



**40600-HS-RPT-55034**

**Revision 0**

## **Phase I Environmental Site Assessment**

**BHP Billiton Canada Inc.**

Submitted to  
**Ms. Valerie Bond**  
**BHP Billiton Canada Inc.**  
130 Third Avenue South  
Saskatoon, SK S7H 1L3  
Canada

Submitted by  
**BergerABAM**  
1301 Fifth Avenue, Suite 1200  
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A17.0202.00

21 July 2017

21 July 2017

Ms. Valerie Bond  
BHP Billiton Canada Inc.  
130 Third Avenue South  
Saskatoon, SK S7K 1L3  
Canada

Dear Ms. Bond:

BergerABAM is pleased to submit our final "Proposed Grays Harbor Potash Export Facility – Phase I Environmental Site Assessment Summary Report" for the property located at the Port of Grays Harbor Terminal 3 and adjacent parcels in Hoquiam, Washington. Our services were completed in general accordance with our proposal dated 13 February 2017.

We appreciate the opportunity to assist the BHP Billiton Canada Inc. on this project. Please contact us if you have questions regarding this report.

Sincerely,



Victoria R. England, LG  
Senior Environmental Scientist

VRE:wp  
Attachment



## Summary Report

### Phase I Environmental Site Assessment Proposed Grays Harbor Potash Export Facility Port of Grays Harbor, Hoquiam, Washington BHP Document No. 40600-HS-RPT-55034

#### Submitted to

**BHP Billiton Canada Inc.**  
**130 Third Avenue South**  
**Saskatoon, SK S7K 1L3**  
**Canada**

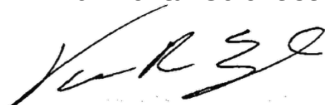
#### DECLARATIONS

- "I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in Sec. 312.10 of 40 CFR Part 312."
- "I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I performed and/or developed all the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312."<sup>1</sup>

#### Submitted by



**April Ryckman**  
**Environmental Scientist**



**Victoria R. England, LG**  
**Project Manager/Environmental Scientist**

#### BHP - Endorsed by



#### BHP - Approved by



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**21 July 2017**  
**A17.0202.00**

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<sup>1</sup> A person who does not qualify as an Environmental Professional may assist in the conduct of all appropriate inquiries in accordance with ASTM E 1527-13, if such person is under the supervision or responsible charge of a person meeting the definition of an environmental professional when conducting such activities.

**BHP BILLITON CANADA INC.**  
**PHASE I ENVIRONMENTAL SITE ASSESSMENT**  
**PROPOSED GRAYS HARBOR POTASH EXPORT FACILITY**  
**PORT OF GRAYS HARBOR, HOQUIAM, WASHINGTON**

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## GLOSSARY

Abbreviation	Definition
AAI	All Appropriate Inquiry
AIRS	Aerometric Information Retrieval System
ALLSITES	Site of Interest to Washington State Department of Ecology
AST	aboveground storage tank
ASTM	American Society for Testing and Materials
BHP	BHP Billiton Canada Inc.
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CFR	Code of Federal Regulations
CSCSL	Confirmed and Suspected Contaminated Sites List
DOD	Department of Defense
ECHO	Enforcement and Compliance History Online
Ecology	Washington State Department of Ecology
EDR	Environmental Data Resources, Inc.
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
FINDS	Facility Index System
FUDS	Formerly Used Defense Site
HSL	Hazardous Site List
MTCA	Model Toxics Control Act
NFA	No Further Action
NLR	No Longer Regulated
NonGen	Non Generator
Port	Port of Grays Harbor
RCRA	Resource Conservation and Recovery Act
REC	recognized environmental condition
SR	State Route
SWF/LF	Solid Waste Facilities/Landfill Sites
UST	underground storage tank

**PHASE I  
ENVIRONMENTAL SITE ASSESSMENT  
PROPOSED GRAYS HARBOR POTASH EXPORT FACILITY  
PORT OF GRAYS HARBOR, HOQUIAM, WASHINGTON**

## **1.0 INTRODUCTION**

This report summarizes the results of our Phase I Environmental Site Assessment (ESA) of the Port of Grays Harbor (Port) Terminal 3 and adjacent parcels in Hoquiam, Washington, as shown on Figure 1, Vicinity Map. The study area is approximately 240 acres and is referred to herein as the “subject site.” The subject site consists of all or part of 13 tax parcels of waterfront and industrial land with multiple owners. The subject site is shown relative to surrounding physical features in Figure 1, and a site map showing the tax parcels is provided as Figure 2.

We understand that BHP Billiton Canada Inc. (BHP) is considering a long-term lease and redevelopment of the subject site. We further understand that the results of this Phase I ESA will be used as part of BHP’s evaluation of potential recognized environmental conditions (RECs)<sup>2</sup> associated the site.

### **1.1 Purpose and Scope of Services – Phase I ESA**

The purpose of this Phase I ESA is to identify RECs in connection with the properties. Our services were completed in general accordance with our proposal, dated 13 February 2017, and authorized by BHP on 20 March 2017. Our scope of services was developed in general accordance with American Society for Testing and Materials (ASTM) Standard E 1527-13 for Phase I ESAs and the Environmental Protection Agency’s (EPA) Federal Standard 40 Code of Federal Regulations (CFR) Part 312 “Standards and Practices for All Appropriate Inquiries (AAI).” The scope of services described below was completed by an environmental professional as described in Federal Standard 40 CFR. Our scope of services for the Phase I ESA included the following.

1. Reviewing historical aerial photographs, topographic maps, and tax assessor records as available and appropriate to identify past development history on, and adjacent to, the subject site relative to the possible use, generation, storage, release, or disposal of hazardous substances.
2. Conducting a visual reconnaissance of the subject site and adjacent properties to identify visible evidence of potential RECs.

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<sup>2</sup> Recognized environmental conditions are defined in ASTM E1527-13 as “the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. *De minimis* conditions are not recognized environmental conditions.”

3. Attempting to identify uses of the site from the present to the time that records show no apparent structures on the site, back to the time the property was first used for residential, agricultural, commercial, industrial, or governmental purposes or back to 1942, whichever is earlier.
4. Identifying data gaps relative to site historical use.
5. Reviewing the results of a federal, state, local, and tribal environmental database search provided by an outside environmental data service for listings of sites with known or suspected environmental conditions on or near the subject site and within a 1-mile search distance from the boundaries of the subject property.
6. Reviewing online and hard copy regulatory agency files regarding listed sites of potential environmental concern relative to the subject site.
7. Providing this summary report with a matrix and figure summarizing the results of the records review and identified recognized environmental conditions along with our opinion and recommendations regarding the potential for contamination by hazardous substances at the site and the significance of any data gaps identified.

## **1.2 Special Considerations**

The EPA standard for AAI requires that the end user of this report disclose whether there is a significant difference between the purchase price of the subject property and the fair market value. This comparison is intended to assess whether the property value is reduced as a result of real or perceived contamination. Valerie Bond with BHP provided this information by completing our Phase I ESA User Questionnaire (Appendix A).



## 2.0 SUBJECT SITE DESCRIPTION

### 2.1 Involved Parties

BHP is considering a long-term lease and redevelopment of the subject site. Involved parties primarily include BHP and the Port. Other property owners may be involved as the Port consolidates the proposed site via leases or property acquisition.

Information provided by Grays Harbor County Geographical Information Systems indicates the subject site parcels are currently owned by the Port of Grays Harbor; Emerson Street Hoquiam, LLC; City of Hoquiam; and Adam Street Hoquiam, LLC.

### 2.2 Location, Legal Description, and Setting

General site information, property use(s), and environmental setting of the subject site area are summarized in Table 1 below. Refer to Figures 1 and 2 for vicinity and site maps. Photographs of the subject site are included in Appendix B.

**Table 1. Subject Site Information**

Topographic Map	USGS, 7.5 minute, Hoquiam, Washington, topographic map, 2014
Section, Township, and Range	S10, T17N, R10W of the Willamette Baseline and Meridian
Subject Site Address(es)	100 Airport Way, 400 Airport Way, and 615 Airport Way, Hoquiam, WA 98550
Subject Site General Location	On the shoreline of Grays Harbor west of the Hoquiam River and adjacent upland
Tax Parcel Numbers	056401100203 (Port of Grays Harbor), 056401000400 (Port of Grays Harbor), 056401000501 (Port of Grays Harbor), 517101021001 (Port of Grays Harbor), 517101012001 (Port of Grays Harbor), 056401100204 (Port of Grays Harbor), 056401000801 (Port of Grays Harbor), 056401000301 (City of Hoquiam), 056401000201 (City of Hoquiam), 056401100100 (City of Hoquiam), 056401100202 (City of Hoquiam), 056401000600 (Adam Street Hoquiam, LLC), 517101011001 (Emerson Street Hoquiam, LLC)
Abbreviated Subject Site Legal Description	HOQ TDLDS TAX R3 (OUT OF TRS 10-11); HOQ TDLDS LOT 6 & LOT 7 LS 176' OF E 176' TR 10; HOQ AC LOT 1 LS RY RW LS PT OF TAX 2 LS TAX 3 & 4; LOT 2 S OF RY RW LS TAX 1
Subject Site Approximate Area	240 Acres
Subject Site Existing Use	A 25-acre portion of the site is used as a log storage and wood chipping/processing facility (Willis Enterprises). A 3-acre portion of the site is used as a landfill. A 4-acre portion of the site in the northeast corner is used as a distillery. A 20-acre portion of the site is used as the City of Hoquiam's wastewater pond.

Geologic Setting	Puget-Willamette Lowland - Chehalis River Basin
Nearest Surface Water Bodies	Grays Harbor lies south and west of the site.
Approximate Surface Elevation	Approximately 20 feet above mean sea level
Soil and Geologic Conditions	Site soil generally consists of very loose to very dense fill over estuarine and alluvial deposits
Depth to Groundwater	Depth to groundwater is approximately 2 to 15 feet below the ground surface
Inferred Direction of Shallow Groundwater Flow	To the west/southwest towards Grays Harbor, based on local surface drainage features, topography, and surface water features

Our knowledge of the general physiographic setting and geology and groundwater occurrence in the subject site vicinity is based on our review of the topographic map listed above, public agency records, and reviewing information from investigations conducted by others at the subject site and site vicinity.

## 2.3 Subject Site Reconnaissance

### 2.3.1 Summary of Observations

A representative of BergerABAM performed a visual reconnaissance of the subject site on 10 May 2017. The subject site is generally flat, ranging from Elevations +7 to +23 feet mean lower low water (MLLW). The approximately 240-acre site (including an existing berth and intertidal area) is occupied by approximately 4.3 acres of wetland near the northwest corner, 1.6 acres of wetlands on the west and southwest portions of the site, and 77 acres of wetland on the east portion of the property. These wetland areas are approximated from previous studies<sup>3</sup>. The subject site and surrounding properties are shown on Figures 2 and 3.

The central portion of the subject site is occupied by a lumber yard and wood chip facility (owned by the Port; leased to Willis Enterprises). The wood chip warehouse sits on a paved yard, but the remainder of the wood chip facility property (e.g., log storage area) is not paved. A warehouse-type property is on the northeast corner of the site (Lamb Property). The southwest corner of the site (City parcel) is occupied by a stormwater treatment pond that has been partially filled.

Airport Way crosses the south portion of the site near the shoreline, Bowerman Airfield and Grays Harbor National Wildlife Refuge are to the west, and commercial and residential properties border the subject site on the north. Undeveloped and/or cleared land is located east of the site and extends east to Paulson Road.

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<sup>3</sup> HDR Engineering, Inc., March 2014. "Grays Harbor Rail Terminal LLC, Wetland Technical Report." March 2014.

The subject site has a rail spur that extends south from the main line to approximately the center of the site area. The main line is located near West Emerson Avenue adjacent to the north portion of the site.

Table 2 below summarizes conditions observed during our subject site reconnaissance.

**Table 2. Summary of Subject Site Reconnaissance Observations**

Feature	Observed		Comment, Location, and/or Description
	Yes	No	
Structures (existing)	X		Willis Enterprises: 1 maintenance shed, 1 weigh station office, and 1 guardhouse (not in use)  Tax Parcels 056401000600 and 517101011001: 3 warehouses (one of which was labeled “Bellweather Yard Rack and Bottle”) and a storage area for wooden barrels.  Tax Parcel 056401000400: 3 abandoned and dilapidated warehouses, 1 abandoned weigh station, and associated office building
Structures (evidence of former)	X		A footprint of a former building was observed on the northeast portion of the subject site (Tax Parcel 056401000600)
Heating/Cooling System		X	
Floor Drains, Sumps, or Drywells		X	
Aboveground Storage Tanks (ASTs)	X		2 diesel ASTs diked for secondary containment were observed inside the maintenance building at Willis Enterprises
Underground Storage Tanks (USTs) or Evidence of USTs		X	
Drums or Other Containers	X		Approximately thirty 55-gallon drums and other containers on concrete floor inside warehouse at Willis Enterprises. No secondary containment was observed around the drums and containers.
Chemicals or Hazardous Materials (other than <i>de minimis</i> quantities of cleaning products)		X	
Evidence of Leaks, Spills, or Releases Surrounding ASTs, USTs, and/or Chemical Storage Areas	X		Oil staining on concrete floor around ASTs and 55-gallon drums inside maintenance building at Willis Enterprises (Tax Parcel 056401000801)
Stained or Corroded Floors, Walls, or Drains (other than apparent water stains or minor oil stains on pavement from parked vehicles)	X		Oil staining on the concrete floor of the maintenance building was observed at Willis Enterprises (Tax Parcel 056401000801). According to one of the workers at the site, small or “de minimus” spills of hydraulic fluid from their equipment do occur on the property. He stated that they clean up the spills by digging them up and disposing of the soil. The employee did not indicate how or where the spill-impacted soil was disposed.

Feature	Observed		Comment, Location, and/or Description
	Yes	No	
Pipes of Unknown Origin or Use		X	
On-site Septic System		X	
Sewage Disposal System		X	
Potable Water Supply		X	
Solid Waste Refuse Dumpsters	X		
Hydraulic Hoists		X	
Oil/Water Separators		X	
Discolored or Stained Soil or Vegetation Potentially from Hazardous Substances		X	
Hazardous Waste Disposal Areas		X	
Uncontained Debris, Refuse, or Unidentified Waste Materials	X		A debris pile was observed on the eastern portion of Willis Enterprises property (see Figure 3)
Standing Water or Other Liquids	X		Standing water on land west/northwest of Willis Enterprises
Catch Basins and Stormwater Drainage		X	
Pits/Ponds/Lagoons	X		City of Hoquiam wastewater pond located on west side of property
Waste or Wastewater Discharges		X	
Unusual Odors		X	
Stressed Vegetation		X	
Fill Material		X	
Water Wells (agricultural, domestic, monitoring)	X		One monitoring well was observed on the southern portion of Tax Parcel 056401000600 associated with Lamb Grays Harbor Company property
Pad-Mounted Transformers	X		One pad-mounted transformer with a visible "No PCB" sticker was observed on the southeast portion of Tax Parcel 056401000801
Pole-Mounted Transformers	X		Two pole-mounted transformers were observed on Tax Parcel 056401000801 and one pole-mounted transformer was observed on Tax Parcel 056401000600
Other Conditions of Environmental Concern		X	

## 2.4 Adjacent Property and Vicinity Observations

We observed properties located adjacent to and surrounding the subject site on 10 May 2017. We observed the adjacent properties from accessible public rights-of-way and from the subject site. Table 3 below outlines adjacent land uses and pertinent observations with respect to conditions that could pose as RECs on the subject site.

**Table 3. Adjacent Land Uses**

Direction	Position Relative to Site <sup>a</sup>	Adjoining Street	Adjacent Property and Use(s)
North	Upgradient	West Emerson Avenue/State Route 109 (SR 109)	A railroad track traverses the northern boundary of the site. Farther north, there is forested land, private residences, and commercial businesses (Ovalstrapping, a credit union, and Lamb Grays Harbor Company).
East	Up to Crossgradient	South Adams Street	Commercial properties (Root Paint & Glass Company, Apex Environmental) lumber yard, mini storage, and private residences.
South	Downgradient	Airport Way	Grays Harbor and the Port's Terminal 3 pier.
West	Down to Crossgradient	Paulson Road and Airport Way	The property immediately adjacent to the west is a wastewater pond and the wastewater treatment facility. Bowerman Airport is located west of the wastewater facility. The Grays Harbor National Wildlife Refuge is located north of the airport and west of the subject site.

Note<sup>a</sup>: The inferred shallow groundwater flow direction in the subject site vicinity is generally toward the west/southwest (see Section 2.2).

## 3.0 ENVIRONMENTAL RECORDS REVIEW

### 3.1 Database Search

BergerABAM reviewed the results of a search of pertinent environmental regulatory lists and databases for current or previous facilities listed at the subject sites and addresses located within ASTM-specified distances from the subject sites. The database search was provided by a subcontracted regulatory list search service, Environmental Data Resources, Inc. (EDR). The EDR report is presented in Appendix C. The report includes details regarding the listed facilities identified and maps showing the approximate locations of the listed facilities relative to the subject site.

The subject site and off-site facilities that are located within 1 mile of the subject site are listed in various databases (e.g., ALLSITES<sup>4</sup>, FINDS<sup>5</sup>, CSCSL<sup>6</sup>, ECHO<sup>7</sup>, UST<sup>8</sup>) in the EDR report. Table 4 below summarizes the database listings of the subject site and the listed facilities in that area that, in our opinion could pose a REC to the subject site. Additional sites identified in the EDR report that are not included in Table 4 were located in a downgradient position, were at a distance to not likely affect the subject site, and/or did not have RECs at the site.

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<sup>4</sup> ALLSITES are listed in the EDR report as 'sites of interest' to the Washington State Department of Ecology (Ecology).

<sup>5</sup> The Facility Index System (FINDS) contains both facility information and "pointers" to other sources of information that contain more detail.

<sup>6</sup> The State Hazardous Waste Sites records are the states' equivalent to CERCLIS (Comprehensive Environmental Response, Compensation, and Liability Information System). These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. The data come from the Ecology's Confirmed and Suspected Contaminated Sites List (CSCSL).

<sup>7</sup> ECHO, Enforcement and Compliance History Online, is a web tool developed and maintained by EPA's Office of Enforcement and Compliance Assurance for public use. The ECHO website provides environmental regulatory compliance and enforcement information.

<sup>8</sup> The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Ecology's Statewide UST Site/Tank Report.

**Table 4. Summary of Regulatory Database Search  
Listings of Potential Environmental Concern**

<b>EDR Map ID</b>	<b>Location<sup>a</sup></b>	<b>Listed Business and Address</b>	<b>Regulatory Database</b>	<b>Description</b>	<b>Additional Information</b>
A1, A2, A3	Subject Site	Dahlstrom Lumber Co., 100 Airport Way	ALLSITES, NPDES, FINDS, ECHO	This site is listed for an industrial stormwater general permit and is a “site of interest” to Ecology. It is also listed as “Willis Enterprises” in the EDR report.	The Dahlstrom Lumber Co. site is the lumberyard and wood chipping facility that currently operates as Willis Enterprises on the subject site.
		Rayonier Grays Harbor Dock, 615 Airport Way	ALLSITES, CSCSL No Further Action (NFA), NPDES	This site is a former lumberyard that operated on the west-central portion of the subject site and was listed on Ecology’s CSCSL. The Ecology Toxics Cleanup Program online database indicates a NFA was issued in 2002.	The Rayonier Grays Harbor Dock site is located on the subject site where Willis Enterprises currently operates (see Figure 3). This site is considered a REC because (1) petroleum hydrocarbon impacted soil was left in place beneath a concrete pad associated with the former debarker and (2) a groundwater sample collected west of the debarker had detected concentrations of diesel-range petroleum hydrocarbons that exceeds Model Toxics Control Act (MTCA) Method A cleanup levels. See Section 3.2.1 for additional information.
F20	Subject Site	Lamb Grays Harbor Company, Blaine Street and Firman Street	Hazardous Site List (HSL), CSCSL, UST, ALLSITES, RCRA Non Generator/No Longer Regulated (NonGen/NLR), Aerometric Information Retrieval System (AIRS)	This site is a former machinery manufacturing facility for pulp and paper equipment. Multiple USTs and ASTs (fuel oil, diesel, leaded gasoline, and Bunker C oil) were decommissioned with no environmental assessment completed before closure. Widespread oil staining and no secondary containment for storage drums were documented on site during Ecology’s site visit in 2005.	The Lamb Grays Harbor Company site (see Figure 3) is considered to be a REC because Ecology’s Toxic Cleanup Program database states that the site has confirmed soil (metals priority pollutants, other reactive wastes, and petroleum products). SLR International Corporation’s (SLR) Subsurface Investigation Report stated that the site has confirmed soil (diesel-range organic [DRO], HO, total cPAH, and lead) contamination and confirmed groundwater (DRO, HO, total cPAH, gasoline-range organic [GRO]) contamination above cleanup levels in 2015. Site is awaiting cleanup. Please see Sections 3.2.5 and 3.3.1 for additional information.

EDR Map ID	Location <sup>a</sup>	Listed Business and Address	Regulatory Database	Description	Additional Information
4, B6	Subject Site	Adams Street Inert Waste Disposal Site, 400 block - south Adams Street	ALLSITES, FINDS, Solid Waste Facilities/Landfill Sites (SWF/LF)	This site was used for construction debris/concrete disposal. According to Ecology's Toxic Cleanup Program database, no violations or hazardous material releases have been reported for this site.	The Adams Street Inert Waste Disposal Site is a REC because it is on the subject site (see figure 3) and there was no record of testing of the materials placed in the landfill in the information reviewed. See Section 3.2.2 for additional information.
23	Upgradient – Approximately 800 feet north of the subject site	Fuds Hoquiam High School Munitions, HIWAY 109	CSCSL, ALLSITES	This site was used as U.S. Department of Defense site for small arms ammunition manufacturing.	The Hoquiam High School Munitions Site is not considered a REC because the 2012 site investigation results indicated there are no munitions on site and lead was not detected in soil at a concentration greater than the MTCA Method A cleanup level. See Section 3.2.3 for additional information.
B8, C12	Crossgradient - Approximately 500 feet east of the subject site boundary	Apex Environmental, 414 S Adams Street and 418 S Adams Street	HSL, CSCSL, ALLSITES, RCRA NonGen/NLR, FINDS, MANIFEST, NPDES, ECHO, SWF/LF	According to Ecology's Toxic Cleanup Program database, the site has confirmed soil (petroleum products) and suspected groundwater and surface water contamination above cleanup levels. The site is awaiting cleanup.	The Apex Environmental site is not considered a REC because it is not on the subject site and is a "low priority" site to Ecology. See Section 3.2.4 for additional information.

Note<sup>a</sup>: Shallow groundwater flow direction in the subject sites vicinity flows to the west/southwest as noted in Section 2.2.

## 3.2 Ecology File Review

BergerABAM reviewed Ecology site regulatory files for sites that are suspected RECs or facilities with data gaps. The information was reviewed at Ecology's headquarters in Lacey, Washington. A brief summary of the information reviewed is provided below.

### 3.2.1 Rayonier Grays Harbor Dock/Willis Enterprises

The Rayonier Grays Harbor Dock/Willis Enterprises facility has been variously operated as a lumber mill and wood chip export facility for more than 30 years. The "Environmental Investigation and Site Cleanup Actions Report" (GeoEngineers, 2000) included in the file indicated that approximately 340 cubic yards of petroleum-contaminated soil were removed from the site as part of a site cleanup. Petroleum-impacted soil that exceeded site-specific MTCA Method B cleanup levels was left in place beneath a concrete pad (former debarker) at the site due to its location beneath an operating structure. Diesel-range petroleum hydrocarbons that exceed MTCA Method A



cleanup levels were detected in one groundwater sample collected adjacent to the debarker. The site received an NFA determination under Ecology's Voluntary Cleanup Program after the 2000 cleanup was completed.

This site is a REC due to its location on the project site and the residual contamination left on site beneath the former debarker pad after the 2000 cleanup.

### **3.2.2 Adams Street Inert Waste Disposal Site**

The Adams Street Inert Waste Disposal site has been a permitted landfill for more than 10 years. The files reviewed for the Adams Street Inert Waste Disposal site included solid waste disposal permits and permit renewals. There are no records of a hazardous material release at the site.

The site is considered a REC as it is located on the project site and no material characterization is completed prior to disposal at the site.

### **3.2.3 Fuds Hoquiam High School Munitions**

Fuds Hoquiam High School Munitions is a formerly used defense site. According to the U.S. Army Corps of Engineers website, the Department of Defense (DOD) has used land throughout the United States to both train soldiers, airmen, sailors, and marines, and test new weapons to ensure the nation's military readiness. As training and testing needs changed, DOD obtained property or returned it to private or public uses. Ecology's files stated that a soil investigation conducted in 2012 concluded that there are no Munitions and Explosives of Concern at the site. Lead was detected in soil at concentrations less than the MTCA Method A cleanup level (250 mg/kg). The site received an NFA determination from Ecology in 2012.

This site is not considered a REC due to the findings of the 2012 investigation and subsequent NFA determination.

### **3.2.4 Apex Environmental Inc.**

Apex Environmental is an industrial facility that is classified as an RCRA non-generator located 500 feet east of the subject site. The facility was inspected by Ecology in 2007 and was documented to have poor housekeeping and suspected soil contamination (petroleum hydrocarbons). The Ecology file indicates that a sub-pad shallow excavation (less than 1 foot) occurred in 2008 to accommodate construction of a concrete slab. The site is "awaiting cleanup" and it has a hazard ranking of 5<sup>9</sup> according to Ecology's online cleanup site database.

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<sup>9</sup> Ecology ranks a site after a Site Hazard Assessment is completed to confirm the presence of hazardous substances and to determine the relative risk the site poses to human health and the environment. The results of the Site Hazard Assessment are used in the Washington Ranking Method to be given a number between 1 and 5. Where "1" represents the highest level of risk and "5" represents the lowest risk.

The site is not considered a REC because it is not on the subject site and is a “low priority” site to Ecology.

### **3.2.5 Lamb Grays Harbor Company**

The Lamb Grays Harbor site, which ceased operations in 2001, had been a machinery manufacturing facility for pulp and paper equipment since the early 1900s. The site is currently occupied by a whiskey distillery. Lamb Grays Harbor Company is the parent company of Emerson Street Hoquiam, LLC, Adams Street Hoquiam, LLC, and Firman Street Hoquiam, LLC. The three companies occupy the parcels adjacent to the northeast corner of the subject site (517101011001, 056401000600, and 052000100001, respectively).

Ecology conducted a Site Hazard Assessment at the property in 2005 based on a complaint registered with Ecology’s Emergency Response Tracking System. During this assessment, along with documentation of current site conditions, three soil samples and two samples from the collecting pits were collected and analyzed for petroleum hydrocarbons (including gas-, diesel- and heavy oil- range petroleum hydrocarbons). The results indicated concentrations of petroleum below MTCA Method A cleanup levels in the samples collected. The site was given a hazard ranking of 1 (which represents the highest risk level to the site) based on the results of this sampling and analysis. The Site Hazard Assessment indicated that groundwater contamination was suspected at the site and that contaminated groundwater would have the potential to impact any well within a 2-mile radius. The Ecology site file indicated that the status of the site is “awaiting cleanup.”

## **3.3 Additional File Review**

### **3.3.1 Lamb Grays Harbor Company**

An additional file review of documents concerning the Lamb Grays Harbor Company property provided by BHP was conducted by BergerABAM. In 2015, a Subsurface Investigation Report<sup>10</sup> completed by SLR was completed (Appendix I). The report indicated the following.

Soil sample results showed:

- Diesel-range organics (DRO) and HO concentrations greater than the MTCA Method A cleanup level are present in the shallow soil near the former diesel AST, the diesel UST, and beneath the dirt floor area in the maintenance, repair, and operation (MRO) shop.

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<sup>10</sup> SLR International Corporation, February 2015. “Subsurface Investigation Report Former Lamb-Grays Harbor Company Facility, Blaine Street and Firman Avenue, Hoquiam, Washington.” 12 April 2017.

- Total cPAH concentrations greater than the MTCA Method A cleanup levels are present in the shallow soil near the former diesel AST, near the former heating oil UST, and beneath the dirt floor area in the MRO shop.
- A lead concentration greater than the MTCA Method A cleanup level is present in the shallow soil beneath the dirt floor area in the MRO shop.

Groundwater sample results showed:

- DRO, HO, and total cPAH concentrations greater than the MTCA Method A cleanup levels are present near the former diesel AST and beneath the dirt floor area in the MRO shop
- Gasoline-range organics (GRO) concentrations greater than the MTCA Method A cleanup level are present near the former leaded gasoline UST

The site is a REC due to its location on the project site and because the site has confirmed soil (DRO, HO, Total cPAH, and lead) contamination and confirmed groundwater (DRO, HO, total cPAH, GRO) contamination above cleanup levels in 2015.

## 4.0 SUBJECT SITE HISTORY

### 4.1 Historical Resources

Our understanding of the history of the subject site is based on a review of the information from the historical resources listed in Table 5 and interviews with the individuals listed.

**Table 5. Historical Resources Reviewed**

Description	Provider or Interviewee	Dates of Coverage or Dates of Site Knowledge	Date Reviewed or Contacted	Comment
Historical Aerial Photographs <sup>a</sup>	EDR	1953, 1971, 1974, 1981, 1983, 1990, 1992, 1994, 2005, 2006, 2009, 2011	17 April 2017	See Section 4.2 for findings
Historical Fire Insurance Maps	Not available			
Historical Topographic Maps	EDR	1942, 1957, 1973, 1983, 1994, 2014	12 April 2017	See Section 4.2.1
Historical City Directories	EDR	1984, 1988, 1995, 1999	12 April 2017	See Section 4.2.2
Title/Deed of Trust Reports	The Port of Grays Harbor	1999 to present	24 April 2017	No environmental liens were noted in the Title or Deed of Trust reports.
	Adams Street Hoquiam, LLC	2013 to present	24 April 2017	No environmental liens were noted in the Title or Deed of Trust reports.
	Emerson Street Hoquiam, LLC	2013 to present	24 April 2017	No environmental liens were noted in the Title or Deed of Trust reports.
Building Records	Not available			
Interviewee	Leonard Barnes, Port of Grays Harbor	1999 to present	31 May 2017	See Section 4.2.3
Interviewee	Brian Shay, City of Hoquiam Administrator		1 June 2017	See Section 4.2.4

Note<sup>a</sup>: The scale of the photographs reviewed allowed for an interpretation of general site development/configuration, such as identifying most structures, roadways, and clearings. However, the scale of the photographs did not allow for identification of specific site features, such as fuel pumps, wells, or chemical storage areas of the site, if any.

### 4.2 Historical Subject Site Ownership and Use Summary

The Grays Harbor County Tax Assessor's records indicate that the parcels comprising the subject site are currently owned by the Port of Grays Harbor, Emerson Street Hoquiam, LLC, City of Hoquiam, and Adam Street Hoquiam, LLC.

Grays Harbor County building records are not available as of 12 April 2017.

Historical aerial photographs of the subject site were reviewed and are included in Appendix D. The historical conditions shown in the aerial photographs are summarized below.

- The 1953 aerial photographs show the subject site appearing to be undeveloped tide flats. The City of Hoquiam wastewater lagoon is present to the southwest. Adjacent land to the northeast is developed with structures (based on the SLR report summarized in Section 3.3.1, structures were used for industrial purposes i.e., machine shop, assembly shop, pattern shop, foundry, MRO shop) associated with the Lamb Grays Harbor Company site.
- The 1971 aerial photographs show the site to have been filled in with what appears to be dredge material. The 1971 aerial photographs also show large warehouse on the northeast corner of the subject site associated with the Lamb Grays Harbor Company property.
- The 1974 aerial photographs show a pile of debris adjacent to the structure in the northeast corner of the site seen in 1971, as well as continued development of commercial warehouses and residencies in the surrounding areas of the subject site.
- The 1981 aerial photograph shows the existing dock and development of the subject site with log yard known to be Rayonier Grays Harbor Dock, constructed between 1974 and 1981.
- The 1983 aerial photographs show operations at the log yard, including log storage, several buildings, and processing facilities on the subject site. Multiple piles of logs, haul roads, a scale house, and two buildings were located along the southern property boundary of the project site, near the City wastewater lagoon. A cleared area is present in the northwest portion of the subject site.
- The 1990 aerial photographs show a large warehouse had been added to the southern portion of the subject site, adjacent to Airport Way and the wastewater pond. The cleared area in the northwest portion of the site had generally been revegetated.
- The 1992 aerial photograph does not show significant changes in the conditions of the subject site from that shown in the 1990 photograph.
- The 1994 aerial photograph does not show significant changes in the conditions of the subject site from that shown in the 1992 photograph.

- The 2005 aerial photographs show the log yard as not being used with several of the buildings gone; four buildings remain. The 2005 aerial photographs also show a large clearing in vegetation on the eastern side of the subject site.
- The 2006 aerial photographs do not show significant changes in the conditions of the subject site from that shown in the 2005 photographs.
- The 2009 aerial photographs show a portion of the subject site, Willis Enterprises' leased land, being used again as an apparent log yard.
- The 2011 aerial photographs do not show significant changes in the conditions of the subject site from that shown in the 2009 photographs. The east side of the City wastewater lagoon located on the southwest portion of the subject site has been filled in with what appears to be soil.

#### **4.2.1 Historical Topographic Maps**

The EDR Topographic Map Report was reviewed for the subject site and surrounding properties. The maps reviewed were dated 1942, 1957, 1973, 1983, 1994, and 2014, which are provided in Appendix F. These maps revealed that the subject site and surrounding properties are located in an undeveloped area until 1973. The subject site is developed by landmark buildings in the 1973, 1983, and 1994 maps. Surrounding properties are developed by landmark buildings in the 1957, 1973, 1983, and 1994 maps. According to these topographic maps, the surface topography in the area of the subject site slopes downwardly to the west/southwest. Features of concern on or adjoining the subject site were not identified.

#### **4.2.2 City Directory Information**

A search of available city directories was conducted by EDR for Paulson Road and Airport Way. The following is a summary of the review of coverage years 1984, 1988, 1995, 1999, and 2013, which are provided in Appendix G.

Rayonier (dock facility) was identified at 615 Airport Way and appears to be associated with the site, as well as Dahlstrom Lumber at 100 Airport Way. A review of nearby addresses identified the following locations that could have hazardous waste used or stored on site.

- Rayonier (Dock Facility) – 615 Airport Way (associated with the subject site)
- Dahlstrom Lumber – 100 Airport Way (associated with the subject site)
- Grays Harbor Sorting Yard – 616 Airport Way (associated with the subject site)
- Independent Distributors – 1131 Airport Way (0.38 mile southwest)
- Flying Fat Boy – 1450 Airport Way (0.37 mile west/southwest)
- Grays Harbor Airport – Airport Way (0.37 mile west/southwest)

The information reviewed from City directories do not indicate any new evidence of RECs that were not previously identified from other sources.

#### **4.2.3 Interview with Leonard Barnes, Port of Grays**

Mr. Barnes has been associated with the site since 1999 when the Port of Grays Harbor took ownership of the Rayonier Grays Harbor property. He stated that when the Port of Grays Harbor acquired the land it had a “clean bill of health.” His level of familiarity with the site dates back to 1981 when Rayonier Dock Grays Harbor had a log yard operation onsite. Mr. Barnes indicated the following during the interview.

- The site was filled using dredged material from the Chehalis River.
- He is unaware of any USTs or ASTs onsite, but he did indicate that their tenant (Willis Enterprises) could have them.
- He is not aware of any known or suspected leaks, spills, or releases from UST systems on the subject site.
- He did not know of any sumps, floor drains, dry wells, or oil/water separators on the site.
- He is not aware of past use, storage, disposal, or releases of hazardous substances at the site.
- There has never been a landfill located at the site and dumping has not been allowed at the Port of Grays Harbor portion of the site.

#### **4.2.4 Interview with Brian Shay, City of Hoquiam Administrator**

Mr. Shay indicated the following during the interview.

- The decommissioned (filled) portion of the City’s wastewater lagoon is permitted to accept native fill material (see Appendix H for permits). He indicated that approximately 100,000 cubic feet of material came from the Department of Transportation’s pontoon project in Aberdeen, and the rest came from two local area landslides and local construction sites. Chemical testing is not completed on the material before placement, but he stated that “they clarify that there is no risk to the material” by asking the material source where it is coming from, i.e., an industrial site or not.
- The City operates an inert landfill on the Lamb Grays Harbor Company property on the northeast corner of the subject site (see Appendix H for permit). The landfill accepts soil, grass, rock, concrete, and asphalt from the surrounding area for disposal. Mr. Shay indicated that no excavation is done; the concrete and asphalt are just covered over with the other material that is brought in.

### **4.3 Adjacent Properties**

Our review and discussion of adjacent properties are focused on the properties immediately surrounding the subject site.

Nearby surrounding properties consisted of a mix of residential, commercial, and public properties. Commercial properties are located to the south and east, and a wastewater lagoon is located to the south between the subject site and Grays Harbor. Bowerman Airport is located west/southwest of the subject site. Hoquiam High School and residential properties are located north of the site beyond West Emerson Avenue/SR 109.

Historical aerial photographs dated 1953 to 2011 were reviewed. The photographs show the following historical conditions on the adjacent properties.

- SR 109 north of the subject site and Airport Way south of the subject site were developed prior to 1953.
- The properties north and east were developed between 1953 and 1971, along with one building south of the subject site. The Hoquiam wastewater lagoon appears to be in use.
- In the 1974 aerial photograph, there is commercial and residential development.
- In the 1981 aerial photograph, additional development, including athletic fields, was constructed on the adjacent Hoquiam High School property north of SR 109. In the 1981 aerial photograph, a large clearing adjacent to the north of the subject site is shown west of the Lamb Grays Harbor Company property.
- In the 1983 aerial photograph, the large clearing north of the subject site appears to be used for debris dumping. Property southeast of subject site was developed between 1981 and 1983 with what appears to be a log yard.

#### **4.4 Environmental Liens or Property Use Restrictions**

Our research indicates that environmental liens have not been filed against the subject site, based on our review of the title reports, deeds of trust, and other researched documents. The title reports and deeds of trust are included as Appendix E.



## 5.0 CONCLUSIONS AND RECOMMENDATIONS

### 5.1 Conclusions

BergerABAM has completed a Phase I ESA of the Proposed Grays Harbor Potash Export Facility and adjacent properties in Hoquiam, Washington (shown on Figures 1 through 3). This Phase I ESA was conducted in general accordance with the scope and limitations of ASTM E 1527-13 and EPA's Federal Standard 40 CFR Part 312 "Standards and Practices for All Appropriate Inquiries (AAI)." Based on the results of our study, it is our opinion that the following known or suspect environmental conditions identified by our study represent RECs for the site.

#### *Rayonier Grays Harbor Dock/Willis Enterprises*

Petroleum-contaminated soil has been documented as remaining beneath a concrete pad at the former Rayonier Grays Harbor Dock site (currently Willis Enterprises). A groundwater sample collected near the concrete pad was also contaminated with petroleum hydrocarbons at concentrations greater than MTCA Method A cleanup levels in 1999. The site received an NFA determination from Ecology in 2002.

Petroleum staining was observed on the concrete floor of the maintenance building during the site reconnaissance. One of the workers on site stated that small or "de minimus" spills of petroleum hydrocarbons occur on the property. The worker stated that the spills are usually hydraulic fluid from their equipment and that they get "cleaned up" by digging up the soil and disposing of it.

The site is considered a potential REC due to the residual contamination remaining on site and the potential for soil and/or groundwater impacts from the spills that have been noted at the property during the site visit.

#### *Lamb Grays Harbor Company*

Metals, priority pollutants and other reactive wastes, and petroleum-product contaminated soil was encountered on the north portion of the Lamb Grays Harbor Company site in 2015 by SLR (located on the northeast corner of the project site). This portion of the site formerly operated as a foundry. Ecology files indicate that groundwater contamination is suspected at the site; SLR Subsurface Investigation Report confirms this through ground water sampling collected in 2015. The site has a hazard ranking of 1 (which represents the highest risk level to the site) from Ecology and is still awaiting cleanup.

An approximately 3-acre portion of the parcel (Parcel 056401000600, also owned by Lamb) to the south of the former foundry parcel is leased to the City of Hoquiam as a permitted landfill (Brian Shay, City Administrator). Grass, rock, soil, concrete, and asphalt from the surrounding areas are disposed there. This material is not characterized prior to disposal at the site.

The Lamb parcels represent a potential REC due to the known contamination at the former foundry facility, lack of characterization of material disposed at the City-leased landfill, and the parcel locations on and adjacent to the subject property.

## **5.2 Recommendations**

The following recommendations are provided to address the potential environmental concerns that may impact the proposed project at the subject site.

- Soil and groundwater samples should be collected at (1) the area of the concrete pad where petroleum-impacted soil was left in place at the Rayonier site; and (2) the footprint of the existing Willis Enterprises maintenance building. The samples should be analyzed for total petroleum hydrocarbons, VOCs, PCBs, PAHs, and RCRA Metals.
- Soil and groundwater sampling should be completed at or adjacent to the Lamb property (Tax Parcels 056401000600 and 517101011001) including the areas surrounding the closed USTs and ASTs, land surrounding the former paint and welding shops, and the permitted landfill. The samples should be analyzed for total petroleum hydrocarbons, VOCs, PCBs, PAHs, and RCRA Metals.

## **6.0 LIMITATIONS**

BergerABAM has completed this Phase I ESA of an approximately 240-acre site located in Hoquiam, Washington, in general accordance with the scope and limitations of our proposals, dated 13 February 2017, and ASTM E 1527-13, Standard Practice for Phase I ESAs. This Phase I ESA has been prepared for use by BHP for evaluating the subject site as defined in the report relative to proposed redevelopment. This report is not intended or authorized for use by third parties with which BergerABAM does not have a contractual relationship. BergerABAM and BHP are not liable or responsible for any conclusions or activities resulting from unauthorized third-party use of the information provided herein.

Environmental conditions described in this summary are based on site observations, historical research pertaining to the subject site, and soil sampling. Site conditions can change over time. This report represents a summary of site conditions at the time the site visit, interview(s), and environmental file review were completed.

Within the limitations of scope, schedule, and budget, this report has been prepared in accordance with generally accepted engineering and environmental practices in effect at the time the work was performed.

## 7.0 BIBLIOGRAPHY

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