



THE STATE
of **ALASKA**
GOVERNOR MIKE DUNLEAVY

Department of Environmental
Conservation

DIVISION OF ENVIRONMENTAL HEALTH
Solid Waste Program

610 University Avenue
Fairbanks, Alaska 99709-3643
Main: 907.451.2100
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April 29, 2021

Certified Mail #7018 0680 0000 3320 4176
Return Receipt Requested

File No.: 475.15.018

Les Yesnik
Teck Alaska Incorporated
Red Dog Operations
2525 C Street, Suite 310
Anchorage, AK 99503

RE: Teck Port Facility Class III (camp) Municipal Solid Waste Landfill, Permit#**SW3CAMPA011-26**

Dear Les Yesnik:

The Alaska Department of Environmental Conservation (ADEC) has completed its evaluation of your permit renewal application for the continued operation and maintenance of a class III (camp) municipal solid waste disposal facility near the Teck Alaska Inc. (TAK) Port Site Facility. Please review the conditions and stipulations in the permit and ensure that they are understood. This permit is being issued in accordance with Alaska Statute (AS) 46.03; Title 18, Chapter 15 of the Alaska Administrative Code (18 AAC 15); and the Solid Waste Regulations (18 AAC 60).

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 - 18 AAC 15.340, or an informal review by the Division Director in accordance with 18 AAC 15.185. **Informal review requests** must be delivered to the Director, Division of Environmental Health, ADEC, 555 Cordova Street, Anchorage, AK 99501 within 20 days of the permit decision. **Adjudicatory hearing requests** must be delivered to the Commissioner of the Department of Environmental Conservation, P.O. Box 111800, Juneau, Alaska 99811, within 30 days of the permit decision. If a hearing is not requested within 30 days, the right to appeal is waived. More information regarding submitting a request for an informal review or adjudicatory hearing may be found at <http://dec.alaska.gov/commish/review-guidance>. Even if an adjudicatory hearing has been requested and granted, all permit conditions remain in effect unless a stay has been granted.

Please contact Neil Lehner at (907) 451-2134 or by email at neil.lehner@alaska.gov if you have any questions or require any additional information.

Sincerely,

A handwritten signature in blue ink, reading "Douglas J. Buteyn".

Douglas J. Buteyn
Northern/Southeastern Regional Program Manager

Enclosure: Permit #SW3CAMPA011-26, expiring on **May 1, 2026**

STATE OF ALASKA
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
610 University Avenue
Fairbanks, AK 99709

SOLID WASTE DISPOSAL PERMIT

Permit No. **SW3CAMPA011-26**

Date Effective: May 1, 2021

Date Expires: May 1, 2026

The Alaska Department of Environmental Conservation (ADEC), under authority of AS 46.03 and 18 AAC 60, issues a solid waste disposal permit to:

Teck Alaska Incorporated, Red Dog Operations
2525 C Street
Suite 310
Anchorage, AK 99503

and designated representatives for the management and operation of a Class III (camp) municipal solid waste disposal facility. It authorizes the disposal of less than one ton per day of incinerator ash from municipal solid waste, as well as the disposal of varying amounts of inert waste.

The landfill is located at the Delong Mountains Regional Transportation System Port Facility in the NW ¼ Section 1, T25N, R24W, Kateel River Meridian. It is specifically at Material Site #2.

The permit holder shall manage and operate the facility in accordance with:

- 18 AAC 60, and
- permit application materials, received April 29, 2021

In addition, the following permit conditions are required:

Specific Conditions

1. The permittee shall submit an updated site development and use plan to ADEC by December 31 each year.
2. No black smoke shall be generated from the burning of any solid waste.

General Conditions

1. Access and inspection - The Permittee shall allow the Commissioner or his representative access to the permitted facilities at reasonable times to conduct scheduled or unscheduled inspections or tests to determine compliance with this permit, State laws, and regulations.
2. Information access - Except for information relating to confidential processes or methods of manufacture, all records and reports submitted in accordance with the terms of this permit shall

be available for public inspection at the State of Alaska, Department of Environmental Conservation, 610 University Avenue, Fairbanks, AK 99709.

3. Civil and criminal liability - Nothing in this permit shall relieve the Permittee from civil or criminal penalties for noncompliance, whether or not such noncompliance is due to factors beyond his control, including, but not limited to, accidents, equipment breakdowns, or labor disputes.
4. Availability - The Permittee shall post or maintain a copy of this permit available to the public at the disposal facility.
5. Adverse impact - The Permittee shall take all necessary means to minimize any adverse impacts to the receiving waters or lands resulting from noncompliance with any limitation specified in this permit, including any additional monitoring needed to determine the nature and impact of the noncomplying activity. The Permittee shall clean up and restore all areas adversely impacted by the noncompliance.
6. Cultural or paleontological resources - Should cultural or paleontological resources be discovered as a result of this activity, work which would disturb such resources is to be stopped, and the State Historic Preservation Office, Division of Parks and Outdoor Recreation, Department of Natural Resources, is to be notified immediately (907-269-8721).
7. Applications for renewal - In accordance with 18 AAC 15.100(d), applications for renewal or amendment of this permit must be made no later than 30 days before the expiration date of the permit or the planned effective date of the amendment.
8. Other legal obligations - The requirements, duties, and obligations set forth in this permit are in addition to any requirements, duties, or obligations contained in any permit that the Alaska Department of Environmental Conservation or the U.S. Environmental Protection Agency has issued or may issue to the Permittee. This permit does not relieve the Permittee from the duty to obtain any and all necessary permits and to comply with the requirements contained in any such permit or with applicable state and federal laws and regulations. All activities conducted by the Permittee pursuant to the terms of this permit and all plans implemented by the Permittee pursuant to the terms of this permit shall comply with all applicable state and federal laws and regulations.
9. Pollution prevention - In order to prevent and minimize present and future pollution, when making management decisions that affect waste generation, the Permittee shall consider the following order of priority options: waste source reduction; recycling of waste; waste treatment; and waste disposal.

This permit expires on **May 1, 2026** and may be revoked or amended in accordance with 18 AAC 60.260. The permit can be renewed if the facility will operate beyond this date. To avoid expiration of this permit, a renewal application must be submitted to ADEC at least 30 days before the expiration date, as set forth in 18 AAC 15.110.



Douglas Buteyn
Northern/Southeastern Regional Program Manager
ADEC Solid Waste Program

Red Dog Operations

**Renewal Application for Port Landfill Permit
3WSA011-21**

March 25, 2021



Teck

Application Package Contents

Cover Letter

- 2021 3W3A011-21 Renewal Application Cover Letter

Camp III Camps Application

- Class III Camp App Version 9-2019
- 1996 Landowner Consent letter
- 2021 NANA Landowner Consent ADEC Form
- Class III Application Support Information

Operating Plan

- Operations Plan for Port Landfill

Inspection Forms

- Monthly Landfill Inspection Form
- Random Dumpster Inspection Form

Closure Plan

- 2021 Closure Plan for Port Landfill

Reclamation Cost Estimate (SRCE)

- 2021 Teck Alaska Financial Assurance Affidavit
- Port Landfill SRCE Cost Estimate Summation
- NOTE: SRCE Electronic model available upon request

Analytical Lab Reports

- 2020 TCLP and PCB analytical Data Reports

Aerials / Maps

- General Site Vicinity Map
- Port Facility PWS Well Location
- Port Facilities Site Plan
- Port Facilities Landfill Boundary Map
- 5-yr Closure Plan & Surface Water Flow
- Landfill Closure Cross Section

Cover Letter



Teck Alaska Incorporated
Red Dog Operations
2525 C Street, Suite 310
Anchorage, AK USA 99503

+1 907 754 3800 Tel
www.teck.com

March 25, 2021

Neil Lehner
Industrial Waste Specialist, Municipal and Military Landfills
Alaska Department of Environmental Conservation
Division of Environmental Health – Solid Waste Program
610 University Avenue
Fairbanks, Alaska 99709

RE: 2021 Port Landfill Permit # SW3A011-21 Renewal Application

Dear Mr. Lehner:

Teck Alaska Incorporated (TAK) is submitting a renewal application request for a class III municipal landfill current operating under permit #3W3A011-21, the permit will expire May 1, 2021. The application submittal is in compliance with 18 AAC 15.100(d) – applications for renewal must be made 30 days prior to the expiration date of the permit.

The landfill is located at the DeLong Mountains Regional Transportation System Port site, within Material Site #2 (MS-2). The landfill meets the requirements for a Class III municipal landfill specified in 18 AAC 60.300(c)(3) as follows:

- The Landfill is not connected to a road with access to a Class I Municipal Solid Waste Landfill (MSWLF); and
- Less than one ton of ash from incinerated municipal waste is accepted per day at the landfill and the ash is free of food scraps that might attract animals.

A solid waste management plan is not required as stated in 18 AAC 60.205(b) as the facility:

- is privately owned and operated without financial assistance from a local, state or federal government agency; and
- was not built using a government grant or other nonreimbursable form of governmental financial assistance.

The average annual precipitation (avg. last 9 years) and temperature at the facility are 22.2 inches and 23.9 °F, respectively. The landfill area topography varies in elevation from 210 to 250 feet. Surface water at the landfill drains into MS-2. The landfill is underlain by fractured

bedrock which is then underlain by permafrost. However, zones of fracturing are typically offset and isolated, so that continuous groundwater movement within bedrock is unlikely.

A list of documents is provided below which identifies materials included with this renewal application package:

- Class III Camp Application (ADEC) Version 9-2019 w/ supporting documents
- Operating Plan & Inspection Checklists
- Closure Plan with Reclamation Cost Estimate
- Analytical Lab Reports (ash TCLP, PCB)
- Aerials / Maps

No waivers have been requested at this time. TAK is aware of all applicable local ordinances, zoning requirements and the Alaska Coastal Zone Management Program requirements of 11 AAC 110. No application fees are required for this renewal since the annual fee covers renewal applications and the renewal is being submitted within 30 days prior to the permit expiration.

Note: The Financial Assurance Affidavit under the Reclamation Cost Estimate section will be signed upon your review and approval of the proposed reclamation cost estimate for the 2021 renewal. Upon ADEC review and ultimate approval of the Operations and Closure Plan the documents will be resubmitted once finalized and entered into TAK's document control system since the version numbers will change at the very minimum.

If you have any questions regarding this application, please feel free to contact Frank Bendrick at (907) 754-5138, or via email at frank.bendrick@teck.com.

I certify under penalty of perjury, that all of the information and exhibits in this cover letter and application are true, accurate, and complete.

Sincerely,



Les Yesnik
General Manager – Red Dog Operations

cc: Lance Miller, NANA – VP resources
Jesse Peterson, AIDEA - Sr. Manager Project Finance & Asset Management
Mike Gonzales, T&E Superintendent - Red Dog Operations
Tom Farr , Port Supervisor - Red Dog Operations

Class III Camp MSWLF application



Class III Camp Permit Application

Alaska Department of Environmental Conservation
Solid Waste Program

ADEC Office Only:

Facility Name: _____

Authorization #: _____

Instructions:

This application is for a new permit or permit renewal for a Class III Camp Landfill for a remote work camp or lodge. The facility must not be connected by road or is more than 50 miles from a Class I Landfill. It must accept no more than 1 ton of ash from incinerated municipal solid waste (all food waste and other burnable materials).

In the application, the term **“facility”** refers to all land, structures, other appurtenances, and improvements on land used for treatment, storage, or disposal of solid waste.

If a required item is not applicable, please explain why. Include all the applicable information for each item regardless if it has been previously submitted.

For a new facility or significant change to an existing facility, prepare a draft application with a list of any questions, and schedule a meeting with the local ADEC office.

Section 1. Property Information

Facility Name: _____

Facility Address: _____

City: _____

Zip: _____

Legal Property Description: _____

Section: _____

Township: _____

Range: _____

Meridian: _____

General Property Description: _____

Latitude: _____

Longitude: _____

Landowner: _____

Contact Name: _____

Address: _____

City: _____

State: _____

Zip: _____

Email: _____

Phone: _____

Section 2. Contact Information**Permit Applicant** (Co. or Entity):

Contact Name:

Address:

City:

State:

Zip:

Email:

Phone:

Type of Entity:

Government

Corporation

Other:

State of Incorporation or Registration:

Alaska Business License Number:

IRS Tax ID Number:

Facility Owner (if different than applicant):

Contact Name:

Address:

City:

State:

Zip:

Email:

Phone:

Facility Operator (if different than applicant):

Contact Name:

Address:

City:

State:

Zip:

Email:

Phone:

Agent/Consultant:

Contact Name:

Address:

City:

State:

Zip:

Email:

Phone:

Section 3. Fees

A check or money order for the appropriate fees [listed in 18 AAC 60.700(a) Table E-1] must be submitted with the permit application. If not included, the application will be returned to the applicant.

Submit payment for the first year's annual fee with the initial application for a facility. No application fee is required for permit renewal applications; annual fees will be billed each year.

You will be billed separately for time spent reviewing waiver requests.

This application is for a:

New Permit

Permit renewal

Section 4. Cover Letter and Certifications

A cover letter must be provided with the application and must include the following information and signature.

- | | |
|----|--|
| 1. | A statement indicating you wish to obtain a permit for a Class III Camp Landfill. |
| 2. | Evidence showing that the proposed facility meets the requirements for a Class III Camp Landfill. |
| 3. | A brief general description of the topography, geology, climate, surface hydrology and groundwater hydrology at the facility. |
| 4. | A statement that you are aware of all applicable local ordinances and zoning requirements and a list of any other necessary permits or authorizations. |
| 5. | The applicant must sign the cover letter. |
| 6. | The applicant must submit the following signed statement, which may be added exactly as shown in the box below to the cover letter, or the applicant may sign this sheet and submit it as an attachment to the cover letter. |

I certify under penalty of perjury, that all of the information and exhibits in this cover letter and application are true, accurate, and complete.

Printed Name:

Title:

Signature:



Date:

All applications must be signed as follows per 18 AAC 15.030:

- **Corporations:** A principal executive officer, an officer that is no lower than the level of vice president, or a duly authorized representative who is responsible for the overall management of the project or operation.
- **Municipal, state, federal, or other public entity:** A principal executive officer, ranking elected official, or duly authorized employee.
- **Partnerships:** A general partner.
- **Sole proprietorship:** The proprietor.

Section 5. Waste Handling and Processing Information [18 AAC 60.210]

1. List the approximate quantities of waste you expect to receive at the facility each year:

<u>Quantity</u>		<u>Waste</u>
Tons	Cubic yds.	
		Ash from MSW
		Construction and Demolition Waste
		Sewage Sludge or Septage
		Commercial Fish Waste
		Commercial Woodwaste
		Other Ash
		Other:
		Other:
		Other:
		TOTAL

2. Check the type(s) of waste processing done at the facility before waste is disposed:

Incineration:	Incinerator Model:
Baling	Separation/Segregation
Shredding	Composting
Salvage/Reuse	Dewatering
Other:	Other:

3. Check the types of waste stored at the facility and disposed or processed at another facility. Identify when the waste is removed each year and where wastes are delivered for procession or disposal.

<u>Waste</u>	<u>Month Removed</u>	<u>Processing/Disposal Facility</u>
Hazardous Waste		
Used Oil		
Batteries		
Liquid Waste		
Scrap Metal		
Junk Vehicles		
Other:		
Other:		
Other:		

Section 6. Location Information

Please identify the specific attachment page that addressed each requested item

1.	Property Ownership and Location Information [18 AAC 60.210]		<u>Identify Attachment</u>
	a.	Attach a copy of the deed or another legal document that identifies the landowner(s) of the facility property.	
	b.	If the applicant is not the landowner, attach a written and notarized statement or a copy of any lease agreement signed by the landowner showing that the landowner consents to the facility and placement of a notation to the deed of the property as required by 18 AAC 60.490.	
2.	Surface Water Information [18 AAC 60.210; 18 AAC 60.225; 18 AAC 60.315]		
	a.	Distance to nearest surface water body:	feet
	b.	Provide information on potential for surface water (storm water or ponds, streams, etc.) to run-on to the facility.	
	c.	Provide information on the potential for sediment carried by run-off from the facility to impact nearby surface waters.	
	d.	If the facility is located in a floodplain, attach documentation to demonstrate the facility will not restrict the flow of the flood, reduce the temporary storage capacity of the floodplain, and is designed to protect against washout of the solid waste.	
	e.	For new facilities or lateral expansion, attach a Wetlands Determination from the U.S. Army Corps of Engineers or information from the National Wetlands Inventory documenting that the facility location is not designated as wetlands. <i>Note: If the new facility or lateral expansion is located in a wetland, you must also complete an ADEC Additional Wetlands Information Form.</i>	
3.	Groundwater Information [18 AAC 60.040; 18 AAC 60.210; 18 AAC 60.217]		
	a.	Attach information documenting the highest measured level of groundwater under the facility.	
	b.	Annual precipitation:	inches
	c.	Source used to determine annual precipitation:	
4.	Permafrost Information (if applicable) [18 AAC 60.210; 18 AAC 60.227; 18 AAC 60.315]		
	a.	If the facility is located on permafrost, provide details on why there is not practical alternative to the location.	
	b.	If the facility is located in discontinuous permafrost, provide details of what is known regarding the permafrost (e.g. total depth, depth of active zone, areal extent, temperature, etc.).	
5.	Airport Safety [18 AAC 60.210; 18 AAC 60.305; FAA AC 150/5200-33B]		
	a.	If the facility is located less than 10,000 feet from any airport used by turbojet aircraft, or less than 5,000 feet from any airport used only by piston-type aircraft, attach a demonstration that the facility is designed and operated so it does not pose a bird hazard to aircraft.	

Section 6. Location Information (continued)**6. Maps**

Attach maps and/or aerial photographs as needed to show the following. You may submit maps that show more than one of the required items. For example, one map can show property boundaries, nearest airport, wetland and surface water locations, etc.

[18 AAC 60.040; 18 AAC 60.210; 18 AAC 60.310; 18 AAC 60.320]

Identify Attachment

a.	Location of the facility property boundaries.	
b.	Location and flow direction of all surface water bodies, streams, and containment or diversion structures, within 500 feet of the facility property boundaries.	
c.	Location of all drinking water sources within one-half mile of the facility property boundary. There should be no drinking water sources within 500 feet of the facility property boundary.	
d.	Location of the boundary of any wetlands within 500 feet of the facility property boundary.	
e.	Location of the known or inferred boundaries of permafrost or discontinuous permafrost within 500 feet of the facility property boundaries.	
f.	Location of the boundary of any 100-year floodplain in the area.	
g.	Location of any documented earthquake faults or unstable areas within 200 feet of the facility property boundary.	
h.	Distance and direction to the closest portion of an airport runway if it is within 10,000 feet of the facility property boundary.	

Section 7. Facility Design

A complete set of design drawings for the facility must be submitted with the following information. Please ensure that the documentation represents the entire facility.

1. Facility map(s) which show site conditions, including:

[18 AAC 60.210; 18 AAC 60.220; 18 AAC 60.233]

Identify Attachment

a.	All previous, existing and planned disposal areas. The drawings should demonstrate all waste will remain at least 50 feet from the facility property boundary.	
b.	Fences, gates, berms and other access control devices.	
c.	Access roads to and within the facility.	
d.	Storage area(s) for equipment, cover material, etc.	
2.	Plan view drawings with contour lines <u>and</u> cross section drawings that show: [18 AAC 60.210]	
a.	All planned excavations before facility construction.	
b.	All roads, ditches, trenches and berms associated with the facility.	
3.	Construction detail drawings <u>and</u> cross sections that show: [18 AAC 60.210; 18 AAC 60.225]	
a.	Storm water drainage structures, culverts and other surface water control devices.	
4.	Facility Closure Drawings [18 AAC 60.210; 18 AAC 60.390]	
a.	Conceptual drawings of the facility after closure is completed.	

Section 8. Operations Plan

The operations plan should be a separate document that provides sufficient detail and information that the preparer could use it to perform all necessary tasks for day-to-day operation of the facility.

The operations plan is a flexible document that should be reviewed annually and updated as necessary. The following table represents the minimum requirements which must be included. Additional information should be added, as needed, to ensure the facility operates in compliance with all applicable State and Federal and Local Regulations. A copy of the operations plan must be kept at the operating facility.

Please include a reference page and section of the Operations Plan where each item is addressed.

1.	Access control [18 AAC 60.210; 18 AAC 60.220]	<u>page/section</u>
	a. Access to the facility will be controlled, including gates, fences, berms or other means of preventing access; hours of operation; signage; and other control measures.	
	b. Access and onsite roads for facility will be kept passable and safe for vehicles during operating months.	
	c. Prohibited activities, such as target practice or off road vehicle use will be prevented.	
	d. Salvaging practices, if allowed, will not interfere with facility operations, create a safety hazard, or cause pollution.	
2.	Waste acceptance and handling policy [18 AAC 60.210; 18 AAC 60.240; 18 AAC 60.360; 18 AAC 60.365]	
	a. Waste screening procedures to ensure that no prohibited wastes are accepted at the facility.	
	b. Any signage placed at the facility entrance.	
	c. Details of any waste processing procedures that will be applied prior to disposal, including incinerator operations.	
3.	Waste placement plan [18 AAC 60.210; 18 AAC 60.225]	
	a. Details of waste placement and compaction methods for ash and non-burnables.	
	b. The planned progression of the working face, including facility development over the life of the facility (diagrams are acceptable).	
	c. How unstable slopes will be avoided.	
4.	Daily cover plan - Type of cover material(s) that will be used and for each type of cover describe: [18 AAC 60.210; 18 AAC 60.340]	
	a. Where the cover material will be obtained and stored.	
	b. The frequency with which the cover will be applied.	
	c. The depth of cover that will be applied.	
5.	Litter, vector and nuisance control plan [18 AAC 60.210; 18 AAC 60.230; 18 AAC 60.233; AS 46.06.080]	
	a. Describe procedures to ensure wildlife and domestic animals do not endanger the public or facility staff, are not harmed by contact with the waste, and do not become a nuisance.	
	b. Explain how dust, noise, traffic, litter, disease vectors and other effects will be controlled so they do not become a nuisance or hazard outside of the facility boundary.	

Section 8. Operations Plan (continued)

6.	Corrective action plan – Describe the actions for: [18 AAC 60.210; 18 AAC 60.815]	<u>page/section</u>
	a. Cleaning up any improper or unauthorized waste.	
	b. Repairing any damage to the facility or structures.	
	c. Addressing any violations of regulations or permit conditions.	
	d. Responding to combustion or a fire within the waste.	
7.	Operator training [18 AAC 60.235; 18 AAC 60.240; 18 AAC 60.335]	
	a. Identify any training that will be required for an operator at the facility, including on-the-job training.	
	b. Describe how that training will be documented and filed in the operating record.	
8.	Operating record [18 AAC 60.235, 18 AAC 60.450]	
	a. The operating record include all the elements listed in 18 AAC 60.235, as well as any other documentation specific to the facility and operation.	
	b. The plan must state where the operating record will be located.	

Section 9. Monitoring Plan

The monitoring plan must include sufficient detail to allow all monitoring to be completed in full compliance with the applicable regulations and permit conditions. It must include the following information and a statement for each monitoring type that explains why the monitoring is being performed.

1.	Visual monitoring plan [18 AAC 60.210; 18 AAC 60.800]	<u>page/section</u>
	a. Description of the procedures for visual monitoring of the facility.	
	b. Checklist or visual monitoring form including all applicable items in 18 AAC 60.800(a).	
2.	Other Required Monitoring	
	For any other monitoring required by ADEC at the facility, include a plan that provides specific information on the process, procedures, equipment, and quality assurance procedures required for the monitoring process.	

Section 10. Closure Plan and Cost Estimate

It is understood that the closure plan submitted with the permit application will be conceptual and may change throughout the active life of the facility. If the facility is within 1 year of closure, a detailed closure plan must be submitted and approved by ADEC. The closure plan must include the following information:

1.	Description of the closure process [18 AAC 60.210; 18 AAC 60.245; 18 AAC 60.270; 18 AAC 60.390; 18 AAC 60.396]	Section or Attachment
	a. A description of the final cover and appearance of the facility meeting the standards of 18 AAC 60.390.	
	b. A description of the methods and procedures for final cover installation.	
	c. A timeline or schedule for all activities needed to complete closure.	
	d. A description of the anticipated post closure (future) use of the property.	
	e. A description and map of proposed survey monuments or permanent markers.	
	f. A statement of how ADEC will be notified that the requirements of 18 AAC 60.395 have been met.	
	g. A description of how the post-closure care requirements of 18 AAC 60.397 will be met.	
2.	Financial information [18 AAC 60.210; 18 AAC 60.265]	
	A Facility Closure/Post-Closure Cost Estimate Worksheet in Excel is available online at http://www.deq.virginia.gov/Programs/LandProtectionRevitalization/Forms.aspx to assist you in calculating costs. Please note that you need to complete both tabs (CEW-01 and CEW-02), but only sections relevant to closure of your facility. <i>Courtesy of the State of Virginia</i>	
	a. The total present-day equivalent cost estimate for an independent contractor (do not assume onsite use of any material or machinery) to close the facility. A quote from a consultant or calculation showing all relevant operations for closure is required.	
	b. The total present-day equivalent cost estimate for an independent contractor to perform post-closure care of the facility.	

Section 11. Waiver Requests and Justification

18 AAC 60.900 allows ADEC to grant an exemption from any regulation not required by federal law. The applicant will be billed separately for time spent reviewing waiver requests at the rate identified in 18 AAC 60.700(e).

1.	Waiver requests must include the specific regulation for which you are requesting a waiver, and for each requested waiver, a detailed justification that meets the criteria of 18 AAC 60.900 by demonstrating that: [18 AAC 60.210]	
	a.	The proposed alternative action will provide equal or better environmental protection, reduction in public health risk, and control of nuisance factors than compliance with the identified provision; or
	b.	Compliance with the identified provision would cost significantly more than the value of the environmental benefit, public health risk reduction, and nuisance avoidance that could be achieved through that compliance.

Additional information

Attach any additional information necessary to accurately reflect the location, construction, and operations of the facility.

2021 Port Landfill Class III Camp Permit Renewal Application

Support information

Section 6. Location Information Please identify the specific attachment page that addressed each requested item

1. Property Ownership and Location Information [18 AAC 60.210] Identify Attachment

a. See the attached March 14th 1996 letter from NANA to Cominco Alaska. The same attached Land ownership documentation was provided in the 1996 permit application. The landowner is NANA Corporation, the Alaska Industrial Development and Export Authority (AIDEA) leases the land from NANA and the operator Teck Alaska Inc. is responsible for all operations within the port facility.

b. See the attached March 19, 2021 Class III MSWL Landowner Consent form signed by NANA Regional Corporation

2. Surface Water Information [18 AAC 60.210; 18 AAC 60.225; 18 AAC 60.315]

b. The landfill is located within a quarry pit positioned on a hill, surface water contact the facility flows away from the pit, there is no water run on to the facility from stormwater, ponds or streams. Surface water resulting from snowmelt or rainfall flows away from the site.

c. There is no potential for sediment transported by stormwater from the facility to surface water. Any precipitation directly on the landfill itself will drain into the bottom of the quarry pit.

3. Groundwater Information [18 AAC 60.040; 18 AAC 60.210; 18 AAC 60.217]

a. The proposed site is located in a mined-out section of the MS-2 quarry pit, please see attached maps. The quarry pit is located in a sparsely vegetated outcropping ridge of flat lying fractured shale rock. Surface and groundwater hydrology in the area are highly influenced by the permafrost active layer.

4. Permafrost Information (if applicable) [18 AAC 60.210; 18 AAC 60.227; 18 AAC 60.315]

a. Renewal application, the landfill was previously permitted knowing permafrost layer exists in area. The entire site area is underlain by 400 to 500 feet of permafrost which is typically located 3 to 10 feet below the original ground surface. Drilling in 1996 near landfill did not encounter groundwater above permafrost or within a couple hundred feet of the surface.

5. Airport Safety [18 AAC 60.210; 18 AAC 60.305; FAA AC 150/5200-33B]

a. Red Dog Operations airport located 52 miles east of facility.

2021 Port Landfill Class III Camp Permit Renewal Application

Support information

6. Maps

- a. See attached maps *Port Landfill Boundary, Port Facilities Site Plan and, 5 Year Closure Plan and Surface Water Flow*
- b. See attached maps *Port Facilities Site Plan and, 5 Year Closure Plan and Surface Water Flow*
- c. See attached map *Port Facilities PWS Well Location*

Facility Design

1. Facility map(s) which show site conditions, including:

- a. See attached maps *Port Landfill Boundary and General Vicinity Map. Landfill permit boundary is within 50 foot distance from facility property boundary.*
- b. No fences, gates or berms are required since the area is under complete control of the operator. A sign warns of restricted access to area to any unauthorized personnel.
- c. See attached maps *Port facilities Site Plan and Landfill Boundary Map.* A sign is posted on only access road entering the landfill and warns of restricted access to area.
- d. Equipment and a cover material stockpile is located in the eastern section of MS2.

2. Plan view drawings with contour lines and cross section drawings that show: [18 AAC 60.210]

- b. Roads are shown on the *Port Facilities Site Plan Map.* No ditches trenches or berms are associated with the facility.

3. Construction detail drawings and cross sections that show:

- a. No stormwater drainage structures associated with the facility since there are no stormwater outfalls, stormwater does not leave the MS2 pit.

4. Facility Closure Drawings

- a. See attached drawing/map titled *5-yr Closure Plan & Surface Water flow and Landfill Cross Sections*

Operations Plan

1. Access control [18 AAC 60.210; 18 AAC 60.220] page/section

- a. See attached *Operations Plan for Port Landfill*

2021 Port Landfill Class III Camp Permit Renewal Application

Support information

- b. See attached *Operations Plan for Port Landfill*
- c. See attached *Operations Plan for Port Landfill*
- d. See attached *Operations Plan for Port Landfill*

2. Waste acceptance and handling policy

- a. See attached *Operations Plan for Port Landfill*
- b. See attached *Operations Plan for Port Landfill*
- c. See attached *Operations Plan for Port Landfill*

3. Waste placement plan [18 AAC 60.210; 18 AAC 60.225]

- a. See attached *Operations Plan for Port Landfill*
- b. See attached *Operations Plan for Port Landfill*
- c. See attached *Operations Plan for Port Landfill*

4. Daily cover plan - Type of cover material(s) that will be used and for each type of cover describe:

- a. See attached *Operations Plan for Port Landfill*
- b. See attached *Operations Plan for Port Landfill*
- c. See attached *Operations Plan for Port Landfill*

5. Litter, vector and nuisance control plan

- a. See attached *Operations Plan for Port Landfill*
- b. See attached *Operations Plan for Port Landfill*

6. Corrective action plan – Describe the actions for:

- a. See attached *Operations Plan for Port Landfill*
- b. See attached *Operations Plan for Port Landfill*
- c. See attached *Operations Plan for Port Landfill*
- d. See attached *Operations Plan for Port Landfill*

2021 Port Landfill Class III Camp Permit Renewal Application

Support information

7. Operator training [18 AAC 60.235; 18 AAC 60.240; 18 AAC 60.335]

a. See attached *Operations Plan for Port Landfill*

b. See attached *Operations Plan for Port Landfill*

8. Operating record [18 AAC 60.235, 18 AAC 60.450]

a. See attached *Operations Plan for Port Landfill*

b. See attached *Operations Plan for Port Landfill*

Monitoring Plan

1. Visual monitoring plan [18 AAC 60.210; 18 AAC 60.800] page/section

a. See attached *Operations Plan for Port Landfill*

b. See *Monthly Landfill Inspection* form and *Random Dumpster Inspection* form

2. Other Required Monitoring

TCLP ash testing is discussed within the *Operations Plan for Port Landfill*

Closure Plan and Cost Estimate

1. Description of the closure process

a. See *2021 Closure Plan Port Landfill*

b. See *2021 Closure Plan Port Landfill*

c. See *2021 Closure Plan Port Landfill* and the *Operations Plan for Port Landfill*

d. See *2021 Closure Plan Port Landfill*

e. See *2021 Closure Plan Port Landfill*

f. Not Applicable for Class III MSWLF

g. Not Applicable for Class III MSWLF

2. Financial information [18 AAC 60.210; 18 AAC 60.265]

a. See *SRCE Cost Estimate*

b. See *SRCE Cost Estimate*, post closure care addressed for 5 years in SRCE under Monitoring

2021 Port Landfill Class III Camp Permit Renewal Application

Support information

Waiver Requests and Justification

1. Waiver requests

a. N/A

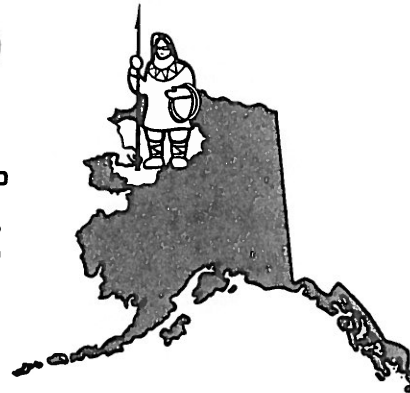
b. N/A

2. Additional information

None provided

NANA REGIONAL CORPORATION, INC.

1001 E. BENSON BOULEVARD, ANCHORAGE, ALASKA 99508
TELEPHONE (907) 265-4100



March 14, 1996

Mr. Paul Dusenbury
Cominco Alaska, Inc.
5660 B Street
Anchorage, Alaska 99518-1685

Dear Mr. Dusenbury:

Cominco Alaska, Inc. has informed NANA that a solid waste landfill will be needed for the proposed construction activities at the Red Dog Port Facility. A State of Alaska Waste Class III Landfill permit will be obtained by Cominco for this proposed facility.

NANA is the landowner of the area that will be impacted by this proposed landfill and gives its consent to the proposed action. The enclosed map shows the existing MS-2 gravel pit, the existing closed landfill, and the proposed location of the new landfill at the Red Dog Port Facility. NANA requests a copy of the issued permit and any annual reports that will be filed with the State of Alaska for the operation.

Sincerely,


Frank P. Greene
Director of Lands

Enclosure

FPG/db/27hs



Member Villages: Ambler, Buckland, Candle, Deering, Kiana, Kivalina, Kobuk, Kotzebue, Noatak, Noorvik, Selawik, Shungnak



Class III Municipal Solid Waste Landfill Landowner Consent Form

Alaska Department of Environmental Conservation
Solid Waste Program

This form is being provided to the legal owner of property that is the site of a ☐ proposed or ☒ existing Class III Municipal Solid Waste Landfill. The Alaska Department of Environmental Conservation solid waste permit application requires that the landowner consent to the property being used as a landfill with the conditions below. As the landowner, please complete, sign, and return this form to the permit applicant.

Facility Information:

Community Name: Northwest Arctic Borough

Permit Applicant: Teck Alaska LLC.

Property Information:

Legal Description: include a legal description of the property or attach survey documentation.

NE1/4 SW 1/4

Section: 1	Township: T25N	Range: R24W	Meridian: Kateel River
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I hereby acknowledge I am the owner of the above described property and give my consent for the property to be used as a **Class III Municipal Solid Waste Landfill**.

I hereby also acknowledge that, as required in 18 AAC 60.396(b), upon closure of the above landfill I agree to the placement of a notation of the property deed as permanent notice that:

- The property was used as a **Class III Municipal Solid Waste Landfill**;
- The property may not be suitable for some uses;
- Maintenance and repairs to the property might become necessary to prevent pollution problems at the site; and
- Any activity that results in damage to the final cover of the property must be corrected to control potential pollution problems.

Landowner Signature:

Organization: NANA Regional Corporation

Printed Name: Lance Miller

Title: Vice President Resources

Signature: 

Date: 3/19/21

Operating Plan

Operations Plan for Port Landfill

1 Purpose and Scope

The Class III Municipal Solid Waste Landfill (MSWLF) located at the AIDEA Delong Mountain Regional Transportation System port facility is used for the disposal of inert waste, demolition debris, construction wastes and incinerator ash waste. The procedures described below are operational controls designed to minimize any impact on the environment and to comply with the 2021 Solid Waste Disposal Permit No. SW3A011-26 and Teck Alaska Inc. (TAK) policies.

2 Procedure

The procedures below must be followed to operate and maintain the landfill in accordance with permit conditions, TAK policies and state and federal regulations. This Operations Plan is referenced in the permit; technical or significant changes to this Operations Plan must be submitted to ADEC for approval.

2.1 Signage

The facility will ensure a sign with the following information is positioned at the entrance to the landfill:

- Facility Identification
- Owner/Operator Name
- Conditions for Use
- Prohibited Wastes
- Emergency Phone Numbers

A copy of the sign is provided in Figure 2.

2.2 Access

Unauthorized personnel are not permitted within the landfill area. The access road to the landfill is maintained by the port facility and kept passable during all seasons. No shooting of firearms or off road “pleasure” vehicle use is permitted within the MS-2 pit boundaries. No salvaging is allowed in the landfill. Recyclable or salvageable materials are separated at the port facility prior to disposal in the landfill.

2.3 Landfill Structure

TAK shall ensure the landfill is operated per the Operations Plan and maintained to ensure waste is placed within the designated area prescribed in the annual Use Plan. Figure 1 depicts the port landfill within the MS-2 quarry pit and shows the active and inactive areas of the landfill. The inactive area is currently closed with cover material placed around the cell. No additional refuse will be placed in the inactive area.

Cover material for the active cell is stockpiled within the MS-2 material site and available throughout the year.

2.4 Litter Control

Dumpsters containing loose trash which can become windblown will are not allowed to be placed in the landfill. Windblown trash noticed outside (within 500 feet) of the “active” landfill will be collected, bagged if necessary and placed back into the active landfill. To date, windblown trash has not been an issue at the site.

2.5 Animal Control

To prevent attracting wildlife, putrescible wastes are incinerated and are not permitted in the landfill.

2.6 Prohibitions

The following wastes are prohibited from the landfill. *Disposal of prohibited wastes or prohibited activity shall be reported immediately to [Environmental](#).*

- Unsterilized medical waste
- Food - *including food wrappers/containers*
- Loose trash - *all loose trash susceptible to being windblown will be bagged*
- Office / PAC waste
- Oily wastes
- Used oil
- Batteries – except alkaline
- Hazardous wastes – *including hazardous scrap metal (computer circuit boards, keyboards, monitors, mercury containing lamps, switches, etc.)*
- Liquids
- Greases
- Liquid Paint
- Transformer oil
- PCB's
- Sludge's
- Chemical wastes
- Acids
- Corrosives
- Solvents
- Explosives
- Radioactive wastes
- Contaminated soil – *unless approved by Environmental*
- Animal carcasses
- Asbestos

The port facility conducts random dumpster inspections prior to loading a dumpster on a transport vehicle. If noticed the dumpster contains any prohibited waste the items are removed from the dumpster. Random dumpster inspections are completed by the facility using the [Landfill Random Dumpster Inspection Form](#). Completed inspection forms are filed with TAK for 5 years.

2.7 Corrective Action Plan (CAP)

- Removal of any improper or unauthorized waste placement in landfill
If any unauthorized wastes are missed during a Random Landfill Dumpster Inspection or evident after a dumpster is emptied or during an inspection of the active dump area the waste will be collected and properly disposed. An Environmental Incident may be recorded and a CAP generated based on the severity of the incident. Incidents are maintained electronically in Siteline (EMS)
- Repairing any damage to the facility or structure
Any damage to the sign, road, slope sloughing, or water ponding, etc. will be immediately reported to the Environmental Department. Damage will be logged as an Environmental Incident and a CAP implemented depending on the nature of the damage.
- Addressing identified noncompliance issues
Noncompliance of a permit condition or the Operations Plan will be recorded as an environmental noncompliance incident in Siteline and reported to ADEC.
- Responding to combustion or a fire within the active landfill
The port facility has a trained fire response crew and equipment onsite to respond immediately to any situation. Any fire incident within the landfill will be responded to and reported immediately.

2.8 Allowed Wastes

Wastes that can be landfilled include the following.

- Ash – *no more than one ton per day*
- Wood / wood pallets – *only unrecyclable*
- Oil filters – *gravity hot-drained, crushed, or incinerated (normally recycled with steel)*
- Cardboard / paper – *unrecyclable*
- Non-hazardous Scrap metal – *unrecyclable*
- Alkaline batteries
- Construction/demolition waste – *contact Environmental for guidance*
- Tires – *unrecyclable*
- Drums – *nonrefundable, “empty” and crushed*

Refer to the [Waste Information System](#) or contact [Environmental](#) for information on other wastes or if uncertain about disposal methods.

Sewage solids are comingled with municipal waste (food, household, etc.) and incinerated and ultimately placed in the landfill. The port facility tracks and ensure that the total quantity (pounds) of municipal solid waste or refuse-derived fuel is greater than 30 percent of the total waste (pounds) incinerated. Compliance with this condition is tracked per incinerator load.

During the non-shipping season incinerator ash is placed in the landfill approximately once per month, during the shipping season incinerator ash is typically placed weekly. Ash collected from the wood debris burn is removed as needed basis and placed in the landfill. Open burn records are maintained and recorded for each burn day.

Incinerator ash is (collected over several weeks) is analyzed for TCLP metals at least annually or any time there is a notable waste stream change at the port landfill. The annual sample is collected when the port facility is near capacity and analyzed analyzed for TCLP metals. PCB's are analyzed during the last year of the permit cycle or every five years.

2.9 Burial

Port facility shall be responsible for the compaction (if needed) and covering of waste:

- Consolidate and compact loose waste "as needed", cover is placed immediately if any materials placed may become windblown.
- Cover with a minimum of 6 inches of compacted rock as needed to prevent odor, scavenging and or windblown litter; Cover material comes from blasted rock within the pit.
- Ensure the working face does not exceed 40 feet wide by 5 feet high; Once a lift is completed a new lift is started on top of the previous lift.
- Keep the working face as small as practical to prevent windblown litter.

2.10 Prevention of Unstable Slopes

Unstable slopes may be caused by variation in waste type placed or significant amounts of debris placed at once and not properly compacted. In order to assure continued slope stability, placement of large one-time volumes of debris such as buildings or other items will be placed such to allow for sufficient compaction in lifts no higher than 4 feet. Cover rock will then be placed over the debris to ensure stability within the lift.

The port facility will ensure a distance of 50 feet is maintained between the disposal area and the boundary of the landfill.

The general progression of waste placed for the next 5 years will be toward the northwest end of the existing "inactive" area beginning at the MS-2 pit floor and lifting vertically.

2.11 Surface Water

The port facility shall ensure surface water runoff does not flow over, into or through uncovered or covered wastes by constructing and maintaining diversion structures (e.g. ditches or berms) if necessary.

2.12 Snow Removal & Control

The port facility shall remove snow where possible from the active disposal area prior to winter compaction operations and spring snowmelt.

The port facility shall place any snow removed from the active working face within the landfill boundaries and clean up any litter noticed outside of the landfill after snow melt.

2.13 Burning

The port facility shall ensure the following when open burning:

- An attendant is on duty when open burning occurs at the landfill.
- Open burning of paper and paper products is done in a burn box or cage and large wood pieces are burned in a pit at least 50 feet from the working face.
- Open burning is conducted so that best combustion efficiency is achieved with no smoldering of wastes:
 - the material is kept as dry as possible through the use of a cover or dry storage;
 - before igniting the burn, non-combustibles are separated to the greatest extent practicable;
 - natural or artificially induced draft is present;
 - to the greatest extent practicable, combustibles are separated from grass or peat layer;
 - combustibles are not allowed to smolder; and
 - Port facility must keep records to demonstrate compliance with open burning conditions. Provide the Environmental Department with copies of the forms on a monthly basis.

The following open burning activities are **prohibited**:

- Except for firefighter training, open burning of asphalts, rubber products, plastics, tars, oils, oily wastes, contaminated oil cleanup materials, or other materials in a way that gives off black smoke is prohibited without written approval from ADEC.
- Open burning or incineration of pesticides, halogenated organic compounds, cyanic compounds, or polyurethane products in a way that gives off toxic or acidic gases or particulate matter is prohibited.
- Open burning of putrescible garbage, animal carcasses, or petroleum-based materials, including materials contaminated with petroleum or petroleum derivatives, is prohibited if it causes odor or black smoke that has an adverse effect on nearby persons or property.
- Open burning is prohibited at the working face.

2.14 Fires

If a fire is observed at the working face:

- Call Port Medic on Channel 3 or at extension 911 to report fire;
- The Fire Department shall extinguish the fire immediately;
- The Environmental department shall be notified as soon as possible;
- Environmental will notify the Alaska Department of Environmental Conservation (ADEC), Fairbanks office within 24 hours of a fire

2.15 Inspections

Environmental will conduct monthly visual inspections for litter and signs of damage from settlement, ponding, leakage, erosion or operations at the site, signs of combustion or fire in the waste and signs of death or stress to wildlife or vegetation that might be caused by the landfill. Inspections will be conducted using the [Monthly Landfill Inspection Form](#). Copies of visual inspections are stored electronically by TAK.

Actions shall be taken to correct deficiencies identified during any of the inspections. Procedures to correct any deficiency noted during the inspections are listed in section 2.7

Periodic random inspections of incoming loads are completed by port personnel. The inspections are completed using the [Landfill Random Dumpster Inspection Form](#). Completed Random Inspections are filed with the port.

All completed inspections must be saved and filed for at least five years.

2.16 Closure

The facility shall notify Environmental of planned closure at least 60 days before the closure date.

Final side slopes are to be graded to a maximum slope of 3:1 with all material contained within the permitted disposal area. A permanent survey monument will be placed on a solid high wall near the northern edge of the landfill cell. There is no planned post closure use of the property once reclamation is completed.

Environmental shall notify ADEC at least 30 days before the site is to be permanently closed and equipment withdrawn.

Environmental shall work with the facility to ensure that all the requirements for closure and restoration of the landfill occur as outlined in the [Closure Plan - Port Landfill](#).

2.17 Permit Administration

TAK Environmental shall be responsible for permit maintenance and renewal.

Environmental shall ensure that applications for renewal or amendment of the Permit are made no later than 30 days before the expiration date of the permit or planned effective date of the amendment (if needed). Environmental is also responsible for ensuring annual TCLP metals and 5-year PCB incinerator ash samples are properly collected and submitted.

2.18 Training

Authorized personnel who have access to the landfill are familiar with conditions in the permit and this Operations Plan.

All port facility personal are required to attend annual MSHA training which goes into detail on proper management of various types of waste including food waste. In addition, specific waste training is conducted for various port individuals or departments who manage hazardous and non-hazardous waste as well as universal wastes. The port facility receives guidance on the management of recyclable wastes such as cardboard, metals and electronics. All training records are maintained as electronic files in Sitaline.

2.19 Records and Reporting

The Environmental department shall maintain the landfill operating records, which include copies of the permit and permit application, operating plan, monthly inspection records (for 5 years), staff training records, analytical data, financial assurance, annual use plans and annual photo's. The port facility maintains the hardcopies of the random dumpster inspections.

3 Key Responsibilities

Mine Surveyors: Responsible for annual survey of the landfill disposal area

Port Supervisor: Overall responsibility and accountability for the operation of the landfill and maintenance of landfill records.

Port facility: Responsibility for the operation of the landfill and maintenance of landfill, conducts periodic random inspections of dumpster loads prior to placing in landfill. Files pertinent paperwork/records.

Environmental Superintendent: Overall responsibility for ensuring permit stipulations and regulations are adequately communicated to the Port Supervisor.

Environmental Coordinator: Responsible for initiating corrective action when necessary, preparing applications for permit renewal or amendment, submitting annual reports, maintaining records and communicating permit or regulatory changes to the Port Supervisor.

Environmental Technical Supervisor: Responsible for ensuring monthly inspections are conducted.

Environmental Technician: Responsible for conducting monthly inspections.

4 Departure from Procedure

This Operations Plan was written to comply with applicable laws and regulations pertaining to the disposal of solid waste. Failure to follow this procedure could result in possible consequences to health and safety and/or the environment. Departure from procedures resulting in pollution may also lead to criminal or civil penalties for you and the TAK as well as adverse effects on corporate performance and reputation.

5 Definitions

Putrescible: organic material that will decompose producing foul-smelling matter (e.g., food, animal carcass, medical waste).

6 General Requirements

ADEC Solid Waste Disposal Permit No. SW3A011

7 Key Documents/Tools/References

[Closure Plan - Port Landfill](#)

[Monthly Landfill Inspection Form](#)

[Landfill random Dumpster Inspection Form](#)

Figure 1: Landfill Overview (Not to Scale)

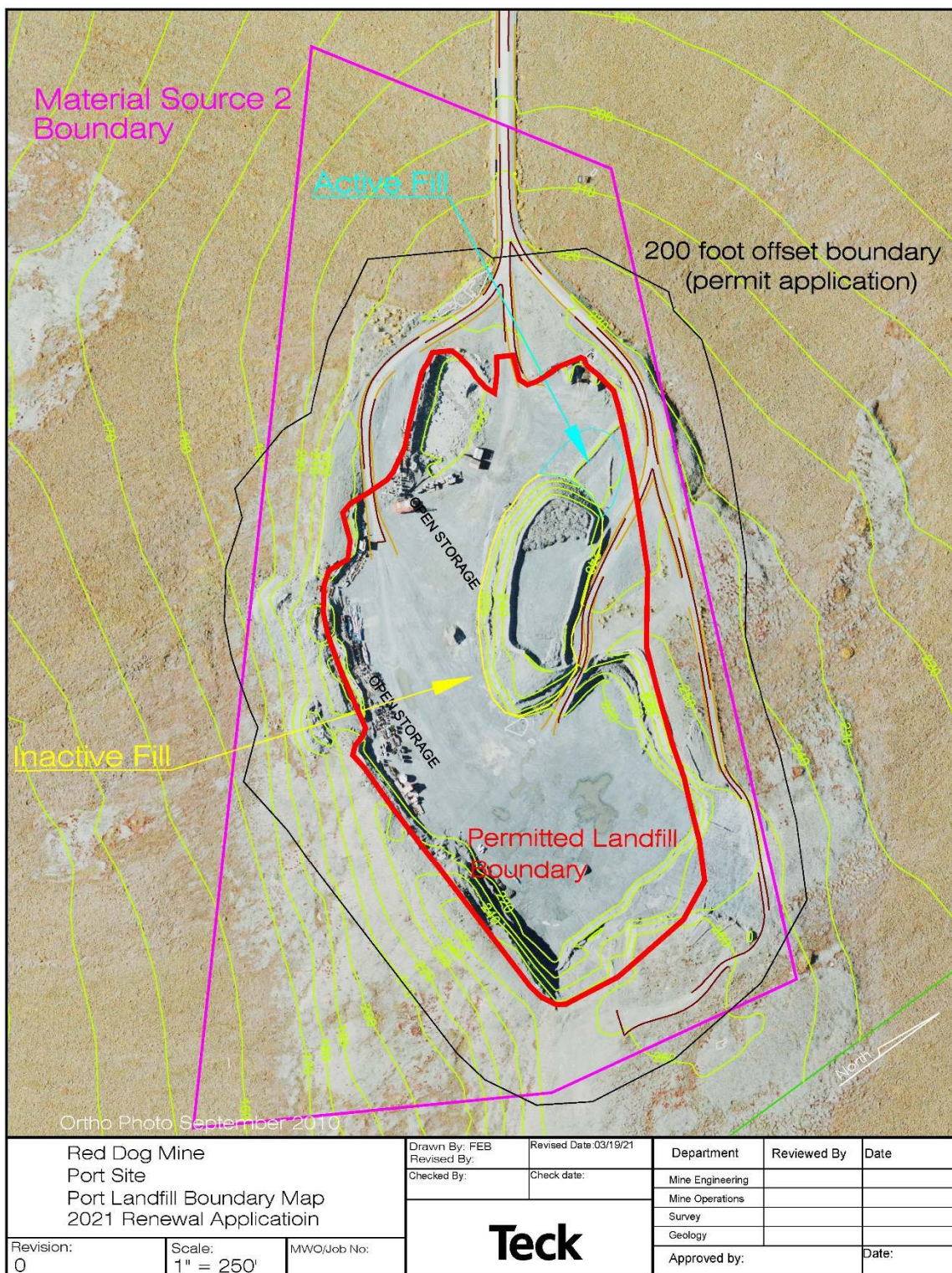


Figure 2 - Sign at Port Landfill Entrance



Inspection Forms

LANDFILL INSPECTION

Teck Alaska Incorporated
Red Dog Operations

LANDFILL: Main Waste ☐ Port ☐

INSPECTED BY: _____

DATE OF INSPECTION: _____

Teck

Inspect landfills monthly

	Check Answer	Corrective Action/Comments/SIR No.
Are required signs readily visible - Mark N/A when it is not required at a landfill		
- Facility ID, owner/operator name, conditions for use, emergency phone numbers (all)	Yes <input type="checkbox"/> No <input type="checkbox"/>	
- List of prohibited wastes (all)	Yes <input type="checkbox"/> No <input type="checkbox"/>	
- Directing users to disposal areas (e.g landfill/burn pit) with list of rules (Port only)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
- Access restricted to authorized personnel only	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
Is surface water from outside landfill area observed to flow onto & over, into or through wastes?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are any wastes placed in surface waters?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are there any signs of damage or potential damage from: Settlement, Ponding, Leakage, Erosion, Litter, Operations, Fire or combustion, Evidence of death/stress to wildlife or vegetation	If yes, state comments Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is there any wildlife present? If yes, indicate number, species, interactions, or casualties.	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is there evidence that wildlife have accessed the disposal area?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are any of the following wastes observed at the site (circle type): food, asbestos, oily wastes, hazardous waste, grease, paint, sludge, sewage sludge, chemicals, batteries (other than alkaline), acids, corrosives, solvents, explosives, radioactive wastes, medical waste, liquids, recyclable/salvageable materials, contaminated soil, animal carcasses/by-products?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Are all drums, tanks and associated piping empty of fluids and crushed?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
Is there any dumping of waste outside the landfill area?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is litter present along entrance road or within 500 feet of site?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is there any evidence of firearm discharge?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is there any evidence of fire or open burning at the landfill?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Open Burning (Port and Old Mine only) - Mark N/A if burning is not taking place		
- Is burning taking place that produces black smoke ?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
- Is there an attendant on duty during burning?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
- Is burning conducted in a burn box or cage?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
- Is burning conducted at least:		
- Mine: 100 ft from working face?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
- Port: 50 ft from working face?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
Photo taken? (required once/year)	Yes <input type="checkbox"/> No <input type="checkbox"/>	

Comments:

Reviewed by: _____

Print Date: 3/21/2021

Landfill Random Dumpster Inspection Log

Prohibited Item List

- | | | |
|--|---|---|
| <ul style="list-style-type: none"> • Food - <i>including food wrappers/containers</i> • Loose trash - <i>must be bagged</i> • Office / PAC waste or any black plastic bagged trash • Hazardous wastes—computer circuit boards, keyboards, monitors, unpunctured aerosol cans, mercury lamps) • Paints – <i>unless dried and non-hazardous</i> | <ul style="list-style-type: none"> • Sludge • Chemical wastes • Explosives • Batteries (alkaline OK) • Undrained oil filters | <ul style="list-style-type: none"> • No Liquids • Grease • Oily wastes • Used oil • Monitors • Spill cleanup wastes |
|--|---|---|

Date:	Prohibited Waste observed	yes <input type="checkbox"/>	no <input type="checkbox"/>
Inspector:	Comments:		
Dumpster location:			
Date:	Prohibited Waste observed	yes <input type="checkbox"/>	no <input type="checkbox"/>
Inspector:	Comments:		
Dumpster location:			
Date:	Prohibited Waste observed	yes <input type="checkbox"/>	no <input type="checkbox"/>
Inspector:	Comments:		
Dumpster location:			
Date:	Prohibited Waste observed	yes <input type="checkbox"/>	no <input type="checkbox"/>
Inspector:	Comments:		
Dumpster location:			
Date:	Prohibited Waste observed	yes <input type="checkbox"/>	no <input type="checkbox"/>
Inspector:	Comments:		
Dumpster location:			
Date:	Prohibited Waste observed	yes <input type="checkbox"/>	no <input type="checkbox"/>
Inspector:	Comments:		
Dumpster location:			

Closure Plan

AIDEA DeLong Mountain Regional Transportation System 2021 Closure Plan Port Landfill

The landfill is located at the Alaska Industrial Export Authority (AIDEA) DeLong Mountain Regional Transportation System (DMTS) Port facility, at Material Site 2 (MS-2). There are no post-closure uses foreseen for the landfill.

A conceptual drawing of the landfill at closure is attached with the renewal application – *5-yr Closure Plan & Surface Water Flow*. The following lists the plans for closure of the port landfill:

- Final cover shall be applied within 90 days after the last waste is placed. The cover layer will consist 12" of broken/crushed rock and 12" of growth medium or top soil comprising a total cover layer thickness of 2 feet. Much of the existing dump has adequate cover rock already placed on the dump, Standardized Reclamation Cost Estimator (SRCE) allocates another 12" of new cover rock for the entire 2.89 acres, however this will mainly be used to cover exposed areas along the dump face when the 2:1 slope has been bladed down to a 3:1 slope.

The pushdown of the upper dump crest to create a 3:1 slope is the reason why the under Section A - Earthwork/Recontouring (in SRCE) the "Waste Rock Dumps" was selected instead of "Landfill", "Waste Rock Dumps" provides calculations for slope corrections whereas the "Landfill" does not in the SRCE model.

- The landfill surface drainage will be graded to promote surface water runoff, prevent ponding and erosion, and minimize water infiltration into covered wastes. The maximum exterior slope will be 3:1 with an estimated landfill footprint of 2.89 acres by 2026, a slight increase from the 2016 foot print of 2.6 acres. A small dozer will be utilized to blade down slopes which are steeper than 3:1.
- Cover rock material will be hauled 500 feet from within the Material Site 2 (MS2) and growth medium or top soil will be hauled 9,500 feet from the "Cover Material Stockpile" just adjacent from the concentrate storage buildings. This is identified as PL-1 in the SRCE model. A medium size truck and loader will be used to transport cover material to the landfill. A small dozer will be used to spread the placed cover material. The cover material is sufficient to promote vegetative growth.
- The soil cover surface will be hydro-seeded immediately after cover has been placed with selected grass types (suggested below) within the first growing season after closure. Grass types suited to the Port Site area were determined during a vegetation experiment conducted by the Alaska Plant and Materials Center. Grass types may include any combination of the following:

- a) “Tundra” Glaucous Bluegrass“
- b) “Gruening” Alpine Bluegrass”
- c) “Norcoast” Bering Hairgrass”
- d) “Arctared” Red Fescue”
- e) “Egan” American Sloughgrass”
- f) “Nortran” Tufted Hairgrass”
- g) “Sourdough” Bluejoint”
- h) “Alyeska” Polargrass”
- i) “Caiggluk” Tilesy Sage”

Seed application is approximately 20 lb. per acre, 400 lb. per acre of fertilizer and 800 lb. dry mulch per acre.

Once it is decided to close the landfill the reclamation activities are expected to last no longer than two weeks to complete the re-sloping, grading, cover and topsoil placement and seeding of the 2.89 acre site. Equipment will be mobilized via barge to complete the activities. Mobilization costs are addressed in the SRCE model.

- Post-closure monitoring will be conducted annually during the summer for at least five consecutive years following closure. Monitoring will include visual observations for signs of damage or potential damage from settlement, erosion or escape of waste or leachate. The SRCE model assumes 30% of the dump will require reseeding and 15% needed for re-addressing any erosion on the slopes.
- A record of visual inspections documenting any problems and repairs will be maintained in the operating records. After the conclusion of the post-closure period for visual inspections Teck will submit a report to the department which contains photographs of the landfill and a description of any problems detected/encountered and corrected during the periods of the visual monitoring.
- As soon as practicable, but no later than the conclusion of the post-closure period for visual inspections Teck or NANA (owner) will record a notation on the deed to the property for the facility, or some other instrument that is routinely examined during a title search. Teck will provide written notification to the department and the landowner that the notation required has been recorded and that a copy has been placed in the operating record of the facility. The notation on the deed or other instrument must notify, in perpetuity, any potential purchaser or lease holder of the property that:
 - (1) the property was used as a Class III MSWLF;
 - (2) the property may not be suitable for some uses;
 - (3) maintenance and repairs to the property might become necessary to prevent pollution problems at the site; and
 - (4) any activity that results in damage to the final cover of the property must be corrected to control potential pollution problems.

- The landfill will be located using a permanent survey monument. The location of the monument will be placed in the NE corner of the pit wall and securely fastened to solid ground
- Within 90 days after closure of a Class III MSWLF, Teck will submit written notification to the department that closure has been completed as required by this plan.
- Teck has previously posted proof of financial responsibility for closure of the site with the Alaska Department of Environmental Conservation. A revised proof of financial responsibility will be placed for \$58,107, revised based on the 2021 SRCE cost estimate.

Reclamation Cost Estimate (SRCE)



Teck Alaska Incorporated
Red Dog Operations
2525 C Street, Suite 310
Anchorage, AK USA 99503

+1 907 754 3800 Tel
www.teck.com

TECK ALASKA INCORPORATED
Financial Responsibility Affidavit

I am Controller and Chief Accounting Officer of Teck Alaska Incorporated. I am authorized by the Corporation to provide a statement regarding its financial capabilities. I hereby certify that Teck Alaska Incorporated has the financial resources necessary to self-insure in the amount of \$58,107 for the purpose of complying with Solid Waste Disposal Permit No. 3W3A011-26

Dated this 28th day of April, 2021

Rob Irvine

Subscribed and sworn before me, the undersigned Notary Public, on this 28th day of April, 2021.

Notary Public

STATE OF ALASKA
NOTARY PUBLIC

Danielle J. Thurow

My Commission Ends May 31, 2023



My commission
expires:

May 31, 2023

Closure Cost Estimate
Cost Summary
Project Name: Port Landfill Closure (2.89 acres)
Project Date: 3/25/21
Model Version: Version 1.4.1
File Name: Port Landfill SRCE_Renewal 2021.xlsm

A. Earthwork/Recontouring		Labor ⁽¹⁾	Equipment ⁽²⁾	Materials	Total
Exploration		\$0	\$0	\$0	\$0
Exploration Roads & Drill Pads		\$0	\$0	\$0	\$0
Roads		\$0	\$0	\$0	\$0
Well Abandonment		\$0	\$0	\$0	\$0
Pits		\$0	\$0	N/A	\$0
Quarries & Borrow Areas		\$0	\$0	\$0	\$0
Underground Openings		\$0	\$0	\$0	\$0
Process Ponds		\$0	\$0	\$0	\$0
Heaps		\$0	\$0	\$0	\$0
Waste Rock Dumps		\$4,369	\$13,706	\$0	\$18,075
Landfills		\$0	\$0	\$0	\$0
Tailings		\$0	\$0	\$0	\$0
Foundation & Buildings Areas		\$0	\$0	\$0	\$0
Yards, Etc.		\$0	\$0	\$0	\$0
Drainage & Sediment Control		\$0	\$0	\$0	\$0
Generic Material Hauling		\$0	\$0	\$0	\$0
Other User Costs (from Other User sheet)		\$0	\$0	\$0	\$0
Other**					\$0
Subtotal		\$4,369	\$13,706	\$0	\$18,075
Mob/Demob if included in Other User sheet		\$0	\$0	\$0	\$0
Mob/Demob	Mob of equipmen, small dozer, loader, truck and hydroseeder	\$9,600			\$9,600
Subtotal "A"		\$13,969	\$13,706	\$0	\$27,675
B. Revegetation/Stabilization		Labor ⁽¹⁾	Equipment ⁽²⁾	Materials	Total
Exploration		\$0	\$0	\$0	\$0
Exploration Roads & Drill Pads		\$0	\$0	\$0	\$0
Roads		\$0	\$0	\$0	\$0
Well Abandonment					N/A
Pits		\$0	\$0	\$0	\$0
Quarries & Borrow Areas		\$0	\$0	\$0	\$0
Underground Openings					N/A
Process Ponds		\$0	\$0	\$0	\$0
Heaps		\$0	\$0	\$0	\$0
Waste Rock Dumps		\$713	\$428	\$3,128	\$4,269
Landfills		\$0	\$0	\$0	\$0
Tailings		\$0	\$0	\$0	\$0
Foundation & Buildings Areas		\$0	\$0	\$0	\$0
Yards, Etc.		\$0	\$0	\$0	\$0
Drainage & Sediment Control		\$0	\$0	\$0	\$0
Generic Material Hauling		\$0	\$0	\$0	\$0
Other User Costs (from Other User sheet)		\$0	\$0	\$0	\$0
Other**					\$0
Subtotal "B"		\$713	\$428	\$3,128	\$4,269
C. Detoxification/Water Treatment/Disposal of Wastes**		Labor ⁽¹⁾	Equipment ⁽²⁾	Materials	Total
Process Ponds/Sludge					\$0
Heaps					\$0
Dumps (Waste & Landfill)					\$0
Tailings					\$0
Surplus Water Disposal					\$0
Monitoring					\$0
Miscellaneous					\$0
Solid Waste - On Site		\$0	\$0	N/A	\$0
Solid Waste - Off Site					\$0
Hazardous Materials					\$0
Hydrocarbon Contaminated Soils		\$0	\$0	\$0	\$0
Other User Costs (from Other User sheet)		\$0	\$0	\$0	\$0
Other**					\$0
Subtotal "C"		\$0	\$0	\$0	\$0
D. Structure, Equipment and Facility Removal, and Misc.		Labor ⁽¹⁾	Equipment ⁽²⁾	Materials	Total
Foundation & Buildings Areas		\$0	\$0	\$0	\$0
Other Demolition		\$0	\$0	\$0	\$0
Equipment Removal		\$0	\$0	\$0	\$0
Fence Removal		\$0	\$0		\$0
Fence Installation		\$0	\$0	\$0	\$0
Culvert Removal		\$0	\$0	N/A	\$0
Pipe Removal		\$0	\$0	N/A	\$0
Powerline Removal		\$0			\$0

Closure Cost Estimate
Cost Summary
Project Name: Port Landfill Closure (2.89 acres)
Project Date: 3/25/21
Model Version: Version 1.4.1
File Name: Port Landfill SRCE_Renewal 2021.xlsm

Transformer Removal	\$0			\$0
Rip-rap, rock lining, gabions	\$0	\$0	\$0	\$0
Other Misc. Costs	\$0	\$0	\$0	\$0
Other User Costs (from Other User sheet)	\$0	\$0	\$0	\$0
Other**				\$0
Subtotal "D"	\$0	\$0	\$0	\$0
E. Monitoring	Labor ⁽¹⁾	Equipment ⁽²⁾	Materials	Total
Reclamation Monitoring and Maintenance	\$10,597	\$2,207	\$366	\$13,170
Ground and Surface Water Monitoring	\$0	\$0	\$0	\$0
Other User Costs (from Other User sheet)	\$0	\$0	\$0	\$0
Subtotal "E"	\$10,597	\$2,207	\$366	\$13,170
F. Construction Management & Support	Labor	Equipment ⁽²⁾	Materials	Total
Construction Management	\$0	\$0	N/A	\$0
Construction Support	\$0	\$0	\$0	\$0
Road Maintenance	\$0	\$0	\$0	\$0
Other User Costs (from Other User sheet)	\$2,640	\$0	\$320	\$2,960
Other**	\$2,960 for surveyor, monument placement, and notation on deed			\$0
Subtotal "F"	\$2,640	\$0	\$320	\$2,960
Subtotal Operational & Maintenance Costs	Labor ⁽¹⁾	Equipment ⁽²⁾	Materials ⁽³⁾	Total
Subtotal A through F	\$27,919	\$16,341	\$3,814	\$48,074

** Other Operator supplied costs - additional documentation required.

Closure Cost Estimate
Cost Summary
Project Name: Port Landfill Closure (2.89 acres)
Project Date: 3/25/21
Model Version: Version 1.4.1
File Name: Port Landfill SRCE_Renewal 2021.xlsm

Indirect Costs		Include?	Total
1. Engineering, Design and Construction (ED&C) Plan (7)			N/A
2. Contingency (8)			N/A
3. Insurance (9)	\$419		\$419
4. Performance Bond (10)			N/A
5. Contractor Profit (11)			\$4,807
6. Contract Administration (12)			\$4,807
7. Government Indirect Cost (13)			N/A
Subtotal Add-On Costs			\$10,033
Total Indirect Costs as % of Direct Cost			21%
GRAND TOTAL			\$58,107

Administrative Cost Rates (%)

	Cost Ranges for Indirect Cost Percentages			
	<=	<=	<=	>
1. Engineering, Design and Construction (ED&C) Plan (7)	\$1,000,000	\$25,000,000		\$25,000,000
Variable Rate	8%	6%		4%
2. Contingency (8)	\$500,000	\$5,000,000	\$50,000,000	\$50,000,000
Variable Rate	10%	8%	6%	4%
3. Insurance (9)	1.5%	of labor costs		
4. Bond (10)	3.0%	of the O&M costs if O&M costs are >\$100,000		
5. Contractor Profit (11)	10%	of the O&M costs		
6. Contract Administration (12)	\$1,000,000	\$25,000,000		\$25,000,000
Variable Rate	10%	8%		6%
Government Indirect Cost (13)	21%	of contract administration		

RECLAMATION COST ESTIMATION SUMMARY SHEET FOOTNOTES

1. Federal construction contracts require Davis-Bacon wage rates for contracts over \$2,000. Wage rate estimates may include base pay, payroll loading,
2. The reclamation cost estimate must include the estimated plugging cost of at least one drill hole for each active drill rig in the project area. Where the
3. Miscellaneous items should be itemized on accompanying worksheets.
4. Fluid management should be calculated only when mineral processing activities are involved. Fluid management represents the costs of maintaining proper
5. Handling of hazardous materials includes the cost of decontaminating, neutralizing, disposing, treating and/or isolating all hazardous materials used, produced,
6. Any mitigation measures required in the Plan of Operations must be included in the reclamation cost estimate. Mitigation may include measures to avoid,
7. Engineering, design and construction (ED&C) plans are often necessary to provide details on the reclamation needed to contract for the required work. To
8. A contingency cost is included in the reclamation cost estimation to cover unforeseen cost elements. Calculate the contingency cost as a percentage of the
9. Insurance premiums are calculated at 1.5% of the total labor costs. Enter the premium amount if liability insurance is not included in the itemized unit costs.
10. Federal construction contracts exceeding \$100,000 require both a performance and a payment bond (Miller Act, 40 USC 270et seq.). Each bond premium is
11. For Federal construction contracts, use 10% of estimated O&M cost for the contractor's profit.
12. To estimate the contract administration cost, use 6 to 10% of the operational and maintenance (O&M) cost. Calculate the contract administration cost as a
13. Government indirect cost rate is 21% of the contract administration costs.

Analytical Lab Report

October 23, 2020

Mr. Joe Diehl
Teck Alaska, Inc. Red Dog Operations
2525 C Street, Suite 310
Anchorage, AK 99503

RE: Project: Mine & Port Composite Inc. Ash
Pace Project No.: 10534731

Dear Mr. Diehl:

Enclosed are the analytical results for sample(s) received by the laboratory on October 08, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Shawn Davis
shawn.davis@pacelabs.com
612-607-6378
Project Manager

Enclosures

cc: SAF and FR e-mail, TECK ALASKA, INC



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Mine & Port Composite Inc. Ash
Pace Project No.: 10534731

Pace Analytical Services - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414
1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab

A2LA Certification #: 2926.01*
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009*
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014*
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605*
Georgia Certification #: 959
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086*
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064*
Maryland Certification #: 322
Massachusetts DWP Certification #: via MN 027-053-137
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137*
Minnesota Dept of Ag Certification #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240*

Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081*
New Jersey Certification #: MN002
New York Certification #: 11647*
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507*
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001*
Pennsylvania Certification #: 68-00563*
Puerto Rico Certification #: MN00064
South Carolina Certification #: 74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192*
Utah Certification #: MN00064*
Vermont Certification #: VT-027053137
Virginia Certification #: 460163*
Washington Certification #: C486*
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01
USDA Permit #: P330-19-00208
Please Note: Applicable air certifications are denoted with an asterisk ().

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Mine & Port Composite Inc. Ash

Pace Project No.: 10534731

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10534731001	Mine Incinerator Ash Composite	Solid	09/27/20 00:00	10/08/20 08:20
10534731002	Port Incinerator Ash Composite	Solid	09/27/20 00:00	10/08/20 08:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Mine & Port Composite Inc. Ash

Pace Project No.: 10534731

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10534731001	Mine Incinerator Ash Composite	EPA 8082A	RAG	12	PASI-M
		EPA 6010C	IP	7	PASI-M
		EPA 7470A	LMW	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
10534731002	Port Incinerator Ash Composite	EPA 8082A	RAG	12	PASI-M
		EPA 6010C	IP	7	PASI-M
		EPA 7470A	LMW	1	PASI-M
		ASTM D2974	JDL	1	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Mine & Port Composite Inc. Ash
Pace Project No.: 10534731

Method: EPA 8082A
Description: 8082A GCS PCB
Client: Teck Alaska, Inc
Date: October 23, 2020

General Information:

2 samples were analyzed for EPA 8082A by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3550 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 703389

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10534772003

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 3757370)
 - PCB-1260 (Aroclor 1260)
- MSD (Lab ID: 3757371)
 - PCB-1016 (Aroclor 1016)
 - PCB-1260 (Aroclor 1260)

R1: RPD value was outside control limits.

- MSD (Lab ID: 3757371)
 - PCB-1260 (Aroclor 1260)

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Mine & Port Composite Inc. Ash

Pace Project No.: 10534731

Method: EPA 8082A

Description: 8082A GCS PCB

Client: Teck Alaska, Inc

Date: October 23, 2020

Analyte Comments:

QC Batch: 703389

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 3757370)
 - PCB-1260 (Aroclor 1260)
- MSD (Lab ID: 3757371)
 - PCB-1260 (Aroclor 1260)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Mine & Port Composite Inc. Ash

Pace Project No.: 10534731

Method: EPA 6010C

Description: 6010C MET ICP, TCLP

Client: Teck Alaska, Inc

Date: October 23, 2020

General Information:

2 samples were analyzed for EPA 6010C by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Mine & Port Composite Inc. Ash
Pace Project No.: 10534731

Method: EPA 7470A
Description: 7470A Mercury, TCLP
Client: Teck Alaska, Inc
Date: October 23, 2020

General Information:

2 samples were analyzed for EPA 7470A by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Mine & Port Composite Inc. Ash

Pace Project No.: 10534731

Sample: Mine Incinerator Ash **Lab ID:** 10534731001 **Collected:** 09/27/20 00:00 **Received:** 10/08/20 08:20 **Matrix:** Solid Composite

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<9.1	ug/kg	32.8	9.1	1	10/08/20 18:06	10/13/20 21:36	12674-11-2	
PCB-1221 (Aroclor 1221)	<11.5	ug/kg	32.8	11.5	1	10/08/20 18:06	10/13/20 21:36	11104-28-2	
PCB-1232 (Aroclor 1232)	<13.1	ug/kg	32.8	13.1	1	10/08/20 18:06	10/13/20 21:36	11141-16-5	
PCB-1242 (Aroclor 1242)	<11.1	ug/kg	32.8	11.1	1	10/08/20 18:06	10/13/20 21:36	53469-21-9	
PCB-1248 (Aroclor 1248)	<9.8	ug/kg	32.8	9.8	1	10/08/20 18:06	10/13/20 21:36	12672-29-6	
PCB-1254 (Aroclor 1254)	<9.7	ug/kg	32.8	9.7	1	10/08/20 18:06	10/13/20 21:36	11097-69-1	
PCB-1260 (Aroclor 1260)	<7.8	ug/kg	32.8	7.8	1	10/08/20 18:06	10/13/20 21:36	11096-82-5	
PCB-1262 (Aroclor 1262)	<11.3	ug/kg	32.8	11.3	1	10/08/20 18:06	10/13/20 21:36	37324-23-5	
PCB-1268 (Aroclor 1268)	<10.6	ug/kg	32.8	10.6	1	10/08/20 18:06	10/13/20 21:36	11100-14-4	
PCB, Total	<7.8	ug/kg	32.8	7.8	1	10/08/20 18:06	10/13/20 21:36	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	76	%	46-146		1	10/08/20 18:06	10/13/20 21:36	877-09-8	
Decachlorobiphenyl (S)	84	%	48-139		1	10/08/20 18:06	10/13/20 21:36	2051-24-3	
6010C MET ICP, TCLP									
Analytical Method: EPA 6010C Preparation Method: EPA 3010A									
Leachate Method/Date: EPA 1311; 10/15/20 14:25 Initial pH: 11.78; Final pH: 8.62									
Pace Analytical Services - Minneapolis									
Arsenic	0.049J	mg/L	0.50	0.019	1	10/16/20 10:24	10/18/20 10:38	7440-38-2	
Barium	2.4	mg/L	1.0	0.0033	1	10/16/20 10:24	10/18/20 10:38	7440-39-3	
Cadmium	<0.0016	mg/L	0.050	0.0016	1	10/16/20 10:24	10/18/20 10:38	7440-43-9	
Chromium	0.30J	mg/L	0.50	0.0033	1	10/16/20 10:24	10/18/20 10:38	7440-47-3	
Lead	<0.0098	mg/L	0.50	0.0098	1	10/16/20 10:24	10/18/20 10:38	7439-92-1	
Selenium	<0.029	mg/L	0.10	0.029	1	10/16/20 10:24	10/18/20 10:38	7782-49-2	
Silver	<0.0029	mg/L	0.10	0.0029	1	10/16/20 10:24	10/18/20 10:38	7440-22-4	
7470A Mercury, TCLP									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Leachate Method/Date: EPA 1311; 10/15/20 14:25 Initial pH: 11.78; Final pH: 8.62									
Pace Analytical Services - Minneapolis									
Mercury	<0.24	ug/L	0.60	0.24	1	10/16/20 11:57	10/19/20 13:23	7439-97-6	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	0.14	%	0.10	0.10	1		10/16/20 09:56		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Mine & Port Composite Inc. Ash

Pace Project No.: 10534731

Sample: Port Incinerator Ash **Lab ID:** 10534731002 **Collected:** 09/27/20 00:00 **Received:** 10/08/20 08:20 **Matrix:** Solid Composite

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<9.2	ug/kg	33.0	9.2	1	10/08/20 18:06	10/13/20 21:52	12674-11-2	
PCB-1221 (Aroclor 1221)	<11.6	ug/kg	33.0	11.6	1	10/08/20 18:06	10/13/20 21:52	11104-28-2	
PCB-1232 (Aroclor 1232)	<13.2	ug/kg	33.0	13.2	1	10/08/20 18:06	10/13/20 21:52	11141-16-5	
PCB-1242 (Aroclor 1242)	<11.2	ug/kg	33.0	11.2	1	10/08/20 18:06	10/13/20 21:52	53469-21-9	
PCB-1248 (Aroclor 1248)	<9.9	ug/kg	33.0	9.9	1	10/08/20 18:06	10/13/20 21:52	12672-29-6	
PCB-1254 (Aroclor 1254)	<9.7	ug/kg	33.0	9.7	1	10/08/20 18:06	10/13/20 21:52	11097-69-1	
PCB-1260 (Aroclor 1260)	<7.9	ug/kg	33.0	7.9	1	10/08/20 18:06	10/13/20 21:52	11096-82-5	
PCB-1262 (Aroclor 1262)	<11.4	ug/kg	33.0	11.4	1	10/08/20 18:06	10/13/20 21:52	37324-23-5	
PCB-1268 (Aroclor 1268)	<10.7	ug/kg	33.0	10.7	1	10/08/20 18:06	10/13/20 21:52	11100-14-4	
PCB, Total	<7.9	ug/kg	33.0	7.9	1	10/08/20 18:06	10/13/20 21:52	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	69	%	46-146		1	10/08/20 18:06	10/13/20 21:52	877-09-8	
Decachlorobiphenyl (S)	84	%	48-139		1	10/08/20 18:06	10/13/20 21:52	2051-24-3	
6010C MET ICP, TCLP									
Analytical Method: EPA 6010C Preparation Method: EPA 3010A									
Leachate Method/Date: EPA 1311; 10/15/20 14:25 Initial pH: 11.71; Final pH: 8.14									
Pace Analytical Services - Minneapolis									
Arsenic	<0.019	mg/L	0.50	0.019	1	10/16/20 10:24	10/18/20 10:53	7440-38-2	
Barium	0.47J	mg/L	1.0	0.0033	1	10/16/20 10:24	10/18/20 10:53	7440-39-3	
Cadmium	<0.0016	mg/L	0.050	0.0016	1	10/16/20 10:24	10/18/20 10:53	7440-43-9	
Chromium	0.59	mg/L	0.50	0.0033	1	10/16/20 10:24	10/18/20 10:53	7440-47-3	
Lead	<0.0098	mg/L	0.50	0.0098	1	10/16/20 10:24	10/18/20 10:53	7439-92-1	
Selenium	<0.029	mg/L	0.10	0.029	1	10/16/20 10:24	10/18/20 10:53	7782-49-2	
Silver	<0.0029	mg/L	0.10	0.0029	1	10/16/20 10:24	10/18/20 10:53	7440-22-4	
7470A Mercury, TCLP									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Leachate Method/Date: EPA 1311; 10/15/20 14:25 Initial pH: 11.71; Final pH: 8.14									
Pace Analytical Services - Minneapolis									
Mercury	<0.24	ug/L	0.60	0.24	1	10/16/20 11:57	10/19/20 13:24	7439-97-6	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	0.11	%	0.10	0.10	1		10/16/20 09:56		N2

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Mine & Port Composite Inc. Ash
Pace Project No.: 10534731

QC Batch:	704895	Analysis Method:	EPA 7470A
QC Batch Method:	EPA 7470A	Analysis Description:	7470A Mercury TCLP
		Laboratory:	Pace Analytical Services - Minneapolis

Associated Lab Samples: 10534731001, 10534731002

METHOD BLANK: 3765786 Matrix: Water
Associated Lab Samples: 10534731001, 10534731002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.24	0.60	0.24	10/19/20 13:05	

METHOD BLANK: 3764262 Matrix: Water
Associated Lab Samples: 10534731001, 10534731002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.24	0.60	0.24	10/19/20 13:38	

METHOD BLANK: 3764263 Matrix: Water
Associated Lab Samples: 10534731001, 10534731002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.24	0.60	0.24	10/19/20 13:40	

LABORATORY CONTROL SAMPLE: 3765787

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	15	13.6	91	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3765788 3765789

Parameter	Units	12152037001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	15	15	14.1	14.1	94	94	80-120	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Mine & Port Composite Inc. Ash
Pace Project No.: 10534731

QC Batch: 704901 Analysis Method: EPA 6010C
QC Batch Method: EPA 3010A Analysis Description: 6010C TCLP
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10534731001, 10534731002

METHOD BLANK: 3765814 Matrix: Water

Associated Lab Samples: 10534731001, 10534731002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	<0.019	0.50	0.019	10/18/20 10:24	
Barium	mg/L	0.025J	1.0	0.0033	10/18/20 10:24	
Cadmium	mg/L	<0.0016	0.050	0.0016	10/18/20 10:24	
Chromium	mg/L	0.0041J	0.50	0.0033	10/18/20 10:24	
Lead	mg/L	<0.0098	0.50	0.0098	10/18/20 10:24	
Selenium	mg/L	<0.029	0.10	0.029	10/18/20 10:24	
Silver	mg/L	<0.0029	0.10	0.0029	10/18/20 10:24	

METHOD BLANK: 3764263 Matrix: Water

Associated Lab Samples: 10534731001, 10534731002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/L	<0.019	0.50	0.019	10/18/20 10:27	
Barium	mg/L	0.037J	1.0	0.0033	10/18/20 10:27	
Cadmium	mg/L	<0.0016	0.050	0.0016	10/18/20 10:27	
Chromium	mg/L	<0.0033	0.50	0.0033	10/18/20 10:27	
Lead	mg/L	<0.0098	0.50	0.0098	10/18/20 10:27	
Selenium	mg/L	<0.029	0.10	0.029	10/18/20 10:27	
Silver	mg/L	<0.0029	0.10	0.0029	10/18/20 10:27	

LABORATORY CONTROL SAMPLE: 3765815

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	5	4.9	99	80-120	
Barium	mg/L	5	4.9	98	80-120	
Cadmium	mg/L	5	5.1	102	80-120	
Chromium	mg/L	5	4.9	98	80-120	
Lead	mg/L	5	4.9	98	80-120	
Selenium	mg/L	5	5.0	100	80-120	
Silver	mg/L	2.5	2.6	103	80-120	

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QUALITY CONTROL DATA

Project: Mine & Port Composite Inc. Ash

Pace Project No.: 10534731

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3765816 3765817												
Parameter	Units	10534731001	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual	
		Result	Spike	Spike								Result
Arsenic	mg/L	0.049J	5	5	5.2	5.2	102	102	75-125	0	20	
Barium	mg/L	2.4	5	5	7.1	7.1	94	95	75-125	1	20	
Cadmium	mg/L	<0.0016	5	5	5.0	5.0	100	100	75-125	1	20	
Chromium	mg/L	0.30J	5	5	5.1	5.2	97	97	75-125	1	20	
Lead	mg/L	<0.0098	5	5	4.8	4.8	95	96	75-125	1	20	
Selenium	mg/L	<0.029	5	5	5.0	5.1	101	102	75-125	1	20	
Silver	mg/L	<0.0029	2.5	2.5	2.6	2.6	105	105	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Mine & Port Composite Inc. Ash

Pace Project No.: 10534731

QC Batch: 704879

Analysis Method: ASTM D2974

QC Batch Method: ASTM D2974

Analysis Description: Dry Weight / %M by ASTM D2974

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10534731001, 10534731002

SAMPLE DUPLICATE: 3765707

Parameter	Units	10535343001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	26.2	25.2	4	30	N2

SAMPLE DUPLICATE: 3765708

Parameter	Units	10534847003 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	13.4	13.5	1	30	N2

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QUALITY CONTROL DATA

Project: Mine & Port Composite Inc. Ash
Pace Project No.: 10534731

QC Batch: 703389 Analysis Method: EPA 8082A
QC Batch Method: EPA 3550 Analysis Description: 8082A GCS PCB
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10534731001, 10534731002

METHOD BLANK: 3757368 Matrix: Solid

Associated Lab Samples: 10534731001, 10534731002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<9.2	33.0	9.2	10/13/20 21:05	
PCB-1221 (Aroclor 1221)	ug/kg	<11.6	33.0	11.6	10/13/20 21:05	
PCB-1232 (Aroclor 1232)	ug/kg	<13.2	33.0	13.2	10/13/20 21:05	
PCB-1242 (Aroclor 1242)	ug/kg	<11.2	33.0	11.2	10/13/20 21:05	
PCB-1248 (Aroclor 1248)	ug/kg	<9.9	33.0	9.9	10/13/20 21:05	
PCB-1254 (Aroclor 1254)	ug/kg	<9.7	33.0	9.7	10/13/20 21:05	
PCB-1260 (Aroclor 1260)	ug/kg	<7.9	33.0	7.9	10/13/20 21:05	
PCB-1262 (Aroclor 1262)	ug/kg	<11.4	33.0	11.4	10/13/20 21:05	
PCB-1268 (Aroclor 1268)	ug/kg	<10.7	33.0	10.7	10/13/20 21:05	
Decachlorobiphenyl (S)	%.	100	48-139		10/13/20 21:05	
Tetrachloro-m-xylene (S)	%.	92	46-146		10/13/20 21:05	

LABORATORY CONTROL SAMPLE: 3757369

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	667	591	89	68-125	
PCB-1260 (Aroclor 1260)	ug/kg	667	610	92	69-125	
Decachlorobiphenyl (S)	%.			98	48-139	
Tetrachloro-m-xylene (S)	%.			89	46-146	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3757370 3757371

Parameter	Units	10534772003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	ND	862	863	907	1150	105	133	49-125	23	30	M1
PCB-1260 (Aroclor 1260)	ug/kg	ND	862	863	2640	4480	306	519	43-125	52	30	E, M1, R1
Decachlorobiphenyl (S)	%.						83	89	48-139			
Tetrachloro-m-xylene (S)	%.						86	90	46-146			

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Mine & Port Composite Inc. Ash
Pace Project No.: 10534731

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Mine & Port Composite Inc. Ash

Pace Project No.: 10534731

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10534731001	Mine Incinerator Ash Composite	EPA 3550	703389	EPA 8082A	703484
10534731002	Port Incinerator Ash Composite	EPA 3550	703389	EPA 8082A	703484
10534731001	Mine Incinerator Ash Composite	EPA 3010A	704901	EPA 6010C	705051
10534731002	Port Incinerator Ash Composite	EPA 3010A	704901	EPA 6010C	705051
10534731001	Mine Incinerator Ash Composite	EPA 7470A	704895	EPA 7470A	704999
10534731002	Port Incinerator Ash Composite	EPA 7470A	704895	EPA 7470A	704999
10534731001	Mine Incinerator Ash Composite	ASTM D2974	704879		
10534731002	Port Incinerator Ash Composite	ASTM D2974	704879		

REPORT OF LABORATORY ANALYSIS

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TO: Shawn Davis
PACE Analytical
1700 Elm Street SE Suite 200
Minneapolis MN 55414
Phone: 612-607-1700
Lab Phone: 1-888-990-7223


FROM:
Teck Alaska Inc.
3105 Lakeshore Drive
Bldg A - Suite 101
Anchorage Alaska 99517
Project Manager: Joe Diehl
Phone: 907-754-5109

Teck		PROJECT: Mine & Port Composite Incinerator Ash		PO# 1330203-SVC		Phone: 907-754-5109	
PROJECT COORDINATOR: Frank Bendrick		TYPE		#Bottles		ANALYSIS	
Sample I.D.	Location	TYPE	#Bottles	ANALYSIS		Collection Date	Collection Time
20-351	Mine Incinerator Ash Composite	ASH	5	TCPLP Metals (As, Ba, Cd, Cr, Pb, Hg, Se, Ag) & Total Metals (As, Ba, Cd, Cr, Pb, Hg, Se, Ag), PCB		9/7/2020 to 9/27/2020	no time listed
20-352	Port Incinerator Ash Composite w/o STP screenings	ASH	5	TCPLP Metals (As, Ba, Cd, Cr, Pb, Hg, Se, Ag) & Total Metals (As, Ba, Cd, Cr, Pb, Hg, Se, Ag), PCB		9/7/2020 to 9/27/2020	no time listed
SAMPLE RELEASE BY:		SAMPLE RECEIVED BY:		SPECIAL INSTRUCTIONS:		LAB I.D.	
Name:	Chris Nelson	Name:	Kristin Dave	E-MAIL RESULTS TO:		661	
Signature:	[Signature]	Signature:	Kristin Dave	Enviro.Transfer@teck.com;		012	
Firm:	Teck Alaska	Firm:	Pace	joe.diehl@teck.com			
Date/Time:	10/10/2020 @ 10:00	Date/Time:	10-8-20 @ 5:50				

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W0#: 10534731



	Document Name: Sample Condition Upon Receipt (SCUR) - MN	Document Revised: 12Aug2020 Page 1 of 1
	Document No.: ENV-FRM-MIN4-0150 Rev.01	Pace Analytical Services - Minneapolis

Sample Condition Upon Receipt	Client Name: <u>Teck</u>	Project #: WO# : 10534731
	Courier: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> USPS <input type="checkbox"/> Client <input type="checkbox"/> Pace <input type="checkbox"/> Speedee <input type="checkbox"/> Commercial	PM: SRD Due Date: 10/22/20 CLIENT: TECKCOMINCO
Tracking Number: <u>7717 3481 7100</u>		See Exceptions <input type="checkbox"/> ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Seals Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Biological Tissue Frozen? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Packing Material: <input type="checkbox"/> Bubble Wrap <input checked="" type="checkbox"/> Bubble Bags <input type="checkbox"/> None <input type="checkbox"/> Other: _____	Temp Blank? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Thermometer: <input type="checkbox"/> T1(0461) <input type="checkbox"/> T2(1336) <input type="checkbox"/> T3(0459) <input checked="" type="checkbox"/> T4(0254) <input type="checkbox"/> T5(0489)	Type of Ice: <input type="checkbox"/> Wet <input checked="" type="checkbox"/> Blue <input type="checkbox"/> None <input type="checkbox"/> Dry <input type="checkbox"/> Melted	

Did Samples Originate in West Virginia? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Were All Container Temps Taken? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Temp should be above freezing to 6°C	Cooler Temp Read w/temp blank: _____ °C
Correction Factor: <u>+0.1</u>	Cooler Temp Corrected w/temp blank: _____ °C
Average Corrected Temp (no temp blank only): <u>3.6</u> °C	
See Exceptions <input checked="" type="checkbox"/> ENV-FRM-MIN4-0142 <input type="checkbox"/> 1 Container	

USDA Regulated Soil: (☐ N/A, water sample/Other: _____)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☒ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No


If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present and Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Sampler Name and/or Signature on COC? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	3.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. <input type="checkbox"/> Fecal Coliform <input type="checkbox"/> HPC <input type="checkbox"/> Total Coliform/E coli <input type="checkbox"/> BOD/cBOD <input type="checkbox"/> Hex Chrome <input type="checkbox"/> Turbidity <input type="checkbox"/> Nitrate <input type="checkbox"/> Nitrite <input type="checkbox"/> Orthophos <input type="checkbox"/> Other _____
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10. Is sediment visible in the dissolved container? <input type="checkbox"/> Yes <input type="checkbox"/> No
Field Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. If no, write ID/ Date/Time on Container Below: See Exception <input type="checkbox"/> ENV-FRM-MIN4-0142
Is sufficient information available to reconcile the samples to the COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Matrix: <input type="checkbox"/> Water <input type="checkbox"/> Soil <input type="checkbox"/> Oil <input checked="" type="checkbox"/> Other <u>Ash</u>	
All containers needing acid/base preservation have been checked? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12. Sample # <input type="checkbox"/> NaOH <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> Zinc Acetate
All containers needing preservation are found to be in compliance with EPA recommendation? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A (HNO ₃ , H ₂ SO ₄ , <2pH, NaOH >9 Sulfide, NaOH >10 Cyanide)	Positive for Res. <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Chlorine? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No pH Paper Lot# See Exception <input type="checkbox"/> ENV-FRM-MIN4-0142
	Res. Chlorine 0-6 Roll 0-6 Strip 0-14 Strip
Extra labels present on soil VOA or WIDRO containers? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. See Exception <input type="checkbox"/> ENV-FRM-MIN4-0140
Headspace in VOA Vials (greater than 6mm)? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Trip Blank Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Custody Seals Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION/RESOLUTION	Field Data Required? <input type="checkbox"/> Yes <input type="checkbox"/> No
Person Contacted: _____	Date/Time: _____
Comments/Resolution: _____	

Project Manager Review: *Sharon Davis* **Date:** 10/8/20

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

	Document Name: Sample Condition Upon Receipt (SCUR) Exception Form	Document Revised: 04Jun2020 Page 1 of 1
	Document No.: ENV-FRM-MIN4-0142 Rev.01	Pace Analytical Services - Minneapolis

SCUR Exceptions:
Workorder #:

Out of Temp Sample IDs	Container Type	# of Containers	PM Notified? <input type="checkbox"/> Yes <input type="checkbox"/> No																		
			If yes, indicate who was contacted/date/time. If no, indicate reason why.																		
			Multiple Cooler Project? <input type="checkbox"/> Yes <input type="checkbox"/> No If you answered yes, fill out information to the left.																		
			<table border="1"> <thead> <tr> <th colspan="3">No Temp Blank</th> </tr> <tr> <th>Read Temp</th> <th>Corrected Temp</th> <th>Average Temp</th> </tr> </thead> <tbody> <tr> <td>3.5</td> <td>3.6</td> <td>3.6</td> </tr> <tr> <td>2.2</td> <td>2.3</td> <td></td> </tr> <tr> <td>4.0</td> <td>4.1</td> <td></td> </tr> <tr> <td>4.1</td> <td>4.2</td> <td></td> </tr> </tbody> </table>	No Temp Blank			Read Temp	Corrected Temp	Average Temp	3.5	3.6	3.6	2.2	2.3		4.0	4.1		4.1	4.2	
No Temp Blank																					
Read Temp	Corrected Temp	Average Temp																			
3.5	3.6	3.6																			
2.2	2.3																				
4.0	4.1																				
4.1	4.2																				

Tracking Number/Temperature

Issue Type:	Container Type	# of Containers
Sample ID	Type	

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preserv.	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance after addition? <input type="checkbox"/> Yes <input type="checkbox"/> No	Initials
								<input type="checkbox"/> Yes <input type="checkbox"/> No	
								<input type="checkbox"/> Yes <input type="checkbox"/> No	
								<input type="checkbox"/> Yes <input type="checkbox"/> No	
								<input type="checkbox"/> Yes <input type="checkbox"/> No	

Comments:



Document Name: Pending Log-in Process	Document Revised: 26Mar2020 Page 1 of 1
Document No.: ENV-FRM-MIN4-0126 Rev.00	Pace Analytical Services - Minneapolis

SR Tech VL Date Initiated 10-8-20 PM 5:20 Client Name TECK Profile # Pink shelf ☐ #1 ☒ #2

Issue Type (check all that apply)* Client Name/Project Name on containers (if no COC)

☐ COC Issue

Date/Time Received 10-8-20 8:50

EPIC Issue (check one)

☐ Client not in Epic

☐ Profile not in Epic

☐ Add acode

☒ Other PM to Log in

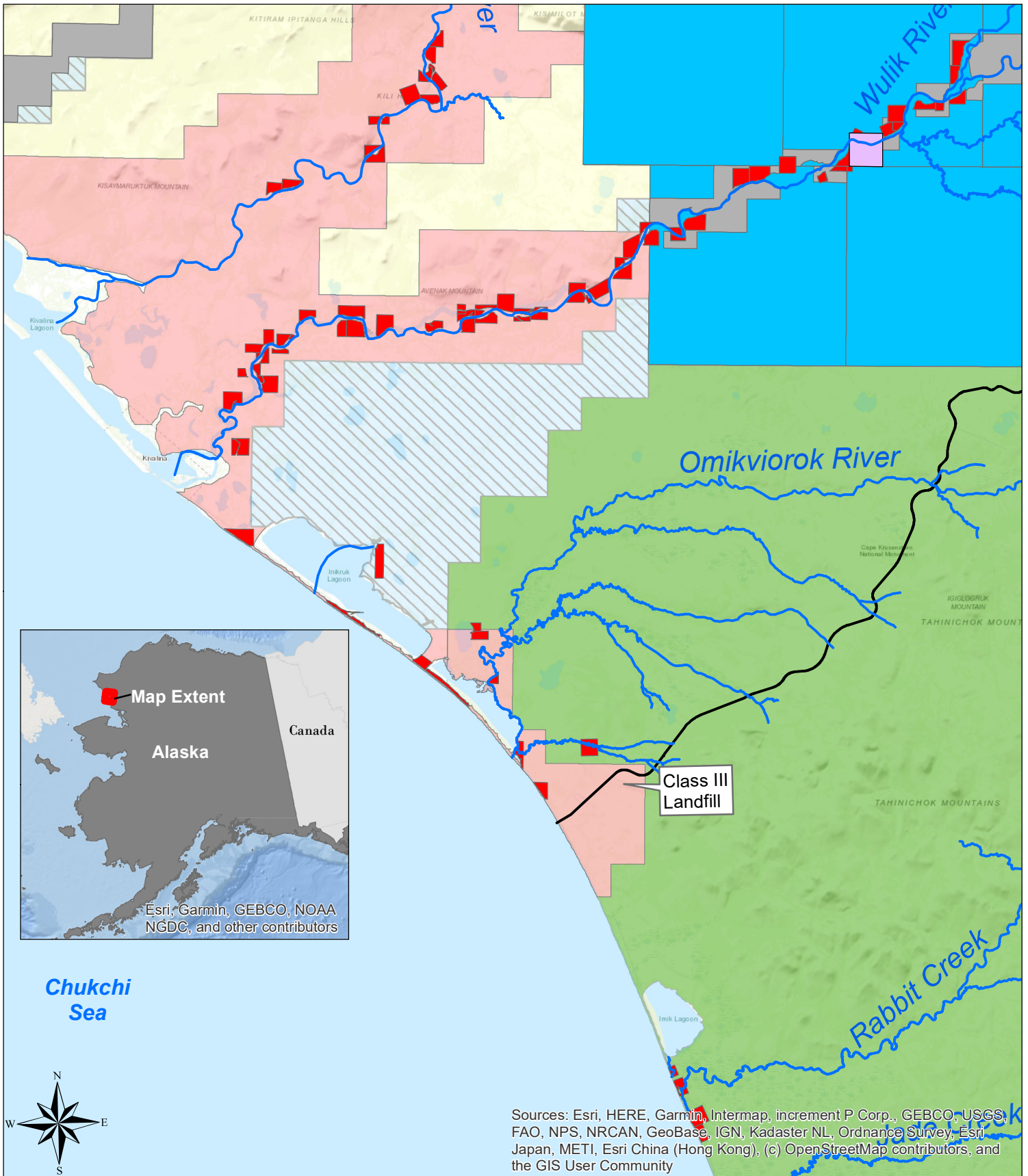
PM/Date

Sample Line Item	BP1U	BP2U	BP3U	BP3S	BP3N	AG1U	AG1H	AG3S	AGIT	JGFU	JGCU	BIFU	WPDU	VG9M	VG9H	GN	SP5T	DWC
Check the box to the left to indicate that the container(s) received for line items																		
1										1				4				
2										1				4				
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		

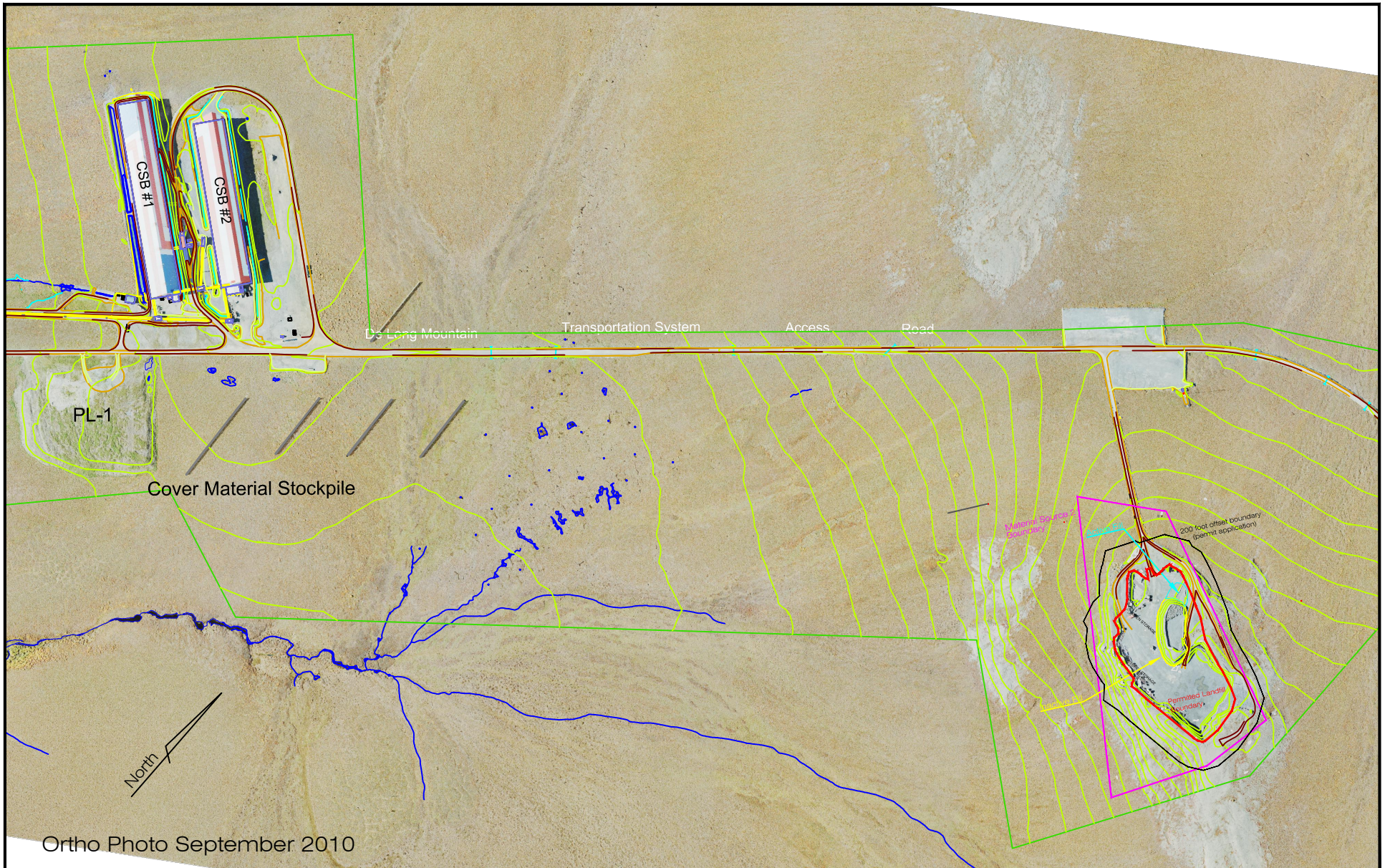
Comments:

Logged in by (initial) Date WO

Aerials/ Maps



Legend River — DMTS Road Land Ownership Bureau of Land Management National Park Service State of Alaska - Patent or TA State of Alaska - Selected Native Patent or IC (NANA) Native Allotment Municipal Private		 0 1.5 3 4.5 6 Miles 0 1.5 3 4.5 6 7.5 Kilometers By: FEB Date: March 2021	Red Dog Operations Port Facility General Vicinity Map Coordinate System NAD 1983 2011 StatePlane Alaska 7 FIPS 5007 Feet
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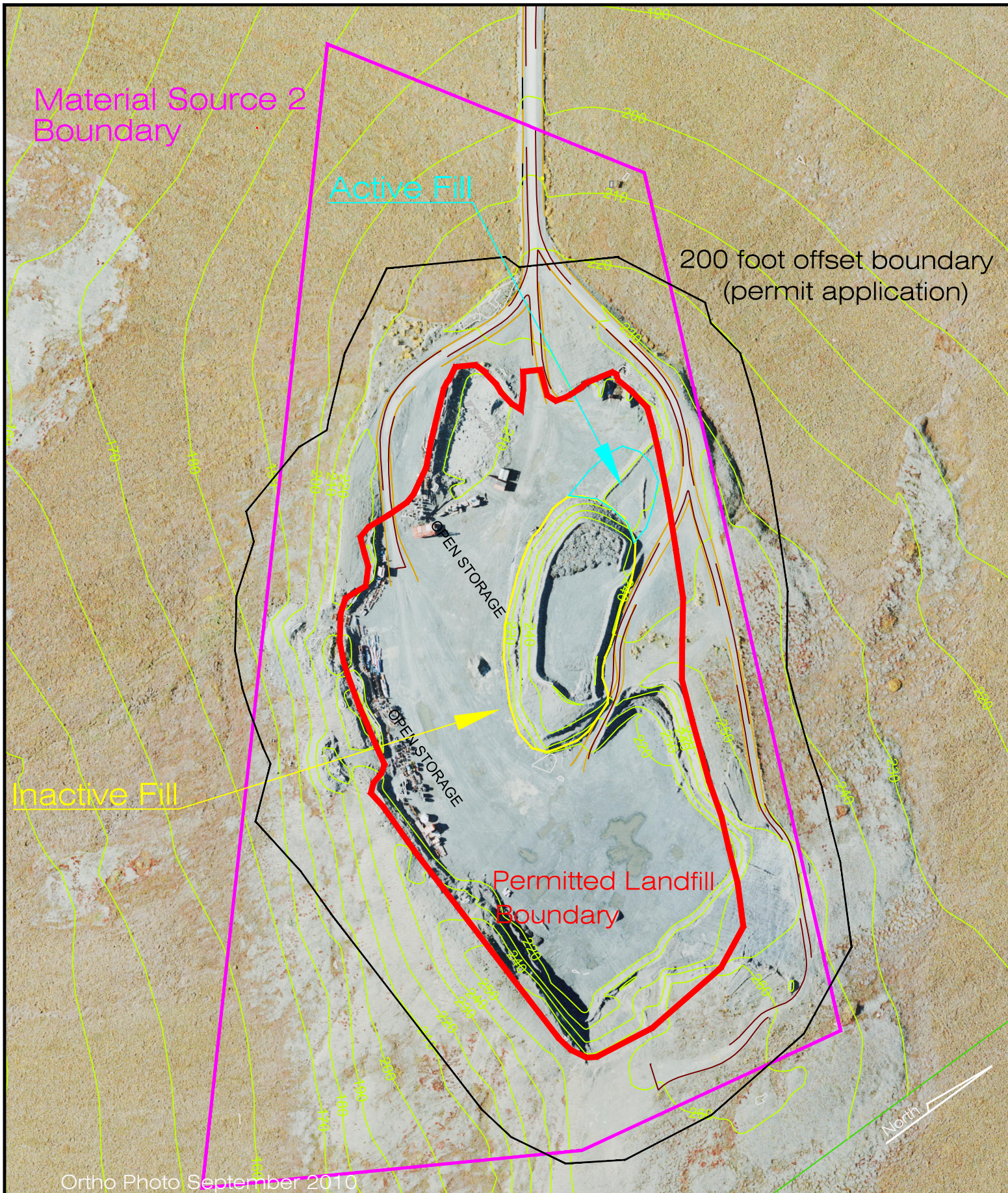


Red Dog Mine Port Facilities Site Plan Permit No. Renewal Application			Drawn by: FEB Revised by:	Revised: 3/19/2021	Department	Reviewed	Date
			Checked By:	Check date:	Enviro		
<div style="text-align: center; font-size: 2em; font-weight: bold;">Teck</div>					Mine Operations		
					Survey		
					Geology		
					Approved by:		Date:
Revision: 0	Scale: 1" = 1000'	MWO or Job #:					

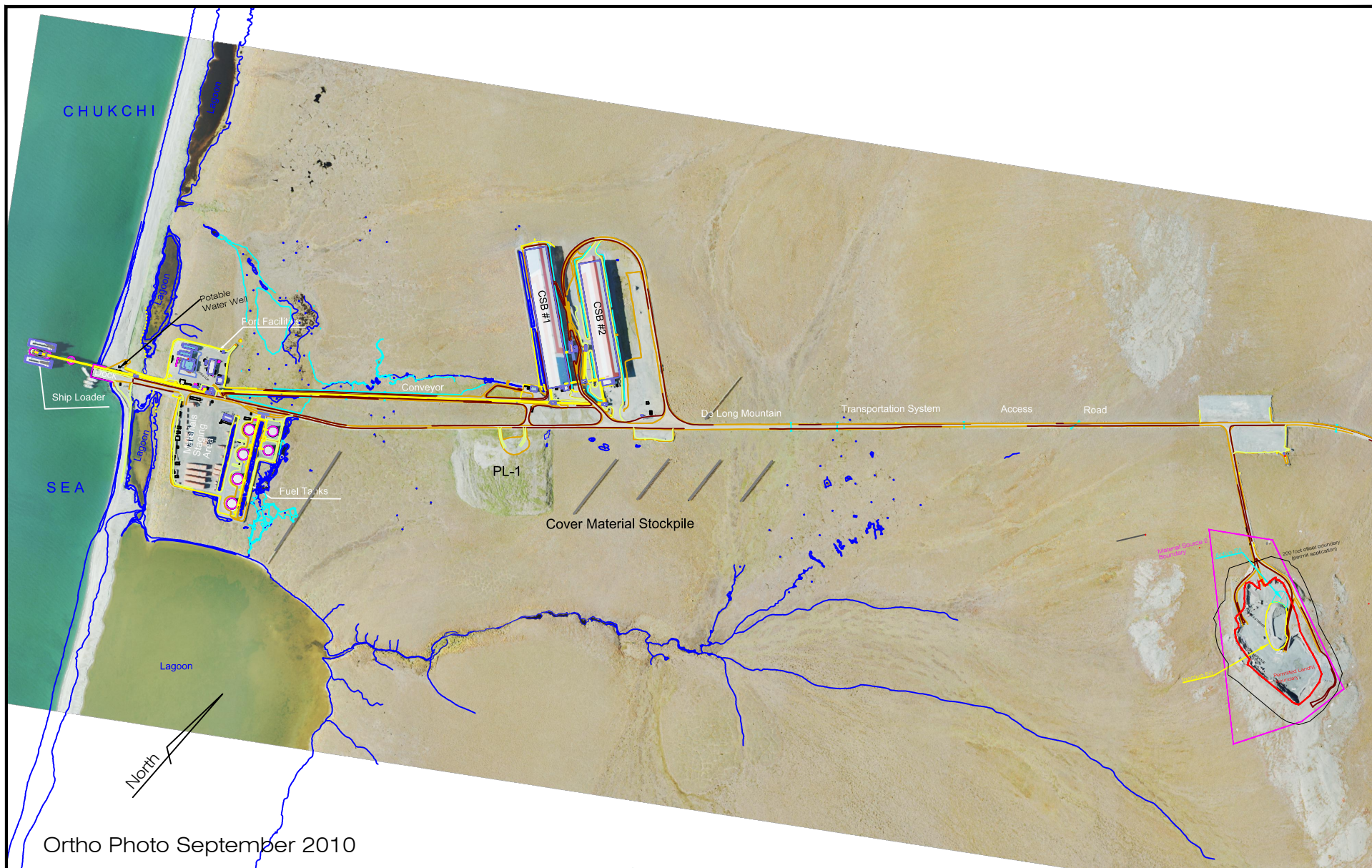
Graphic Scale in Feet
1" = 1000'

0 1000' 2000'

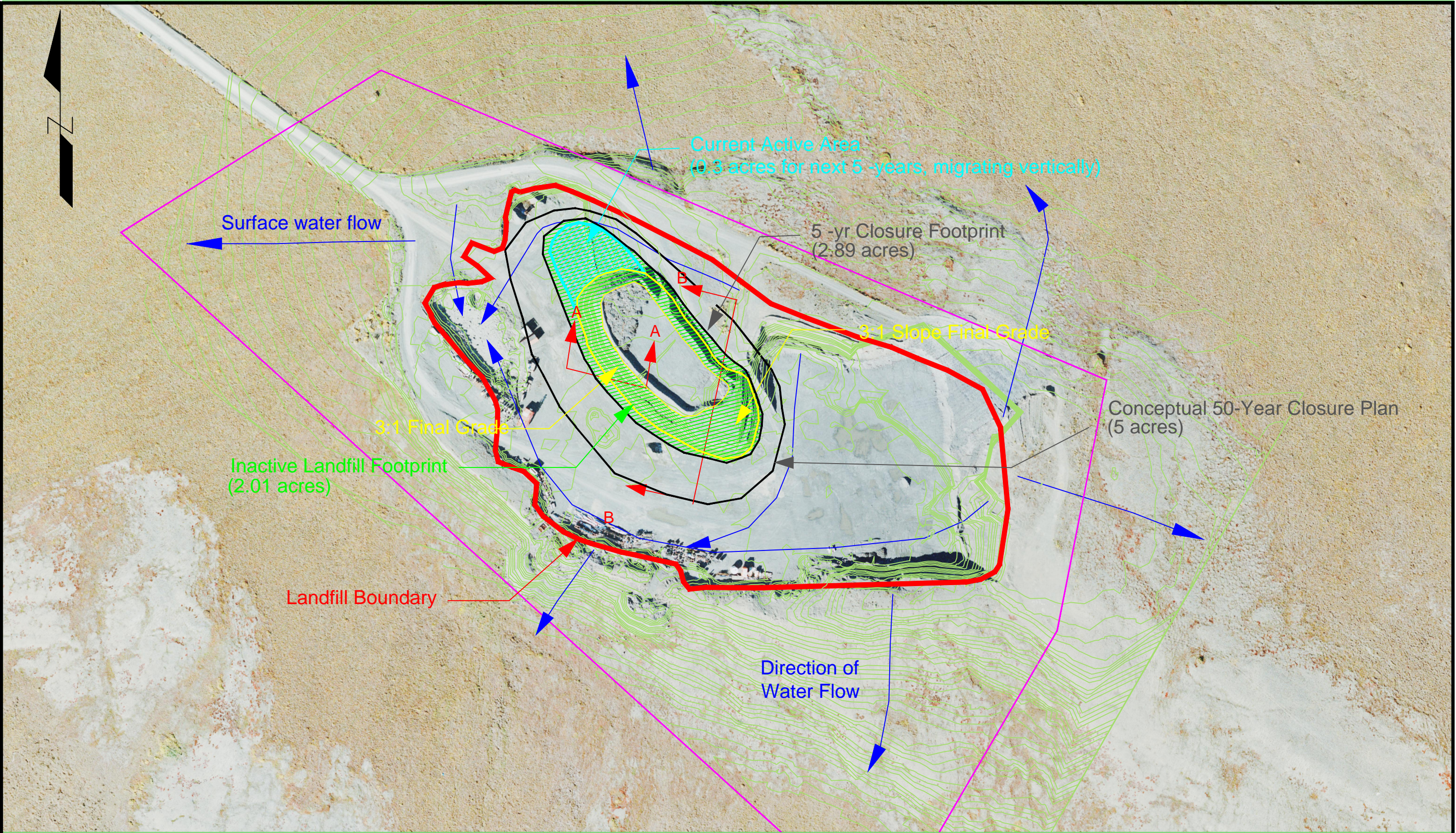
Computer File: Y:\Enviro\Dept - Enviro\Land\Reclamation\Waste Management Permit\Landfill\Port\2021 Port Renewal Application\Port Landfill 2021 renewal app.dwg\



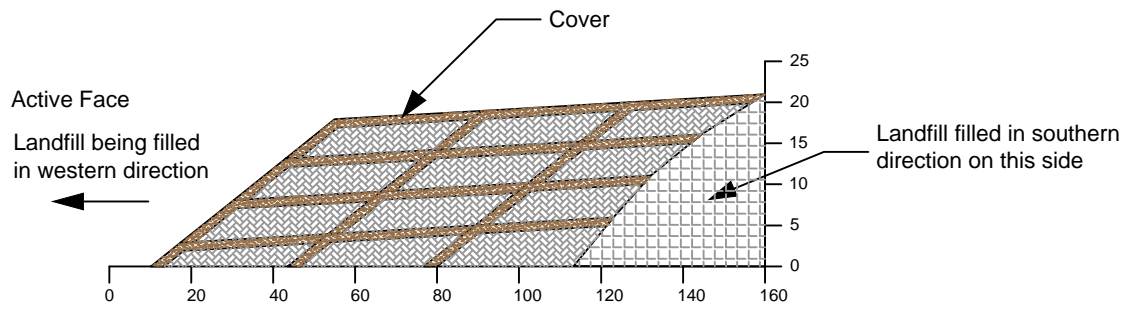
Red Dog Mine Port Site Port Landfill Boundary Map 2021 Renewal Application			Drawn By: FEB	Revised Date: 03/19/21	Department	Reviewed By	Date
			Revised By:		Mine Engineering		
Revision: 0	Scale: 1" = 250'	MWO/Job No:	Checked By:	Check date:	Mine Operations		
					Survey		
					Geology		
					Approved by:		Date:



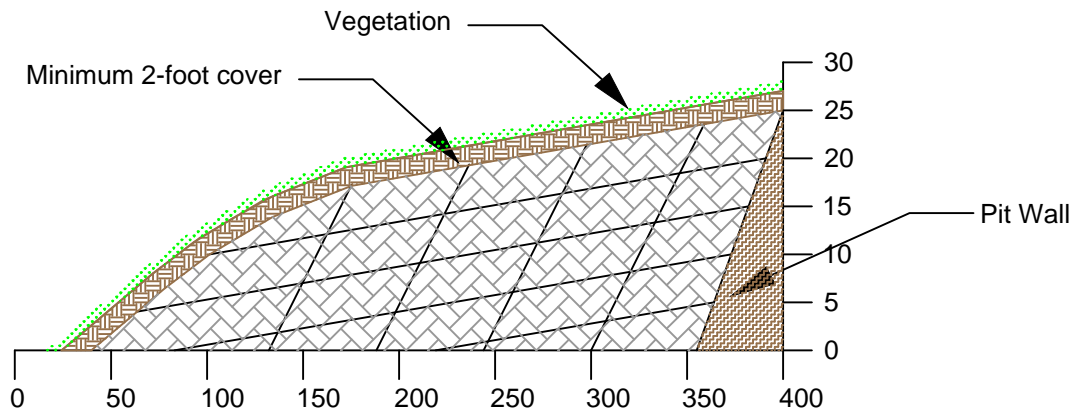
Red Dog Mine Port Facilities PWS Well Location Permit No. Renewal Application			Drawn by: FEB Revised by:	Revised: 3/20/2021	Department	Reviewed	Date
			Checked By:	Check date:	Enviro		
			<div style="text-align: center; font-size: 2em; font-weight: bold;">Teck</div>		Mine Operations		
					Survey		
Revision: 0	Scale: 1" = 1400'	MWO or Job #:	Approved by:			Date:	
Computer File: Y:\Enviro\Dept - Enviro\Land\Reclamation\Waste Management Permit\Landfill\Port\2021 Port Renewal Application\Port Landfill 2021Renewal App.dwg							




				4			Approved By:			Teck	DeLong Mountain Regional Transportation System Red Dog Port Facility 5-yr Closure Plan & Surface Water Flow		
				3			Checked By:						
				2			Drawn By:	FEB					
				1			Designed By:						
No.	Revision Description	Date	By	No.	Dwg. No.	Reference Drawings	Engineering Review			MWO or Job No.	Date:	Scale:	Rev.



SECTION A-A



SECTION B-B
Closure Landfill

Approved By:			<div>RED DOG OPERATION</div> <div>Commo Alaska</div>	<div>Title:</div> <div>Delong Mountain Transportation System Landfill Permit Renewal Application Landfill Cross Sections</div>		
Checked By:						
Drawn By:						
Designed By:						
Engineering Review			MWO or Job No.	DATE:	SCALE:	Rev.
			.	03/19/21	NTS	0

Computer File: