these materials.

WATER QUALITY/WATERSHED RESOURCES UNIT:
Greg Benge (360) 690-4787

Erosion control measures must be in place prior to any clearing, grading, or construction. These control measures must be effective to prevent stormwater runoff from carrying soil and other pollutants into surface water or stormdrains that lead to waters of the state. Sand, silt, clay particles, and soil will damage aquatic habitat and are considered to be pollutants.

Any discharge of sediment-laden runoff or other pollutants to waters of the state is in violation of Chapter 90.48 RCW, Water Pollution Control, and WAC 173-201A, Water Quality Standards for Surface Waters of the State of Washington, and is subject to enforcement action.

Construction Stormwater General Permit:
The following construction activities require coverage under the Construction Stormwater General Permit:

1. Clearing, grading and/or excavation that results in the disturbance of one or more acres **and** discharges stormwater to surface waters of the State; and
2. Clearing, grading and/or excavation on sites smaller than one acre that are part of a larger common plan of development or sale, if the common plan of development or sale will ultimately disturb one acre or more **and** discharge stormwater to surface waters of the State.
    a) This includes forest practices (including, but not limited to, class IV conversions) that are part of a construction activity that will result in the disturbance of one or more acres, **and** discharge to surface waters of the State; and
3. Any size construction activity discharging stormwater to waters of the State that Ecology:
    a) Determines to be a significant contributor of pollutants to waters of the State of Washington.
    b) Reasonably expects to cause a violation of any water quality standard.

If there are known soil/ground water contaminants present on-site, additional information (including, but not limited to: temporary erosion and sediment control plans; stormwater pollution prevention plan; list of known contaminants with concentrations and depths found; a site map depicting the sample location(s); and additional studies/reports regarding contaminant(s)) will be required to be submitted.

Additionally, sites that discharge to segments of waterbodies listed as impaired by the State of Washington under Section 303(d) of the Clean Water Act for turbidity, fine sediment, high pH, or phosphorous, or to waterbodies covered by a TMDL may need to meet additional sampling and record keeping requirements. See condition S8 of the Construction Stormwater General Permit for a description of these requirements. To see if your site discharges to a TMDL or 303(d)-listed waterbody, use Ecology's Water Quality Atlas at: https://fortress.wa.gov/ecy/waterqualityatlas/StartPage.aspx.

The applicant may apply online or obtain an application from Ecology's website at: http://www.ecy.wa.gov/programs/wq/stormwater/construction/ - Application. Construction site operators must apply for a permit at least 60 days prior to discharging stormwater from construction activities and must submit it on or before the date of the first public notice.

Ecology's comments are based upon information provided by the lead agency. As such, they may not constitute an exhaustive list of the various authorizations that must be obtained or legal requirements that must be fulfilled in order to carry out the proposed action.

If you have any questions or would like to respond to these comments, please contact the appropriate reviewing staff listed above.

Department of Ecology
Southwest Regional Office

(GMP:202002917)

cc: Miranda Adams, SEA
Derek Rockett, SWM
Greg Benge, WQ
Zachary Pyle, FDM Development (Proponent)

Allyson Brooks Ph.D., Director
State Historic Preservation Officer

June 17, 2020

Ben Shumaker
Planning Director
City of Stevenson
7121 E. Loop Road
PO Box 371
Stevenson, WA 98648

In future correspondence please refer to:
Project Tracking Code: 2020-02-01145
Property: Formal Survey for the Proposed Rock Creek Cove Resort
Re: Monitoring Requested

Dear Ben Shumaker:

Thank you for contacting the Washington State Historic Preservation Officer (SHPO) and Department of Archaeology and Historic Preservation (DAHP) and providing documentation regarding the above referenced project. A desktop review of our Statewide Predictive Model has identified the proposed project area as having high potential for archaeological resources. This is due, in part, to the landform type, as well as the proximity of the proposed project area to the Columbia River, a resource known to have been important to both historic and prehistoric people.

Both the geotechnical report and the archaeological survey report provided to our agency on 6/3/2020 indicate that fill, variable in depth, is present across the entire site. Because of this, we do not believe that additional archaeological survey will be beneficial at the present time. In order to assess the archaeological potential of the proposed project area, we recommend that an archaeologist meeting the Secretary of the Interior's standards for prehistoric archaeology monitor the excavation of all soils with the potential to contain archaeological materials (i.e. native soils). We request to review the monitoring plan prior to the start of construction. All other aspects of this projects should follow an Inadvertent Discovery Plan.

We also recommend consultation with the concerned Tribes' cultural committees and staff regarding cultural resource issues.

These comments are based on the information available at the time of this review and on behalf of the SHPO in conformance with Washington State law. Should additional information become available, our assessment may be revised.

Thank you for the opportunity to comment on this project and we look forward to receiving the survey report. Please ensure that the DAHP Project Number (a.k.a. Project Tracking Code) is shared with any hired cultural resource consultants and is attached to any communications or submitted reports. Should you have any questions, please feel free to contact me.

Sincerely,

Sydney Hanson
Transportation Archaeologist
(360) 586-3082
Sydney.Hanson@dahp.wa.gov

wallis
*engineering

CITY OF STEVENSON
ROCK CREEK COVE HOSPITALITY SITE IMPROVEMENTS
SITE PLAN APPLICATION

CONSULTING ENGINEER'S REPORT
June 10, 2020

A. GENERAL DISCUSSION

1. Description: The request is to construct a hospitality facility on a vacant site between Rock Creek Drive and Rock Creek Cove. The site is currently undeveloped and was previously used for lumber operations of an unknown type. The development is proposed to occur in three phases. The first phase includes sixteen short-term rental units (four quad buildings). The second phase will include a commercial venue/meeting space of unknown size. The third phase is proposed as five townhouse units.

2. Water Service: Public water is available on Rock Creek Drive by means of a 6-inch ductile iron water main per City of Stevenson records. No modification to the public water system is proposed with this development. An on-site private water system and public fire service is proposed. All water improvements shall be designed and constructed in accordance with the City of Stevenson's Engineering Design and Construction standards (public) and the Uniform Plumbing Code (private).

3. Sanitary Sewer Service: Public sewer is available in Rock Creek Drive by means of an 8-inch sewer. No modification to the public sewer system is proposed with this development based on the preliminary plans. A private sewer system is proposed to serve the development. All sanitary sewer service improvements shall be designed and constructed in accordance with the City of Stevenson's Engineering Design and Construction standards and the Uniform Plumbing Code.

The sanitary sewer system is proposed to connect to the existing sewer pipe without a manhole. City engineering standards require connections to use manholes with pipe sizes 8" and larger.

4. Street System: Rock Creek Drive is classified as a major collector and has been improved with curb and sidewalk along the frontage of the site. The development proposes to use the existing driveway that swerves the site and the existing driveway has adequate sight distance in both directions. No improvements or modifications are proposed to the existing driveways.

On-site circulation appears adequate to serve the proposed development; however no turnaround is proposed. City of Stevenson Street Design Standards require cul-de-sacs on all public and private streets. The length of the dead-end access drive is approximately 450'. Hammerhead turnarounds may be used in lieu of a cul-de-sac provided that the street serves six or less lots and the street is less than 200' in length, and shall have a minimum depth of 30 feet. Although the length of the drive exceeds 200', since this development is not a single-family residential development, a hammerhead turnaround that is clearly signed as a "No Parking" area would also be appropriate.

5. Storm Drainage: All stormwater systems will need to be designed and constructed in accordance with City of Stevenson's Engineering Design and Construction standards, the Department of Ecology's 1992 Stormwater Management Manual for the Puget Sound Basin, and the Uniform Plumbing Code.

This project is considered a "New Development" project for stormwater thresholds, as the development is greater than 5000 square feet, with greater than One(1) acre of land disturbing activity. Minimum Requirements 1-11 apply.

A Preliminary TIR was submitted with the application providing additional information on the intended stormwater management approach. The preliminary application shows the site being managed through the use of new catch basins and bioretention/infiltration/treatment swales, with outfalls to Rock Creek Cove. The proposed bioretention facilities were designed using WWHM2012 per the DOE Stormwater Manual. They are designed to infiltrate at least 91% of the runoff through the treatment soil and are considered enhanced treatment. Per the DOE manual, the level of treatment required for the subject project is basic treatment.

The proposed biofiltration swales will treat stormwater runoff, which will be discharged to Rock Cove, a large water body along the north shore of the Columbia River. There are no negative water quality impacts anticipated downstream of the project site and no off-site analysis or mitigation is required.

All stormwater facilities constructed to manage runoff onsite shall be privately owned and maintained. Infiltration testing completed by GN Northern, Inc. on the proposed site indicated that subsurface soils have adequate infiltration capacity.

6. Grading & Erosion Control: A Geotechnical Engineering Report dated January 13, 2020, by GN Northern, Inc. was submitted for this development and provided information regarding subsurface conditions, infiltration, geologic hazards, slope stability, seismic design, and grading recommendations. A grading and erosion control plan shall be required, and proper erosion control measures shall be maintained throughout construction. The plan shall include all recommendations for grading provided in the Geotechnical Report.

B. CONCLUSIONS:

1. The City's water and sanitary sewer systems currently have capacity available to provide the anticipated domestic and fire protection supply and sanitary sewer services necessary for the proposed development.
2. Stormwater facilities designed and constructed in accordance with the City's regulations can adequately manage and control runoff from this site.
3. The street system has capacity to serve the development and site access meets standards and the proposed access to the City street meets access standards.
4. Information contained within the provided Geotechnical Report indicate the development is feasible as proposed.

C. RECOMMENDED CONDITIONS OF APPROVAL:

1. The design and construction of water and sewer systems, streets, storm drainage systems, site grading and erosion control plans shall be in accordance with City of Stevenson Engineering Design and Construction Standards, and applicable provisions of the Uniform Plumbing Code.
2. The fire service line to the proposed fire hydrant shall be designed and constructed to City of Stevenson water standards for public facilities, and the applicant shall establish a 15'-wide public water easement encompassing the proposed fire hydrant service.
3. Either a cul-de-sac turnaround shall be provided at the end of the access drive having a curb radius of 41', or a hammerhead turnaround having a minimum depth of 30' shall be provided at the end of the access drive. The turnaround area shall be signed as a "No Parking" area, with curbs painted red.
4. The sanitary sewer connection to the public sewer shall be made using a manhole.
5. All recommendations provided in the Geotechnical Engineering Report dated January 13, 2020, by GN Northern, Inc. shall be followed for design and construction
6. All onsite stormwater facilities shall remain in private ownership and be maintained privately. Ownership and Maintenance responsibility shall be clearly shown on the Final Engineering plans.
7. An approved grading and erosion control plan shall be provided, and temporary sedimentation and erosion control measures shall be maintained throughout construction.

****

By: Wallis Engineering

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OLSON ENVIRONMENTAL LLC
ENVIRONMENTAL SERVICES • GIS • HABITAT RESTORATION

June 17, 2020

Mr. Ben Schumaker
Planning Director
City of Stevenson
Stevenson, WA 98648

RE: Rock Creek Cove Hospitality Site – Critical Areas Review

Mr. Shumaker:

Olson Environmental (OE) has reviewed the Critical Areas Report dated June 16, 2020 to determine compliance with the City of Stevenson Municipal Code 18.13 which addresses Critical Areas and Natural Resource Lands. The report was prepared by Ecological Land Services (ELS) for the Applicant which is FDM Development. The Applicant is proposing a mixed-use hospitality development on the former Hegewald Lumber Mill site located between Rock Creek Drive and Rock Creek Cove. ELS identified riparian habitat associated with Rock Cove within the project area, therefore SMC 18.13.095 (Fish and Wildlife Habitat Conservation Areas – FWHCA) applies to this development. The Applicant is proposing minor encroachments into the riparian buffer which requires a Critical Areas Permit as outlined in SMC 18.13.035. In addition, an Oregon white oak tree was identified at the southeast end of the study area. This tree is not proposed to be removed for this project. The project area is also within a designated shoreline which is not part of this review. OE's findings are as follows:

Fish and Wildlife Habitat Conservation Areas Critical Areas Report

Critical Area report requirements are outlined in SMC 18.13.050 and specifically for FWHCA in SMC 18.13.095(C). ELS has identified a Type F stream in the north of the study area as shown in Figure 2 of their report. Rock Cove which surrounds three sides of the project area is a shoreline of the state (Type S) water. According to SMC Table 19.13.095-1, Type F streams have a 100 foot riparian buffer and Type S waters have a 150 foot riparian buffer. Riprap occurs along approximately 65 percent of the shoreline and maintained vegetation areas occur north and south of the existing entrance to the property (Fig. 2). The Applicant has presented the case that the riprap and maintained vegetation areas functionally isolate the 150 foot Type S riparian buffer (Fig. 2) based on SMC 18.13.095(D)(3) which identifies functionally isolated buffers as lawns, walkways, driveways, other mowed or paved areas, and areas which are functionally separated from a FWHCA and do not protect the FWHCA from

adverse impacts due to pre-existing roads, structures, or vertical separation, shall be excluded from buffers otherwise required by this chapter. If existing developments cause the width of the remaining buffer to be less than 50 percent of the base buffer, both conditions shall apply:
a. If the reduced buffer exists in degraded condition, the reduced buffer shall be enhanced in accordance with 18.13.095D.5, unless the area in question is utilized for activities consistent with water dependent uses
b. The buffer cannot be further reduced by averaging or on-site mitigation.

OE concurs that based on this definition the riprap functionally isolates the 150 foot buffer as shown if Figure 2. The maintained vegetation areas may functionally isolate however more detail needs to be provided to make that justification.

The remaining buffer in the riprap areas is less than 50 percent (75') of the base buffer (150'). If the maintained vegetation areas are considered functionally isolated the remaining buffer area north of the existing entrance and a portion of the buffer in the south-central portion of the project area are less than 50 percent (see attached graphic).

Based on ELS' description of the buffer at least portions of the remaining buffer are degraded. Therefore, SMC 18.13.095(D)(3)(a & b) apply. The degraded buffer in those areas where less than 50 percent of the base buffer remains shall be enhanced and the buffer cannot be further reduced by on-site mitigation.

OE recommends that the Applicant provide a more detailed habitat assessment report that includes the requirements of SMC 18.13.050, SMC 18.13.095(B)(1) and 18.13.095(C)(1) prior to final approval.

Conceptual Mitigation Plan

The Applicant has provided a conceptual mitigation plan that outlines the enhancement of the remaining riparian buffer and onsite mitigation for further reducing the buffer for the development. Very little detail is provided in the conceptual plan. Based on the information provided above only the buffer areas that have not been reduced by 50 percent by functional isolation can be further reduced through onsite mitigation. As per SMC 18.13.095(D)(5) onsite mitigation can be used to reduce the base buffer to 70 percent of the base buffer. For this project that would reduce the 150 foot base buffer to 105 feet. To reduce the buffer further requires off-site mitigation. As per SMC 18.13.095(D)(6), the riparian buffer can be reduced to 33 percent of the base buffer width through off-site mitigation. This would reduce the base buffer from 150 feet to 49.5 feet. It is OE's opinion that this project can meet the buffer reduction criteria by utilizing the off-site mitigation option which would allow the development

to occur outside of the 50 foot setback as required under the City's SMP. The Applicant shall provide a detailed mitigation plan that includes the requirements of SMC 18.13.095(D)(6) and 18.13.095(F). The Applicant has previously been provided a list of off-site mitigation options that would meet the requirements of SMC 18.13.095(D)(6).

Should you have questions or need more information, please contact me.

Regards,

Kevin L. Grosz

Kevin L. Grosz, S.P.W.S.
Project Manager
Wetland/Wildlife Biologist

LEGEND:

- Site Boundary
- OHWM
- Stream with Flow Direction
- FWHCA Buffer for Type F
- Functionally Isolated FWHCA Buffer for Type S
- Reduced FWHCA Buffer For Type S (105')
- Shoreline Management Plan Setback
- Culvert
- Oak Tree Location
- Proposed Graveled Surfacing
- Proposed Storm Line
- Proposed Storm Outfall
- Proposed Impacts (0.12 ac.)
- Buffer Enhancement Area (1.03 ac.) (1:8.6 Impact to Enhancement Area Ratio)
- Associated Habitat Improvement (1.43 ac.)

NOTE(S):

1. Aerial from Google Earth™.
2. OHWM line was determined through a joint effort by Ecological Land Services and Washington Department of Ecology on December 30, 2019. OHWM flags were professionally surveyed by S&F Land Services December 30-31, 2019. .
3. Site Plan provided by FDM Development, Inc.

N W E S

0 100 200
SCALE IN FEET

Ecological Land Services
1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371
Fax: (360) 414-9305
www.eco-land.com

DATE: 6/11/20
DWN: EF
REQ. BY: AA
PRJ. MGR: AA
CHK: AA
PROJECT NO: 2682.02

Figure 3
PROPOSED CONDITIONS MAP
Rock Cove CAR
FDM Development
City of Stevenson, Skamania County, Washington
Section 1, Township 2N, Range 7E, W.M.

6/11/2020 3:10 PM 2686.02_DL.dwg Jennifer

LEGEND:

- Site Boundary
- OHWM
- Stream with Flow Direction
- FWHCA Buffer for Type F
- Functionally Isolated FWHCA Buffer for Type S
- Shoreline Management Plan Setback
- Culvert
- Oak Tree Location
- Existing Graveled or Concrete Surfacing
- Existing Rip Rap

NOTE(S):

1. Aerial from Google Earth™.
2. OHWM line was determined through a joint effort by Ecological Land Services and Washington Department of Ecology on December 30, 2019. OHWM flags were professionally surveyed by S&F Land Services December 30-31, 2019.

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Figure 2
EXISTING CONDITIONS SITE MAP
Rock Cove CAR
FDM Development
City of Stevenson, Skamania County, Washington
Section 1, Township 2N, Range 7E, W.M.

CITY OF STEVENSON
SMC 18.08 – Shoreline Management

Regarding a request by the FDM Development to construct Phase 1 of a mixed-use hospitality development offering condo- and studio-sized units and commercial venue space. Phase 1 involves up to 16 condo-style units, operated by a single ownership group, similar to a hotel, associated parking, utilities, and other sitework. Project is located in the Urban Shoreline Environment Designation adjacent to Rock Cove in Section 1 of Township 2, Range 7, E.W.M, City of Stevenson, Skamania County, Washington, 98648.	SHORELINE SUBSTANTIAL DEVELOPMENT PERMIT June 18th, 2020

PROPOSAL: The applicant proposes to construct a mixed-use hospitality development adjacent to Rock Creek Cove on the former Hegewald Lumber Mill Site in Stevenson, WA. The project seeks to complement the existing tourism industry in Stevenson by offering condo- and studio-sized units available for nightly and weekly rental, totaling 48 available bedrooms. A 15,000 square-foot commercial venue space will anchor the development and provide wide views of Rock Creek Cove and the Columbia River Gorge. The conceptual space planning of the commercial building consists of 5,000 open venue space, supported by 10,000 square feet of service, food preparation, and guest lounging area. The development seeks to attract both local and regional visitors, with venue space available for weddings, company parties, family reunions, and corporate retreats.
The Applicant proposes a three-phased development, beginning with the condo-style units, operated by a single ownership group, similar to a hotel. Phase 2 will add the commercial venue space and restore waterside portions of the property for enhanced, publicly-accessible observation and enjoyment. Phase 3 completes the development with the studio-sized units, operated under the same ownership group as the remainder of the property.
The request for a Shoreline Substantial Development Permit relates to Phase 1 only.

LOCATION: The site address has not yet been assigned for this location adjacent to SW Rock Creek Drive containing shorelands associated with Rock Cove (Stevenson Lake) a designated shoreline of the city. The site includes 3 legal lots assigned Tax Lot Numbers 02-07-01-0-0-1302, -1303, and -1304 by the County Assessor.

ELEMENTS: Economic Development, Public Access, Recreation, Shoreline Use, Conservation.

USES: Commercial/Industrial Development (Hotels, Motels, Condominiums).

KEY ISSUES: Public Access, Restoration, Construction and Operations, Scenic Vista and View Protection Regulations, Economic Development, Public Access, Circulation, Recreation, Shoreline Use, Conservation, Historical/Cultural.

APPLICANT: FDM Development
Zachary Pyle

Owner: Erwin L & K, LLC & OPH DBD, LLC & Rawlings Family Investments, LLC

	5101 NE 82nd Avenue, Suite 200 Vancouver, WA 98662 (360) 529-0987		5101 NE 82nd Avenue, Suite 200 Vancouver, WA 98662 (360) 529-0987
CITY STAFF:	Ben Shumaker Shoreline Administrator	Leana Kinley City Administrator	Scott Anderson Mayor

BACKGROUND: The proposal occurs on 3 tax lots associated with 3 legal lots within the City of Stevenson. Prior to about 1975, the site had been developed as a veneer mill. The site has been vacant since the millwork was halted and the buildings removed. Prior to about 2019 the site had been owned by Skamania County. While under county ownership, the site served as an overflow parking area, an informal compost site, and an informal public non-motorized boat launch to the waters of Rock Cove. This proposal is the first reviewed by the City since the county transferred ownership. The proposal is subject to this review pursuant to the Shoreline Management Act of 1971 and other City development regulations (e.g., Critical Areas, Zoning, SEPA, etc.).

STANDARDS, FINDINGS AND CONCLUSIONS

SMC 18 – ENVIRONMENTAL PROTECTION

Title 18 of the Stevenson Municipal Code is separated into three chapters. Chapter 18.04 considers the City's procedures under the State Environmental Policy Act (SEPA). This Chapter is referenced based on previous, administrative reviews. Chapter 18.08 addresses Shoreline Management and, together with the adopted Shoreline Management Master Program, is the focus of this review. Chapter 18.13 focuses on Critical Areas and Natural Resources Lands and involves administrative review related to this project's location along a riparian habitat area. This chapter is referenced several times, but no findings or conclusions are incorporated herein.

SMC CH. 18.04 ENVIRONMENTAL POLICY

This chapter considers whether projects are likely to have a probable significant adverse impact on the environment, requiring agencies to evaluate actions before they are taken. The chapter is separated into 11 articles covering various permitting and project review actions. Only 2 articles are relevant to this proposal as more fully discussed below.

CRITERION §18.04 ARTICLE III CATEGORICAL EXEMPTIONS AND THRESHOLD DETERMINATIONS This article adopts Washington Administrative Code (WAC) sections related to the applicability and review process for projects under SEPA.

CRITERION §18.04 ARTICLE V COMMENTING This article adopts Washington Administrative Code (WAC) sections regarding the acceptance and issuance of comments for proposals reviewed under SEPA.

FINDING(S): a. The SEPA Responsible Official issued a "mitigated determination of nonsignificance" (MDNS) on 6/3/2020 for City File # SEPA2020-02.
b. The MDNS contained 16 mitigation measures which the proponents must satisfy to ensure the project will have no probable significant adverse environmental impacts.
c. The City received timely comments on the threshold determination from the Washington State Department of Transportation (WSDOT), Washington Department of Ecology (Ecology), and Washington Department of Archaeology &

Historic Preservation (DAHP).
d. Comments from WSDOT request a traffic impact study and traffic mitigation measures if the study identifies reduced levels of service state routes.
e. Comments from Ecology request clarification of the project site plan, phasing plan, habitat buffer mitigation, and landscape plantings.
f. Comments from DAHP acknowledge much of the grading will occur in the site's imported fill areas and request submittal and implementation of a cultural resources monitoring plan for excavations into native soils.

CONCLUSIONS OF LAW: This project will comply with SMC 18.04 upon satisfaction of mitigation measures adopted in SEPA2020-01 and the comments received and incorporated herein for convenience as conditions 1.1 through 1.16, 2 and 3 below, as well as other conditions contained herein.

CONDITIONS:

1. **Prior to the Start of Construction** the proponent shall incorporate and/or address all mitigation measures associated with the Mitigated Determination of Nonsignficance issued under the State Environmental Policy Act, City File # SEPA2020-01:
   - **1.1.** The design and construction of water connections, streets, street lights, stormwater drainage systems, and site grading and erosion control plans shall be in accordance with the City of Stevenson Engineering and Construction Standards.
   - **1.2.** Construction dust shall not become a nuisance to neighboring or down-wind properties; dust control shall comply with all applicable standards of the Southwest Washington Clean Air Agency (SWCAA), especially SWCAA 400-040. Contact SWCAA at 360-574-3058 for more information.
   - **1.3.** Project construction shall not commence until authorization is obtained pursuant to the City of Stevenson Critical Areas Code.
   - **1.4.** If any item of possible archaeological interest (including human skeletal remains) is discovered on site during construction or site work, all the following steps shall occur:
     a. Stop all work in the immediate area (initially allowing for a 100' buffer, this number may vary by circumstance) immediately.
     b. Implement reasonable measures to protect the discovery site, including any appropriate stabilization or covering.
     c. Take reasonable steps to ensure the confidentiality of the discovery site.
     d. Take reasonable steps to restrict access to the site of discovery.
     e. Notify the City, DAHP, and Yakama, Nez Perce, Warm Springs, Umatilla, and Cowlitz tribes of the discovery.
     f. A stop-work order will be issued.
     g. The approval will be temporarily suspended.
     h. All applicable state and federal permits shall be secured prior to commencement of the activities they regulate and as a condition for resumption of development activities.
     i. Development activities may resume only upon receipt of City approval.
     j. If the discovery includes human skeletal remains, the Skamania County Coroner and local law enforcement shall be notified in the most expeditious manner possible. The County Coroner will assume jurisdiction over the site and the human skeletal remains, and will make a determination of whether they are crime-related. If they are not, DAHP will take jurisdiction over the remains and report them to the

appropriate parties. The State Physical Anthropologist will make a determination of whether the remains are Native American and report that finding to the affected parties. DAHP will handle all consultation with the affected parties as to the preservation, excavation, and disposition of the remains.

1.5. A site-specific Stormwater Pollution Prevention plans shall be developed for each phase. Such plans shall comply with the City of Stevenson Engineering Standards and must be implemented prior to any clearing, grading, or construction. Any discharge of sediment-laden runoff or other pollutants to waters of the state is in violation of Chapter 90.48 RCW and WAC 173-201A, and is subject to enforcement action. Contact the Stevenson Public Works Department (509-427-5970) and Department of Ecology Water Quality/Watershed Resources Unit (360-407-6329) for more information.

1.6. Re-vegetation of disturbed areas is necessary to reduce wind and water erosion, and the propagation of weeds. All undeveloped disturbed areas shall be reseeded and landscaped in conformity with the City of Stevenson Zoning and Critical Areas codes and the Skamania County Shoreline Management Master Program.

1.7. A Construction Stormwater General Permit shall be obtained from Washington Department of Ecology for the grading of the site as necessary. A copy of the permit shall be provided to the City prior to the Pre-Construction Meeting. Contact 360-407-6329 for more information.

1.8. The conclusions and recommendations of the January, 2020 geotechnical investigation shall be incorporated into the project plans and specifications.

1.9. Construction shall occur within the hours of 7:00am and 10:00pm and according to the other noise control standards of SMC 8.08.

1.10. The project's various components shall apply for and obtain all appropriate approvals required under the City's Shoreline Management Program.

1.11. All stormwater management shall be provided on site of the development. A stormwater engineering report shall be provided meeting the requirements of the most current Puget Sound Stormwater Manual, as adopted by the Skamania County Stormwater Control Ordinance, Section 13.25.220A Quantity Control, dated January 26, 1994, or the latest edition, including any technical memorandum provided by the County that amends or clarifies the applicable sections of the ordinance.

1.12. All stormwater facilities located on-site shall be privately owned and maintained. Easements shall be recorded for facilities serving multiple lots. Facility maintenance plans shall be developed to clearly identify the frequency and scope of maintenance to be completed.

1.13. Public/pedestrian access to the shoreline shall be completed in pursuant to the shoreline substantial development permit issued for this project.

1.14. This property is within a half mile of a known or suspected contaminated site. If contamination is currently known or observed during construction of this project, sampling of the potentially contaminated media must be conducted. If contamination of soil or groundwater is readily visible, or is revealed by sampling, Ecology must be notified. Contact the Department of Ecology Environmental Report Tracking System Coordinator's Southwest Regional Office (360-407-6300), for assistance and information about subsequent cleanup and to identify the type of testing that will be required.

1.15. All grading and filling of land must utilize only clean fill. All other materials may be considered solid waste and permit approval may be required from the Skamania

County Environmental Health Department prior to filling. All removed debris resulting from this project must be disposed of at an approved site. Contact the Skamania County Environmental Health Department (509-427-3900) and the Department of Ecology Solid Waste Management Division (360-407-6287) for more information.

1.16. During construction, all releases of oils, hydraulic fluids, fuels, other petroleum products, paints, solvents, and other deleterious materials must be contained and removed in a manner that will prevent their discharge to waters and soils of the state. The cleanup of spills should take precedence over other work on the site.

2. **Prior to the Start of Construction** the proponent shall prepare a traffic impact study evaluating the project according to the expectations expressed by WSDOT in its SEPA comment letter dated 6/17/2020.
3. **Prior to the Start of Construction** the proponent shall prepare a cultural resources monitoring plan according to the expectations expressed by DAHP in its SEPA comment letter dated 6/17/2020. The proponent shall then implement the approved monitoring plan.

SMC CH. 18.08 SHORELINE MANAGEMENT

This chapter details the procedures for review according to the Shoreline Management Act. The chapter is separated into 25 sections detailing program administration and project review. Findings and conclusions are detailed below, and a greater focus is placed on the imperative sections of the project review process.

CRITERION §18.08.010 THROUGH .090 These provisions establish the authority to review shoreline proposals and detail the regulatory applicability of the Shoreline Management Master Program.

FINDING(S): a. Section 18.08.020 adopts the 1974 "Stevenson Comprehensive Plan" as a standard of review. The *maps* associated with the Skamania County Shoreline Management Master Program are then adopted, but not the required *text* of the program itself. This decision uses the *maps* and the *text* of the Shoreline Master Program as the standards of review.

b. The shorelines management review applies to this proposal because it is located on lands and/or waters under the jurisdiction of the Shorelines Management Act of 1971 as described in SMC 18.08.050.

c. Rock Cove adjacent to this site is designated as a "shoreline of the city" under SMC 18.08.060(B).

d. The proposal is considered a Substantial Development and must be consistent with the City's adopted shorelines management standards.

d. The proposal does not involve a timber cutting permit and SMC 18.08.090 does not apply.

CONCLUSIONS OF LAW: This project will comply with SMC 18.08.010 through 18.08.090 upon satisfaction of the conditions contained herein.

CRITERION §18.08.100 – PERMITS—APPLICATION PROCEDURE. "Any person required to comply with the Shorelines Management Act of 1971 and this title, in regard to permits for substantial development and timber cutting, shall obtain the proper application forms from the city planning department. The completed application shall then be submitted to the planning department."

FINDING(S): a. The proponent obtained the appropriate application form and submitted a complete application for substantial development on 3/27/2020.

CONCLUSIONS OF LAW: This project will comply with SMC 18.08.100 without conditions.

CRITERION §18.08.110 – PERMITS—NOTICE PUBLICATION. "A. Upon submittal and acceptance of a proper application for a permit, the applicant shall cause to be published notices of the application for a permit at least once a week, on the same day of the week, for two consecutive weeks in a newspaper circulating and published within the city. An affidavit of publication shall be transmitted by the applicant to the planning department and affixed to the application for a permit.

B. Notices of application for a permit shall not be published prior to actual submission and acceptance by the planning department. All notices of application for a permit shall be made on forms provided by the planning department."

FINDING(S): a. Notice of the application was published by City staff in the *Skamania County Pioneer* on 4/15/2020 and 4/22/2020.

CONCLUSIONS OF LAW: This project will comply with SMC 18.08.110 without conditions.

CRITERION §18.08.120 – PERMITS—FEES. "Upon submittal and acceptance of a proper application for a permit, the applicant shall pay a fee based upon the fair market value of the project to the clerk-treasurer as follows: [4 categories of fees listed]

B. Fees are not refundable."

FINDING(S): a. City Council Resolution 296 became effective on 8/1/2017 and supersedes the fees in this section.
b. The proponent supplied the appropriate $1,000 application fee for a Shoreline Substantial Development Permit together with other application fees and a deposit for outside professional assistance on 2/7/2020 and 3/27/2020.

CONCLUSIONS OF LAW: This project will comply with SMC 18.08.120 without conditions.

CRITERION §18.08.130 – PERMITS—APPLICATION DISTRIBUTION. "The application for a permit and related information shall be submitted to the council by the planning department at their first regular meeting after thirty days from the date of the last publication of the application for a permit."

FINDING(S): a. The complete application was provided to the City Council at its 5/21/2020 regular meeting.

CONCLUSIONS OF LAW: This project will comply with SMC 18.08.130 without conditions.

CRITERION §18.08.140 – PERMITS—INTERESTED PARTIES—TIME LIMIT FOR RESPONSE. "A. Within thirty days of the last publication of the notice of the application for a permit, any interested person may submit his views on the application in writing to the council, or may notify the council of his desire to be notified of the action taken by the council.

B. Within thirty days of the last date of publication of the notice of the application for a permit, any interested person may also make a written request to the council that a public hearing be held on the application, pursuant to this title."

FINDING(S): a. One timely response was submitted to the City Council. The response requested notice of the action taken, requested a public hearing prior to action, and commented on public access at the proposal site.

CONCLUSIONS OF LAW: This project will comply with SMC 18.08.140 without conditions.

CRITERION §18.08.150 – REVIEW OF APPLICATIONS BY COUNCIL. "The city council shall review all applications for permits under this title at a regular council meeting. The council may refer, at its option, any application back to the planning commission for a further recommendation and/or public hearing."

FINDING(S): a. At its 5/21/2020 regular meeting, the City Council reviewed the application, and responses from interested parties.
b. The City Council referred the application to the Planning Commission for review and recommendation at the regular 6/8/2020 Planning Commission meeting.
c. The Planning Commission reviewed the application along with additional materials prepared by the applicant and provided a recommendation of conditional approval to the City Council.

CONCLUSIONS OF LAW: This project will comply with SMC 18.08.150 upon satisfaction of the conditions contained herein.

CRITERION §18.08.160 – REQUIRED PUBLIC HEARINGS. "In the following cases, decisions on applications for permits shall not be made until at least one public hearing has been held:
A. One or more interested persons has submitted to the council, within thirty days of the final publication of notice of the application, a written request for such a hearing together with a statement of reasons for the request; or
B. The estimated total cost of the proposed development exceeds two hundred fifty thousand dollars; or
C. The council determines that the proposed development is one of broad public significance."

FINDING(S): a. The City Council received a request for public hearing from an interested party.
b. The estimated total cost of the proposed development exceeds $250,000.
c. The City Council has determined a public hearing must be held.

CONCLUSIONS OF LAW: This project will comply with SMC 18.08.160 without conditions.

CRITERION §18.08.170 – PUBLIC HEARING—NOTICE PUBLICATION. "A. After setting a date and time for a public hearing, the council shall cause to be published a notice of the hearing, along with a description of the project and the project location, in a newspaper circulating and published within the town. The public hearing shall be held no sooner than fifteen days after the final date of publication of the notice of public hearing.
B. Ten days' written notice of the time and place of the public hearing shall be mailed or delivered to the applicant and to any interested persons who has notified the council in any of the ways specified in Section 18.08.140."

FINDING(S): a. At its 5/21/2020 regular meeting, the City Council set 6/18/2020 at 6:15 as the date and time when the public hearing for this project would occur.
b. Notice of the public hearing was published in the *Skamania County Pioneer* on 6/3/2020 and 6/10/2020.
c. Written notice of the public hearing was transmitted to the applicant and to the interested party on 6/2/2020.

CONCLUSIONS OF LAW: This project will comply with SMC 18.08.170 without conditions.

CRITERION §18.08.180 –COUNCIL ACTION. "A. At the public hearing scheduled for consideration of a permit by the council, the council shall, after considering all relevant information available and evidence presented to it, either grant, conditionally grant, or deny the permit.
B. In granting or extending a permit, the council may attach thereto such conditions, modifications and restrictions regarding the location, character and other features of the proposed development as it finds necessary. Such conditions may include the requirement to post a performance bond assuring compliance with other permit requirements, terms and conditions.

C. The decision of the council shall be the final decision of the town on all applications for permits. The council shall render a written decision including findings, conclusions and a final order, and transmit copies of its decision to the persons who are required to receive copies of the decision pursuant to Section 18.08.190."

FINDING(S): a. At the public hearing on 6/18/2020, the City Council reviewed all relevant information and evidence related to this proposal.
b. Based on this review, the City Council is satisfied this proposal can proceed according to specific conditions to ensure compliance.

CONCLUSIONS OF LAW: This project will comply with SMC 18.08.180 upon satisfaction of the conditions contained herein.

CRITERION §18.08.190 THROUGH .220 These provisions include actions intended to occur after issuance of a permit by the City.

FINDING(S): a. The proposal is subject to the notice, appeal, revocation, and expiration provisions provided in these sections.

CONCLUSIONS OF LAW: This project will comply with SMC 18.08.190 through 18.08.220 upon satisfaction of conditions 4-6, below.

CONDITIONS:

4. **Prior to the Start of Construction** the proponent shall not begin work will until 45 days from the date of filing of the final order of the Council with the Washington State Department of Ecology and Attorney General or until all review proceedings initiated within 45 days from the date of such filing have been terminated.
5. **Throughout the Duration of this Project** the proponent shall comply with requirements from other federal, state and county permits, procedures and regulations.
6. **Throughout the Duration of this Project** this permit shall be valid for 2 years from the date of approval by the Council. If the proposal is not completed within the 2-year period, the proponent may request City Council review and extension of the permit. Such request shall be submitted within the 2-year period of validity. Requests for extension are limited to 1 year at a time and subject to a maximum of 5 total years from the date of approval by the Council (2-year initial period of validity and 3 1-year extensions). Extensions will be granted by the Council only after finding that the proponent has made progress toward completion of the permit or that some other good cause exists for the extension.

CRITERION §18.08.230 THROUGH .240 These provisions are related to the review of Shoreline Conditional Use Permits and Shoreline Variance requests.

FINDING(S): a. The proposal includes uses permissible in the Urban Shoreline Environment Designation and does not require a Shoreline Conditional Use Permit.
b. The proposal does not include any structures requiring a Shoreline Variance.

CONCLUSIONS OF LAW: This project will comply with SMC 18.08.100 through 18.08.180 without conditions.

CRITERION §18.08.250 These provisions are related to violations of the City's Shoreline Management Program.

FINDING(S): a. The proposal is not subject to enforcement or penalties based on violation at this time.

CONCLUSIONS OF LAW: This project will comply with SMC 18.08.250 upon satisfaction of the conditions contained herein.

SKAMANIA COUNTY SHORELINE MANAGEMENT MASTER PROGRAM

The Skamania County Shoreline Management Master Program (SMP) contains the policies applicable to proposals undertaken in shoreline areas. Key provisions related to this proposal include the Overall Goals of Shoreline Master Program, Master Program Elements, Use Activities, Environment Regulations, and Use Regulations. Findings and conclusions are detailed below based on the portions of the program that apply to this proposal.

CRITERION SMP OVERALL GOALS OF SHORELINE MASTER PROGRAM This section of the SMP contains 11 goals intended to reflect the aspirations of the citizens of Skamania County.

FINDING(S): a. The proposal is located along the Rock Cove, a shoreline of the City.
b. The proposal is consistent with the goals for development in these areas because, as conditioned, it:

1. Preserves natural shoreline character where it exists on the former industrial site.
2. Protects shoreline ecology and resources consistent with the standards of this program, the City's Critical Areas Code, and other regulatory programs.
3. Recognizes and protects private property rights consistent with public interest.
4. Provides public visual access but not physical access for recreation opportunities on Rock Cove.
5. Preserves and protects fragile natural resources and culturally significant features where they exist on this site.
6. Is unrelated to the establishment of criteria for orderly residential growth.
7. Promotes an allowed, water-related use which is reasonable and appropriate within the Urban Environment and promotes and enhances public interest.
8. Maintains the existing quality of the shoreline environment, high as it may be.
9. Protects shorelines against adverse effects to public health land, vegetation, wildlife, water and aquatic life.
10. Includes water quality measures to maintain the state water quality classification of Rock Cove.
11. Can provide public physical access to the shoreline in advancement of the public right of navigation.

CONCLUSIONS OF LAW: This project will comply with the SMP's Overall Goals of Shoreline Master Program upon satisfaction of the conditions contained herein.

CRITERION SMP MASTER PROGRAM ELEMENTS: ECONOMIC DEVELOPMENT This is one of 7 Program Elements and states: "For the location and design of industries, transportation facilities, port facilities, tourist facilities, commercial and other developments that are particularly dependent on shoreland locations".

FINDING(S): a. The proposal involves water-related commercial development on a site with several peninsulas and inlets which limit upland areas (i.e., areas more than 200' from the Ordinary High Water Mark [OHWM]) on the site to a small area less than 50' wide at its widest point. Some development is located in the upland areas and the City Council is satisfied that the overall development is infeasible unless

shoreland areas (i.e., areas within 200' of the OHWM) are included.
b. Structures on the proposed site include buildings, access drives, utilities, and stormwater management facilities. The proposed structures on the site are subject to administrative review under the Zoning Code, the Critical Areas Code, and the Stevenson Engineering Standards. The City Council is satisfied that these reviews are sufficient, as conditioned, to ensure the structures will be situated so as not to decrease the quality of human or natural environments, or place an unreasonable demand upon facilities of adjacent areas.
c. The application narrative adequately demonstrates the proposed uses and facilities will be of benefit to the economic, social, and natural environment of the Mid-Columbia area.
d. The uses of the site are consistent with the permissible uses of the SMP and the Zoning Code and, as conditioned, contain appropriate considerations for compatibility with uses adjacent to the site.
e. The findings above are made in consideration of findings located elsewhere herein.

CONCLUSIONS OF LAW: This project will comply with the SMP's Economic Development Element upon satisfaction of the conditions contained herein.

CRITERION SMP MASTER PROGRAM ELEMENTS: PUBLIC ACCESS This is one of 7 Program Elements and states: "Assure safe, convenient and diversified access for the public to public shorelines of Skamania County."

FINDING(S): a. The proposal site is the subject of a public easement providing public visual access to the shoreline and located along the entire Rock Cove perimeter of the site.
b. The public access easement was granted by Skamania County as the property owner when the site was divided in 1996, however, no pathway has been developed within the public access easement.
c. The 50' shoreline setback of the Urban Environment applies to structures associated with development of the public pathway and a variance would be required prior to development of the pathway.
d. The public has been using a portion of the site—without an easement to do so—for physical access to the shoreline as an informal non-motorized boat launch.
d. The applicant has initiated a concurrent proposal to amend the plat recorded in 1996 to modify the location of the lot lines and the public easement. The intended modification should consider the provision public physical access to the shoreline in exchange for partially reducing public visual access. The public access includes foot trails and public right of ingress and egress. Conditions are necessary to ensure the above.
e. The existing and proposed access will not endanger life or property nor interfere with the rights inherent with private property.
f. The City Council encourages the public access areas which are planned features of the proposal.
g. As conditioned, the proposal does not curtail or reduce the existing free movement of the public, as such, the proposal is not discouraged.
h. The Planning Commission recommends retaining public access between the

construction phases until the accessible pathway is constructed, improving connectivity through the center of the property, retaining circulatory access around the property in place of out-and-back access.

i. The findings above are made in consideration of findings located elsewhere in this permit.

CONCLUSIONS OF LAW: This project will comply with the SMP's Public Access Element upon satisfaction of conditions 7, 8, and 8A below and the other conditions contained herein.

CONDITIONS:

7. **Prior to the Start of Construction** the proponent shall provide financial assurance that the public access components of the project will be completed.
8. **Within 3 years or prior to occupancy of future phases**, whichever occurs first, all facilities for public access shall be installed.

8.A Prior to the Start of Construction the proponent shall formalize all easements for public access. This may be done through the plat amendment process.

CRITERION SMP MASTER PROGRAM ELEMENTS: CIRCULATION This is one of 7 Program Elements and states: "Develop safe, convenient and diversified circulation systems to assure efficient movement of people during their daily and other activities with minimum disruptions to the shoreline environment and minimum conflict between the different users."

FINDING(S): a. The public pathway easement around the site is considered under the Public Access and Recreation elements of the SMP and is not considered a major thoroughfare, transportation route, terminal or other public facility.

b. The proposal includes no other components considered major thoroughfares, transportation routes, terminals or other public facilities. As a result, the circulation element does not require in-depth findings by the City Council.

CONCLUSIONS OF LAW: This project will comply with the SMP's Circulation Element upon satisfaction of the conditions contained herein.

CRITERION SMP MASTER PROGRAM ELEMENTS: RECREATION This is one of 7 Program Elements and states: "Assure diverse, convenient, and adequate recreational opportunities along the shorelines of Skamania County for the local residents and a reasonable number of transient users."

FINDING(S): a. Recreational uses of the site include free public visual access along a pedestrian pathway and potential public physical access to Rock Cove. Recreational uses also include the fee-based operation of the water-related commercial use as a hotel for transient users.

b. Development of these access/recreation amenities is subject to permitting under the Critical Areas Code and Stevenson Engineering Standards which will ensure the health and safety of the facilities and will preserve the integrity of the environment.

c. The City Council encourages the proposed private recreational pathways which connect to the proposed public access areas.

d. The inherent location of the proposal provides recreational opportunities for local citizens and tourist visitors.

e. The proposed recreational amenities on the site are compatible with adjacent uses.

f. There is no need for state or local government to acquire additional portions of

this shoreline property for recreational purposes.
g. The findings above are made in consideration of findings located elsewhere in this permit.

CONCLUSIONS OF LAW: This project will comply with the SMP's Recreation Element upon satisfaction of the conditions contained herein.

CRITERION SMP MASTER PROGRAM ELEMENTS: SHORELINE USE This is one of 7 Program Elements and states: "Assure appropriate development in suitable locations without diminishing the quality of environment along the shorelines of Skamania County."

FINDING(S): a. The proposal involves land use and no water use. The land use relates to and does not conflict with the existing uses of the water at the specific site.
b. A publicly-funded analysis (EPA Vision to Action Program) of appropriate development for the site concluded the appropriateness of the proposed uses at this site.
c. Specific land uses and location of structures is considered under the Urban Environment Regulations.
d. The findings above are made in consideration of findings located elsewhere in this permit.

CONCLUSIONS OF LAW: This project will comply with the SMP's Shoreline Use Element upon satisfaction of the conditions contained herein.

CRITERION SMP MASTER PROGRAM ELEMENTS: CONSERVATION This is one of 7 Program Elements and states: "Assure preservation of unique, fragile and scenic elements, and of non-renewable natural resources; assure continued utilization of the renewable resources."

FINDING(S): a. The City has secured third-party consultant support to review the proposal's compliance with the Critical Areas Code and assure the site manages extant fish and wildlife habitat in accordance with the Conservation Element and its policies.
b. The proposal, as conditioned, preserves scenic and aesthetic qualities of the shoreline.
c. The findings above are made in consideration of findings located elsewhere in this permit.

CONCLUSIONS OF LAW: This project will comply with the SMP's Conservation Element upon satisfaction of conditions 9 through 11 below and the other conditions contained herein.

CONDITIONS:

9. **Prior to the Start of Construction** a Critical Areas Permit shall be secured for the development and all pre-construction conditions of the permit shall be satisfied. Any offsite mitigation necessary to secure the critical areas permit may be located within the shoreline area, provided the offsite mitigation complies with the conditions contained herein.
10. **Prior to Occupancy** all construction related conditions of the proposal's Critical Areas Permit shall be satisfied.

CRITERION SMP MASTER PROGRAM ELEMENTS: HISTORICAL/CULTURAL This is one of 7 Program Elements and states: "Protect, preserve and restore sites and areas having historical, cultural, educational and scientific values."

FINDING(S): a. An Cultural Resources Study was completed on 2/4/2020 by Applied Archaeological Research Inc. (AAR), which concludes the site lacks buildings, structures, or sites that are listed in or eligible for listing in national, state, or local preservation registers.
b. The study by AAR also provides recommendations which are included as SEPA mitigation measures. Historical/Cultural Element.
c. The study by AAR identifies the previous uses of the site and its focus on eligibility for preservation registers does not consider the inherent historic, cultural, or educational value of the site's historic use, discontinuance, and proposed re-use.
d. The inherent historic, cultural, and educational value of the site's historic usage, discontinuance, and reuse can be preserved through the installation of an interpretive sign. .
e. The findings above are made in consideration of findings located elsewhere in this permit.

CONCLUSIONS OF LAW: This project will comply with the SMP's Historical/Cultural Element upon satisfaction of the conditions contained herein.

CONDITIONS:

11. **Prior to Occupancy** an interpretive sign shall be installed on the site within a public access area. The content of the sign shall address the site's history, complement, and not duplicate other signs within the system of interpretive signs existing in the city. The interpretive sign should incorporate the city's standard design elements and the applicant shall obtain approval from the Shoreline Administrator prior to sign fabrication.

CRITERION SMP SHORELINE POLICY STATEMENTS FOR THE USE ACTIVITIES This section of the SMP details specific policies for 21 types of use activities that serve as "the criteria upon which judgements [sic] will be based in granting shoreline permits".

FINDING(S): a. Of the 21 specific uses identified in this section of the SMP, only 6 require detailed findings herein: Archeological Areas and Historic Sites, Commercial/Industrial Development, Recreation, Solid Waste Disposal, Utilities, and Wildlife.
b. Archeological Areas and Historic Sites.
1. The Cultural Resources Report performed by AAR identifies no resources which are listed or eligible for listing in the national, state, or local historic registers.
2. An inadvertent discovery policy is one of the 16 required SEPA mitigation measures which must be satisfied as part of the site's development.
3. The Inadvertent Discovery Policy includes appropriate protocols for stopping and restarting work if archaeological or historic resources are found.
c. Commercial/Industrial Development.
1. The proposed use (hotels, motels, condominiums) is considered water-enjoyment uses and benefits from its proximity to the shoreline.
2. The proposal site is not owned by the Port District, however, it is encouraged because it is located in an Urban Environment where the use is permissible.
3. The Council has assessed the scenic views of the area and concludes the proposal, as conditioned herein, has acceptable effects, expecially from the County Fairgrounds across Rock Cove.
4. Parking facilities are located in appropriate places away from the immediate

water's edge and recreational areas.

5. Public visual public access, and potential public physical access, to the waterfront are integral parts of this proposal.

6. The new commercial/industrial facilities have proposed locations outside of the 50' shoreline setback and minimize unwarranted use of the shorelines.

7. Standards for building setbacks and design, site coverage and landscaping are dealt with through other sections of the SMP and through the City's Zoning Code.

d. Recreation.

1. The proposal includes public visual access, and potential public physical access, to the shoreline and facilitates recreational uses.

2. The proposed new public access relieves pressure from other, informal access points along the Rock Cove.

3. The proposal includes a pathway that provides linear access and linkage between other pathways and the site's public access points.

4. Standards for views and scenic vistas are dealt with through other sections of the SMP.

5. The location of parking facilities is dealt with through other sections of the SMP.

6. The proposed public access and pathway supplement the variety of recreational developments available to nearby population centers.

7. The potential recreation facilities involved with physical access help address an existing deficit in the overall supply of formal public physical access to Rock Cove.

8. No facilities for intensive recreation are proposed at this time.

9. No recreational facilities requiring large amounts of fertilizers or pesticides are proposed at this time.

10. Public health needs are an important part of developing recreational areas and should be considered in relation to this project.

e. Solid Waste Disposal.

1. Structures and devices related to solid waste storage, collection, and transportation are considered as part of the site's administrative review under the Zoning Code.

2. The proposed does not involve disposal of solid waste on site.

f. Utilities.

1. The proposal involves installation of utilities to serve the site's needs. All utilities serve the site are proposed to be underground.

2. Suitability of the utilities to serve growth at the site will be determined based on the administrative review under the Stevenson Engineering Standards.

3. No major transmission lines are proposed for the site, and the site's location and property line configuration make extension of transmission lines infeasible.

4. Revegetation of the site is subject to administrative review under the Critical Areas Code, Zoning Code, and Stevenson Engineering Standards.

g. Wildlife.

a. On behalf of the applicants, Ecological Land Services (ELS) prepared a Preliminary Critical Areas Assessment for the site to identify rare and endangered wildlife species habitat. The proposal is subject to evaluation of impacts to rare and endangered wildlife under the Critical Areas Code.

b. The assessment prepared by ELS did not identify winter range habitats

requiring protection from development beyond those protections required by the Critical Areas Code.

c. The assessment prepared by ELS did not identify nesting sites for waterfowl, hawks, owls and eagle species requiring protection from development beyond those protections required by the Critical Areas Code.

d. Review of the project's possible detrimental impacts on wildlife resources, including the fisheries resource and spawning areas for anadromous fish, is dealt with through the Critical Areas Code.

h. The findings above are made in consideration of findings located elsewhere in this permit.

CONCLUSIONS OF LAW: This project will comply with the SMP's Master Program Elements upon satisfaction of conditions 12 and 13 below and the other conditions contained herein.

CONDITIONS:

12. **Prior to the Start of Construction** the proponent shall evaluate the recreational facilities/sites in relation with all guidelines and standards of appropriate state and local public health officials.
13. **Prior to the Start of Construction** the proponent shall apply for and obtain all appropriate approvals required under the City's Building and Zoning codes and the Stevenson Engineering Standards.

CRITERION SMP ENVIRONMENT REGULATIONS This section of the SMP details regulations applicable within specific Shoreline Environment Designations. The proposal is located in the Urban Environment, and the other 3 designation types are not detailed.

FINDING(S): a. Inapplicable Environment Regulations. The proposal is located within an Urban Environment and subject to regulation thereunder. The proposal has not been reviewed according to the regulations for Natural, Conservancy, or Rural environments.

b. Urban Environment Regulation.

1. Purpose. Based on the review below and elsewhere herein, this proposal advances the purpose of the Urban Environment.

2. Uses. The proposal includes the following principal use: Hotels, motels, condominiums. The use is permissible in the Urban Environment. The proposed parking is accessory to the proposed principal use and is not considered a stand-alone principal use subject to shoreline conditional use review. No unlisted uses or listed conditional uses are proposed.

3. Minimum shoreline Frontage and Lot Size. Changes proposed to shoreline frontage or lot size are subject to review under the Zoning Code and short plat amendment procedures.

4. Public Access. The commercial proposal includes areas for public visual and physical access to the shoreline which do not interfere with the primary commercial activity or endanger public safety.

5. Setbacks. No buildings or structures are proposed to be located closer than 50' to the ordinary high water mark nor over water.

6. Building Height. No proposed buildings exceed 35' in height.

7. Building Design. Site plans have been submitted which illustrate the access areas of the site and their relation to the buildings. The landscaping of the site is

subject to review under Restoration, below, and the Critical Areas and Zoning codes.

8. Side yards. No buildings are proposed within the 25 minimum required side yard.

9. Front yards. No front yard requirement is identified in the SMP. Minimum front yards are subject to review under the Zoning Code.

10. Parking and Loading. No parking areas are proposed within the 50' shoreline waterfront setback area. The anticipated plat amendment or boundary line adjustment procedure will ensure no parking areas are proposed within the 25' shoreline side yard area. Parking and loading areas are proposed upland of the buildings being served.

11. Signs. No signs are proposed at this time.

12. Restoration. The proposal includes limited detail on landscaping. Vegetation within Critical Area buffers are subject to review and approval under the Critical Areas Code. Vegetation located between the buildings and Rock Creek Drive is subject to review and approval under the Zoning Code. No vegetation, landscaping or screening has been proposed for the future development area. No dilapidated buildings exist on the site. Maintenance of the construction site has not been detailed as part of the proposal but is subject to limited controls under the SEPA mitigation measures.

c. The findings above are made in consideration of findings located elsewhere in this permit.

CONCLUSIONS OF LAW: This project will comply with the SMP's Master Program Environment Regulations upon satisfaction of conditions 14 through 15 below and the other conditions contained herein.

CONDITIONS:

14. **Prior to Completion of this Project** the proponent shall submit a landscaping and/or screening plan for the future development areas of this project. The plan shall comply with the Restoration regulations of the Shoreline Management Master Program. The landscaping/screening plan shall provide photo simulations of the project from 2 sites on the County Fairgrounds demonstrating the landscaping, within 10 years, will screen at least 50% of the building walls and rooftops from view at each location. To achieve the screening within the required timeline, the proponents shall retain as many of the existing, native trees as practicable except as necessary for site improvements or for safety purposes. All retained trees shall be indicated on the landscape plan.
15. **During the Duration of this Project** the proponent shall install temporary fencing/screening around the construction site to prevent public visual and physical access to the area. In order to explain the project and temporary blockages, the fencing may include signs on the landward sides of the project. Signs shall be temporary and shall not exceed 40 square feet.

CRITERION SMP SHORELINE USE REGULATIONS This section of the SMP details specific regulations for 6 categories of use and is "intended to govern the manner in which the particular use of [sic] type of development is placed in each environment so that these [sic] are no effects detrimental to achieving the objectives of the particular environment".

FINDING(S): a. Inapplicable Use Regulations. The proposal does not include components reviewable under the Renewable Resource; Flood Plain Development, Surface Mining, or Docks and Floating Structure regulations.

b. Construction and Operations Regulations.

1. No construction equipment is proposed to enter any shoreline body of water, and the City Council lacks the authority to permit this if the need arises.

2. Vegetation from shoreline areas may be removed if authorized in compliance with the Critical Areas and Zoning codes.

3. The proposal is subject to review under the Stevenson Engineering Standards to ensure measures are implemented to control land-borne and water-borne siltation and erosion and will also prevent waste materials and other foreign matter from entering the water.

4. Fuel and chemicals are necessary to operate the equipment used in this proposal.

5. Drainage for the land being prepared for development is subject to review and approval under the Stevenson Engineering Standards.

6. Road building is not proposed at this time.

7. Land clearing operations are not proposed at this time.

8. Equipment, fuels and/or oil may be necessary to complete this proposal.

c. Scenic Vista and View Protection Regulations.

1. No signage is proposed at this time.

2. The proposal and its installation of utilities is reviewed above.

3. No buildings or structures higher than 35 feet are proposed at this time.

CONCLUSIONS OF LAW: This project will comply with the SMP's Use Regulations upon satisfaction of conditions 16 through 18 below and the other conditions contained herein.

CONDITIONS:

16. **Throughout the Duration of this Project** construction equipment shall only enter the waters of Rock Cove if authorized to do so by the appropriate state and/or federal agencies.
17. **Throughout the Duration of this Project** All fuel and chemicals hall be kept, stored, handled and used in a fashion which assures that there will be no opportunity for entry of such fuel and chemicals into the water.
18. **Prior to Project Completion** the proponent shall ensure that all construction debris such as fuel and oil containers and barrels and other miscellaneous litter are removed from the shoreline area. No equipment shall be abandoned within the shoreline area.

SMC CH. 18.13 CRITICAL AREAS AND NATURAL RESOURCE LANDS

This chapter considers whether projects are located within or likely to impact Critical Areas (Critical Aquifer Recharge Areas, Fish & Wildlife Habitat Areas, Frequently Flooded Areas, Geologically Hazardous Areas, Wetlands), requiring mitigation if impacts are identified. The Chapter is subject to administrative review and approval.

FINDING(S): a. The proponent has submitted a Preliminary Fish & Wildlife Habitat Report and is working with staff and a third-party consultant to review and finalize the permit requirements.

CONCLUSIONS OF LAW: This project will comply with the Critical Areas Ordinance upon satisfaction of the conditions contained herein.

SUMMARY DETERMINATION OF COMPLIANCE

The preceding discussion describes the City Council's review of the relevant information available and evidence presented regarding FDM Development's proposal for the Rock Cove Hospitality Center (City file SHOR2020-01). The findings and conclusions of this document justify issuance of a Shoreline Substantial Development Permit under the Skamania County Shoreline Management Master Program. The Shoreline Substantial Development Permit for this proposal is being conditionally granted subject to the conditions established herein. For ease of readership, all conditions are repeated below:

Any person aggrieved by the granting of this permit by the Council may seek review from the Shorelines Hearings Board, pursuant to RCW 90.58.180.

1. **…[To be added by staff upon Council Approval]…**

DATED this ____ day of June, 2020

_____

For the Council,
Scott Anderson, Mayor
City of Stevenson