



## PUBLIC NOTICE

Alaska Department of Environmental Conservation (DEC)  
Wastewater Discharge Authorization Program/§401 Certification  
555 Cordova Street, Anchorage AK9501-2617  
Phone: 907-269-6285 | Email: [DEC-401Cert@alaska.gov](mailto:DEC-401Cert@alaska.gov)

# Notice of Application for State Water Quality Certification

**Public Notice (PN) Date:** April 8, 2024  
**PN Expiration Date:** May 8, 2024

**PN Reference Number:** POA-2024-00116 v1.0  
**Waterway:** Sulfur Creek

Any applicant for a federal license or permit to conduct an activity that might result in a discharge into waters of the United States, in accordance with Section 401 of the Clean Water Act (CWA), must also apply for and obtain certification from the Alaska Department of Environmental Conservation that the discharge will comply with the CWA and the Alaska Water Quality Standards (18 AAC 70). The scope of certification is limited to the water quality-related impacts from the activity subject to the Federal license or permit (40 CFR 121.3, 18 AAC 15.180).

Notice is hereby given that a request for a CWA §401 Water Quality Certification of a Department of the Army Permit application, Corps of Engineers' PN Reference Number indicated above has been received<sup>1</sup> for the discharge of dredged and/or fill materials into waters of the United States (WOTUS), including wetlands, as described below, and shown on the project figures/drawings. The public notice and related project figures/drawings are accessible from the DEC website at <https://dec.alaska.gov/water/wastewater/>.

To comment on the project or request for a public hearing with respect to water quality, submit comments electronically via the DEC public notice site at <https://water.alaskadec.commentinput.com?id=iShYT7ac6> on or before the public notice expiration date listed above.

**Applicant:** Teck Alaska Incorporated, Red Dog Operations, Les Yesnik, 2525 C St., Suite 310, Anchorage, AK 99503, (907) 754-3800; [les.yesnik@teck.com](mailto:les.yesnik@teck.com)

**Project Name:** Red Dog Mine- Aqqaluk Pit Drill Roads and Pads

**Location:** The proposed activity is located within Section 16, 17, 20, 21, T. 31 North, R. 18 West, Kateel River Meridian, in Northwest Arctic Borough, Alaska. Project Site (Latitude, Longitude): 68.077016, -162.82780.

**Purpose:** The Aqqaluk Pit will continue to mine and ship ore to the mill and generate waste rock as part of ongoing operations at the Red Dog Mine. USACE Permit POA-1984-0012-Modification 45 (M45) and POA-1984-0012-M46 permitted the development of a 600-foot-deep, 0.5 to 0.75-mile-diameter open pit with supporting infrastructure. Modification 46 extended the time limit for M45 and reiterated that 119 acres of wetland could be filled/impacted in a 245-acre project area. The Aqqaluk Pit will continue to operate as described through Permit M46 with addition of the features listed in the "Description of Proposed Work" section.

The proposed construction of new drill roads and pads will enable exploration drilling on the north side of Aqqaluk Pit. The Ring Roads are proposed safety features providing secondary egress for mine workers. The diversion ditch and bypass will reduce mine contact water and protect water quality in Sulfur Creek. The construction of these features will commence following the receipt of the permit and necessary approvals, with exploration occurring in late 2024 through 2025.

**Description of Proposed Work:** The applicant proposes to discharge 29,557 cubic yards of fill into 5.97 acres of waters of the U.S., including wetlands in order to construct exploratory drill roads, drill pads, and extend the

<sup>1</sup> Reference submission number: HQ1-WG5E-84CRH; Received: 3/4/2024 10:46:42 AM

diversion of Sulfur Creek. Additionally, the applicant is pursuing after-the fact authorization for 5,640 cubic yards of fill that was discharged into 3.72 acres of palustrine wetlands in order to construct communication roads and expansion of the Aqqaluk pit, for a total of 35,197 cubic yards of fill into 9.69 acres of waters of the U.S.

Distinct features that are proposed to support mineral exploration and continued mining operations, include:

Drill Roads: New gravel drill roads are planned to provide access to specific mineral exploration drill locations located on the north side of Aqqaluk Pit. The roads will have an 18 ft running surface (40 ft toe-to-toe width) and, according to Mine Safety and Health Administration (MSHA) requirements, they will include 2 ft high berms (4 ft wide) on each side for safety. A geotextile fabric will be placed directly on the tundra and clean fill (gravel) will be installed on top. The total surface area of fill to be placed in wetlands for drill road construction is 3.34 acres. See Drawing Sheets 5–7 for the location of this feature and Drawing Sheet 8 for the typical cross section.

Drill Pads: New gravel drill pads are planned at various locations along the drill roads. These pads will be roughly circular, 120 ft in diameter, providing sufficient surface area to drill up to 5 exploration drill holes from each pad. Similar to the Drill Roads, the pad construction will also include a geotextile fabric, placed directly on the tundra to support the overlying gravel. The total surface area of fill to be placed in wetlands for drill pad construction is 1.69 acres.

A phased schedule for the exploration program is planned. Drill roads and pads planned for 2024 are located closest to the pit and will fill 2.46 acres of wetlands (2.01 acres for roads and 0.45 acres for pads [not including overlapping road area]). Drill pads and roads planned for 2025 progress further from the pit using the access constructed in 2024 to fill an additional 2.57 acres of wetlands (1.33 acres for roads and 1.24 acres for pads). Efficiencies gained through drilling and construction in 2024 will be applied to the 2025 construction to limit the sizes of the pads and roads to the extent practicable.

Sulfur Creek Diversion Extension: This construction includes a western extension of the existing drainage ditch along the northern edge of the Aqqaluk Pit. The proposed channel will be up to 28 feet wide, lined with HDPE or RPP liner and anchored up to 16 feet from either edge of the channel. The uphill slope will be 3:1 slope and the downhill side will be 2:1. The Diversion Extension will collect surface runoff, diverting it away from the mine pit. The total footprint of the Diversion Extension is 0.64 acres with 0.30 acres in wetlands.

Sulfur Creek Bypass: A second diversion structure will be installed 500 feet downslope of the Sulfur Creek Diversion Extension. The Bypass will have the same design as the Diversion Extension. The Bypass is designed to collect surface runoff, diverting it away from the pit and the West Ring Road. The entirety of the Bypass is in uplands (0.95-acre footprint), except for the section crossing 70 linear feet of Sulfur Creek.

Ring Road: The one-way road along the north side of Aqqaluk Pit, connecting to the Drill Roads will be identical to the design of the Drill Roads, with a road running surface width of 18 ft. The road will include berms and be constructed with a geotextile fabric underlying the clean fill (gravel). Culverts will be placed along the road, spaced every 300-400 ft to provide hydrologic connectivity, limiting ponding on the upslope side of the road. The culverts will be placed in natural depressions and will be 12–18 inches in diameter and a minimum of 3 ft of fill (gravel) placed on top for culvert protection. The footprint of the Ring Road will be 0.80 acres with 0.64 acres in wetlands. The ring road is required to reduce exploration traffic in the mine pit and to supply two means of egress to the exploration site. Furthermore, the ring road is needed for anticipated geotechnical drilling and highwall monitoring in order to more safely manage pit wall instabilities at the northwest corner of the Aqqaluk Pit that developed in late 2023.

West Ring Road: The West Ring Road will have a larger footprint (90 ft) than the Ring Road to accommodate larger vehicles in a two-way traffic pattern. The entire area of the West Ring Road is in uplands (4.23 acres) except for two stream crossings. The West Ring Road crosses Sulfur Creek downstream of the proposed Bypass, totaling

340 linear feet of impacts to Sulfur Creek. The wider road will facilitate the use of larger mining equipment for construction as it does not directly impact wetlands.

All drill road and drill pad fill material (gravel) will be sourced from the DD2 quarry site located on the west side of the Red Dog Mine Tailings Storage Facility. Drill road and pad construction will follow standard local methodology, first utilizing manual brush cutting in the surveyed footprint (leaving the vegetative roots in place), followed by the placement of geotextile fabric, and then covered with gravel. Gravel placement will employ typical end or side dump vehicles (trucks/trailers) spreading with equipment working from the end of the placed fill. No mechanized equipment will travel on vegetation outside of the planned road or pad prism. The West Ring Road fill material may be sourced from more proximal clean (non-mineralized) rock material (Siksikpuk shale) excavated from within the Aqqaluk pit.

**Additional Information:** The Aqqaluk Pit was originally authorized in March 2010 under Department of the Army authorization POA-1984-00012-M45 and a time extension was granted November 2014, under POA-1984-00012-M46. After M46 expired in November 2019; mining operations continued, impacting the 3.72 acres of palustrine wetlands.

The applicant has received Temporary Water Use Authorization (TWUA F2022-050) from the Alaska Department of Natural Resources (ADNR) Water Resources Section.

**Applicant Proposed Mitigation:** The applicant proposes the following mitigation measures to avoid, minimize, and compensate for impacts to waters of the United States from activities involving discharges of dredged or fill material.

- a. **Avoidance:** The proposed project avoids impacts to wetlands to the greatest extent practicable. Where possible, uplands and previously disturbed wetland areas are prioritized for location of the proposed features. The selected road routes are designed specifically to avoid wetlands as much as possible, while still achieving the project objectives. The West Wing Road design/location is specifically included because of its location in uplands, completely avoiding wetland impacts for this portion of the project. Exploration drill roads and pads are only planned for areas that will require multiple drill holes for geologic interpretation and analysis. Multiple angled drill holes are planned from each pad, avoiding the construction of additional roads and pads in wetlands. Over 35 separate pads with separate access roads were reduced to 16 shared pads limiting road and pad disturbance. Singular drill holes are planned in upland areas that do not require USACE authorization. Singular drill pads do not require larger angle drill rigs. These upland sites can be accessed by helicopter without the use of gravel fill roads and drill pads avoiding impacts to wetlands.

The additional Sulfur Creek diversion drainage ditches were designed as two-segments to limit wetlands disturbance of a single diversion addition. The lower Sulfur Creek Bypass segment was situated entirely in uplands providing a complete corridor in conjunction with the upper Sulfur Creek Diversion Extension to divert waters from contacting the existing mine footprint.

The existing mine footprint authorized in permit modifications M45 and M46 continues to be followed. Additional fill or excavation in wetlands is not anticipated for other components of the Aqqaluk Pit or mine facilities.

- b. **Minimization:** Wetland impacts are minimized by the design of the proposed activities. A narrower road design is used for roads placed in wetlands (the Drill Road and Ring Road) as compared to those roads located in uplands (West Ring Road). The road width minimizes disturbance while maintaining safe access with sufficient safety berms required by MSHA near an active mine site. An initial construction and safety pull-out area in the first 1000 ft of the drill road design is specifically situated in an uplands area to minimize road width in wetlands.

The design of the overall drilling program has been developed to minimize impacts to wetlands, including (a) limiting the number of drill pads, (b) locating specific boring (drill) sites outside of wetlands when feasible, and (c) grouping the borings to drill multiple holes from a single pad when geologic targets require boring locations in wetlands. Additionally, the exploration drill program will use drill pads and roads for equipment turnaround areas and for staging of materials and equipment during drilling; this further limits the size of drill pads.

The phasing of the construction of the drill roads and pads will enable the application of efficiencies gained through the early phases of the program to further limit the sizes (and subsequent fill requirements) of the later (2025) roads and pads. The roads constructed in 2024 will be extended and used in 2025. Additionally, phasing delays the impacts to those wetlands included in the later phases. Geotextile fabric will be used under the drill roads and pads to protect the underlying soils and permafrost. Road depth has been established as a minimum of three feet to provide permafrost integrity. Culverts will be placed every 300–400 ft to provide hydrologic connectivity, limiting ponding on the upslope side of the road.

Reclamation Plan – An updated mining reclamation and closure plan would be prepared for the project and submitted to the State of Alaska DNR for reclamation closure and bonding under state law.

Erosion Control Measures – Erosion control and construction methods are described in the Red Dog Stormwater Pollution Prevention Plan (SWPPP) required by the mine’s Alaska Pollutant Discharge Elimination System (APDES) permit (Permit No. AK0038652). Erosion will be limited through the use of BMPs and geotextile fabric for embankment stabilization. The project will comply with Alaska’s Water Quality Standards (18 AAC 70). Dust is expected to have minimal impacts to the adjacent vegetation due to the BMPs that will be followed, including the watering of roadways as needed.

Fish and Wildlife Avoidance – Vegetation clearing (removal of roots) will not be necessary for the project, as geotextile fabric will be overlain over manually cut vegetation. The proposed stream crossings are not within fish bearing streams. The Environmental Evaluation Document (EED) will detail all fish and wildlife species in the area.

Invasive Species Control Measures – Post-construction stabilization will include seeding and stabilizing fill and disturbed areas. To minimize the introduction of invasive species to the project area, native seed mixes will be used for revegetation of side slopes.

Construction Rock Characterization – The fill (gravel) material proposed for the drill roads and pads will come from material site DD2, which has undergone chemical characterization and is clean fill. The fill material for the West Ring Road will be supplemented with clean Siksikpuq shale rock which has undergone chemical analysis and is clean fill.

- c. Mitigation: The Aqqaluk Pit was designed to facilitate the extraction of ore for the Aqqaluk Ore Body. The pit is constructed with benches spiraling down, includes supporting infrastructure such as roads and water diversion features. Disturbance in wetlands was avoided and minimized to the greatest extent practicable within Permit POA-1984-0012-M45.

Teck further reduced wetland impacts during the construction and development phases of Permits M45 and M46 by not extending the pit to the full pit permitted boundaries. The pit layback and communication road were constructed within the original permitted pit boundary. The lower portion of Shelly Creek was permitted to convey clean surface water (from the creek) around the pit to reduce the volume of mine contact water that would require treatment and discharge. The proposed new diversion structures for Sulfur Creek will further reduce water treatment by reducing overland flow and infiltration water into the pit.

Through permit modification M45, Teck paid an in-lieu fee to the Conservation Fund at a ratio of 2:1 for the loss of 119 acres of wetlands. Of these 119 acres, mine operations impacted only 38 percent (44.92 acres)

through excavation or filling by the M46 permit expiration in 2019; 74.08 acres remained undisturbed. The proposed exploration roads and drill pads are adjacent to the undeveloped but previously permitted areas. Further compensatory mitigation for exploration roads and drills pads in areas previously reviewed, permitted, and compensated is not proposed.

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After reviewing the application, the Department will evaluate whether the activity will comply with applicable water quality requirements (any limitation, standard, or other requirement under sections 301, 302, 306, and 307 of the CWA, any Federal and state laws or regulations implementing those sections, and any other water quality-related requirement of state law). The Department may certify (or certify with conditions) with reasonable assurance the activity and any discharge that might result will comply with water quality requirements. The Department also may deny or waive certification.

The permit application and associated documents are available for review. For inquires or to request copies of the documents, contact [dec-401cert@alaska.gov](mailto:dec-401cert@alaska.gov), or call 907-269-6285.

### **Disability Reasonable Accommodation Notice**

The State of Alaska, Department of Environmental Conservation complies with Title II of the Americans with Disabilities Act (ADA) of 1990. If you are a person with a disability who may need special accommodation in order to participate in this public process, please contact ADA Coordinator Megan Kohler at 907-269-4198 or TDD Relay Service 1-800-770-8973/TTY or dial 711 prior to the expiration date of this public notice to ensure that any necessary accommodations can be provided.

162.8445°W

162.8334°W

162.8223°W

162.8112°W

68.0805°N

68.0805°N

68.0777°N

68.0777°N

68.075°N

68.075°N

68.0722°N

68.0722°N

68.0694°N

68.0694°N

68.0666°N

68.0666°N

North Aqqaluk Pit Expansion

North Communications Road

Aqqaluk Pit

South Communications Road

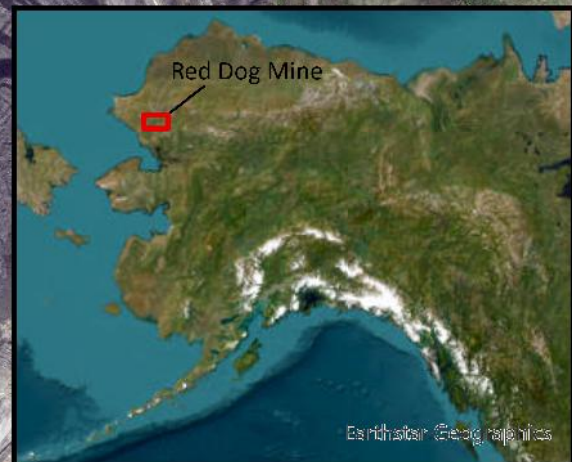
Main Pit

Red Dog Mine




SCALE

0 0.1 0.2 0.3 Miles

1 in = 700 feet



**LEGEND**

-  Boundary of Expired POA-1984-12-M46 Permit
-  Aqqaluk 2008 AJD Wetlands
-  Work Completed in Wetlands after Permit Expiration

Background is satellite imagery dated August 2023.

# Teck

**Map Title:** WORK COMPLETED OVERVIEW

**Applicant:** Teck Alaska Incorporated, Red Dog Operations

**File No.:** POA-1984-12-M47

**Proposed Activity:** Continued Operation of Aqqaluk Pit and Exploration

**Sections:** 16,17,20,21 **Township:** 31N **Range:** 18W **Meridian:** KR

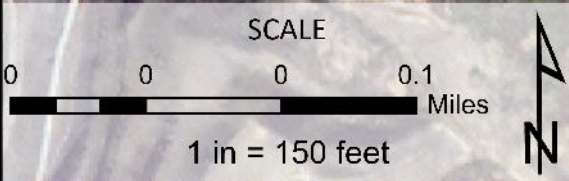
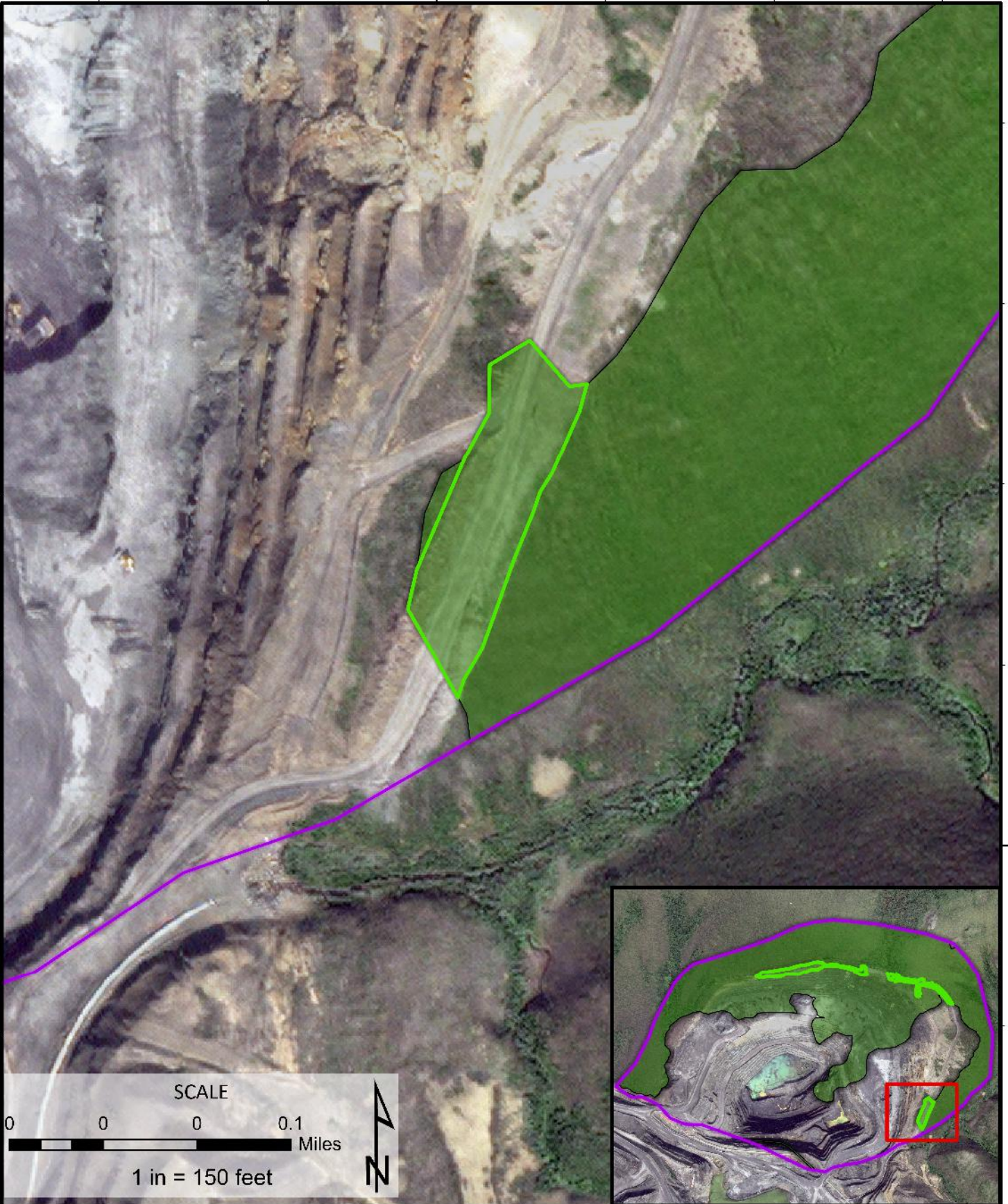
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**Sheet 1 of 11** **Date:** 2/29/2024

162.8167°W

68.0733°N

68.0733°N



**LEGEND**

- Boundary of Expired POA-1984-12-M46 Permit
- South Communications Road (0.78 Wetland Acres)
- Aqqaluk 2008 AJD Wetlands

Background is satellite imagery dated August 2023.

**Teck**

**Map Title:** WORK COMPLETED: SOUTH COMMUNICATIONS ROAD  
**Applicant:** Teck Alaska Incorporated, Red Dog Operations  
**File No.:** POA-1984-12-M47  
**Proposed Activity:** Continued Operation of Aqqaluk Pit and Exploration  
**Sections:** 16,17,20,21 **Township:** 31N **Range:** 18W **Meridian:** KR  
**Lat:** 68.0764°N **Long:** 162.8240°W  
**Sheet 2 of 11** **Date:** 2/29/2024

162.8167°W

162.8112°W

68.0799°N

68.0799°N

68.0766°N

68.0766°N



**LEGEND**

-  Boundary of Expired POA-1984-12-M46 Permit
-  North Communications Road (1.02 Wetland Acres)
-  Aqqaluk 2008 AJD Wetlands

Background is satellite imagery dated August 2023.

# Teck

**Map Title:** WORK COMPLETED: NORTH COMMUNICATIONS ROAD

**Applicant:** Teck Alaska Incorporated, Red Dog Operations

**File No.:** POA-1984-12-M47

**Proposed Activity:** Continued Operation of Aqqaluk Pit and Exploration

**Sections:** 16,17,20,21 **Township:** 31N **Range:** 18W **Meridian:** KR

**Lat:** 68.0764°N **Long:** 162.8240°W

**Sheet 3 of 11** **Date:** 2/29/2024



162.8278°W

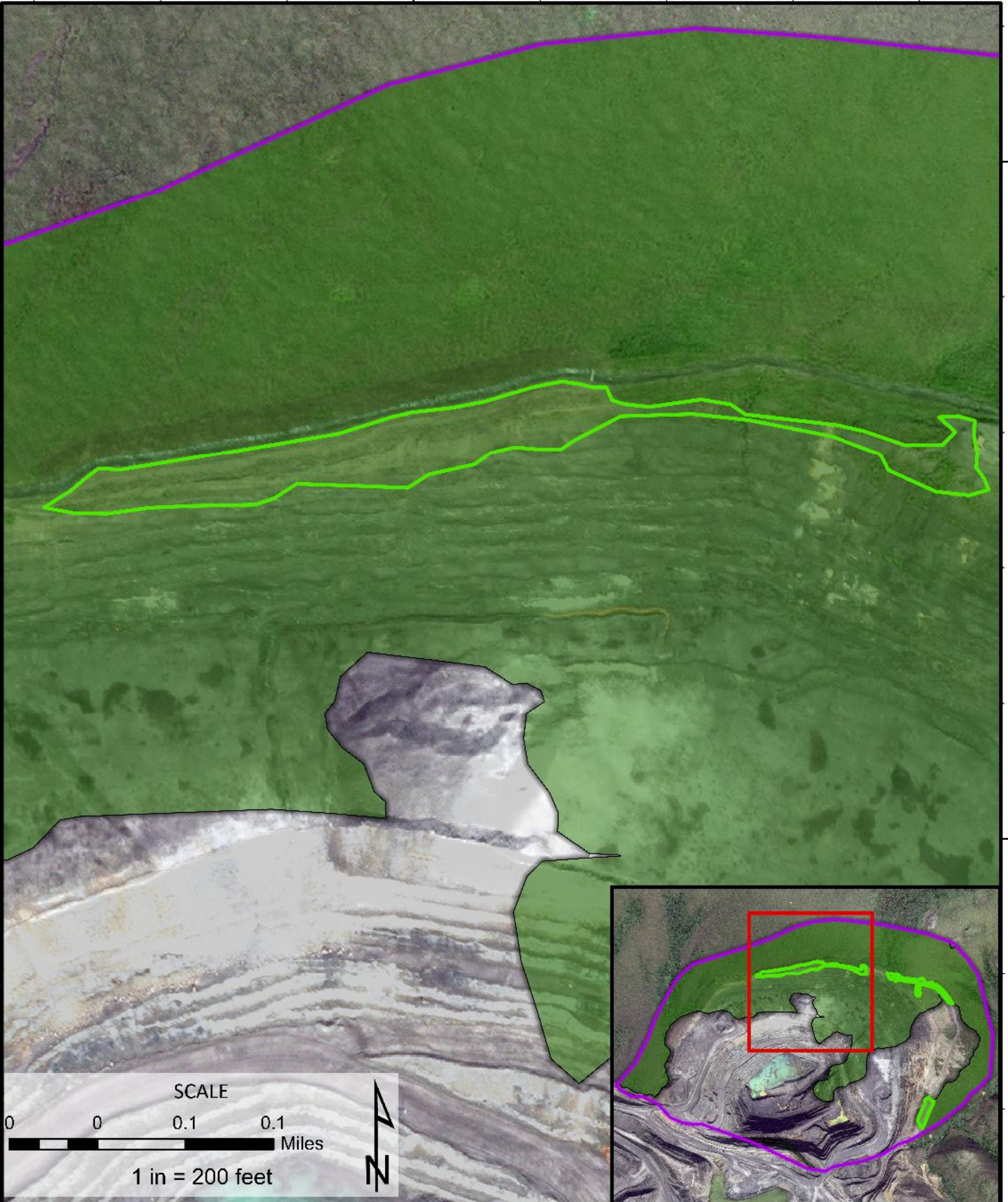
162.8223°W

68.0805°N




68.0805°N

68.0777°N

68.0777°N



**LEGEND**

-  Boundary of Expired POA-1984-12-M46 Permit
-  North Aqqaluk Pit Expansion (1.92 Wetland Acres)
-  Aqqaluk 2008 AJD Wetlands

Background is satellite imagery dated August 2023.

# Teck

**Map Title:** WORK COMPLETED: NORTH AQQALUK PIT EXPANSION

**Applicant:** Teck Alaska Incorporated, Red Dog Operations

**File No.:** POA-1984-12-M47

**Proposed Activity:** Continued Operation of Aqqaluk Pit and Exploration

**Sections:** 16,17,20,21 **Township:** 31N **Range:** 18W **Meridian:** KR

**Lat:** 68.0764°N **Long:** 162.8240°W

**Sheet 4 of 11** **Date:** 2/29/2024

162.8445°W

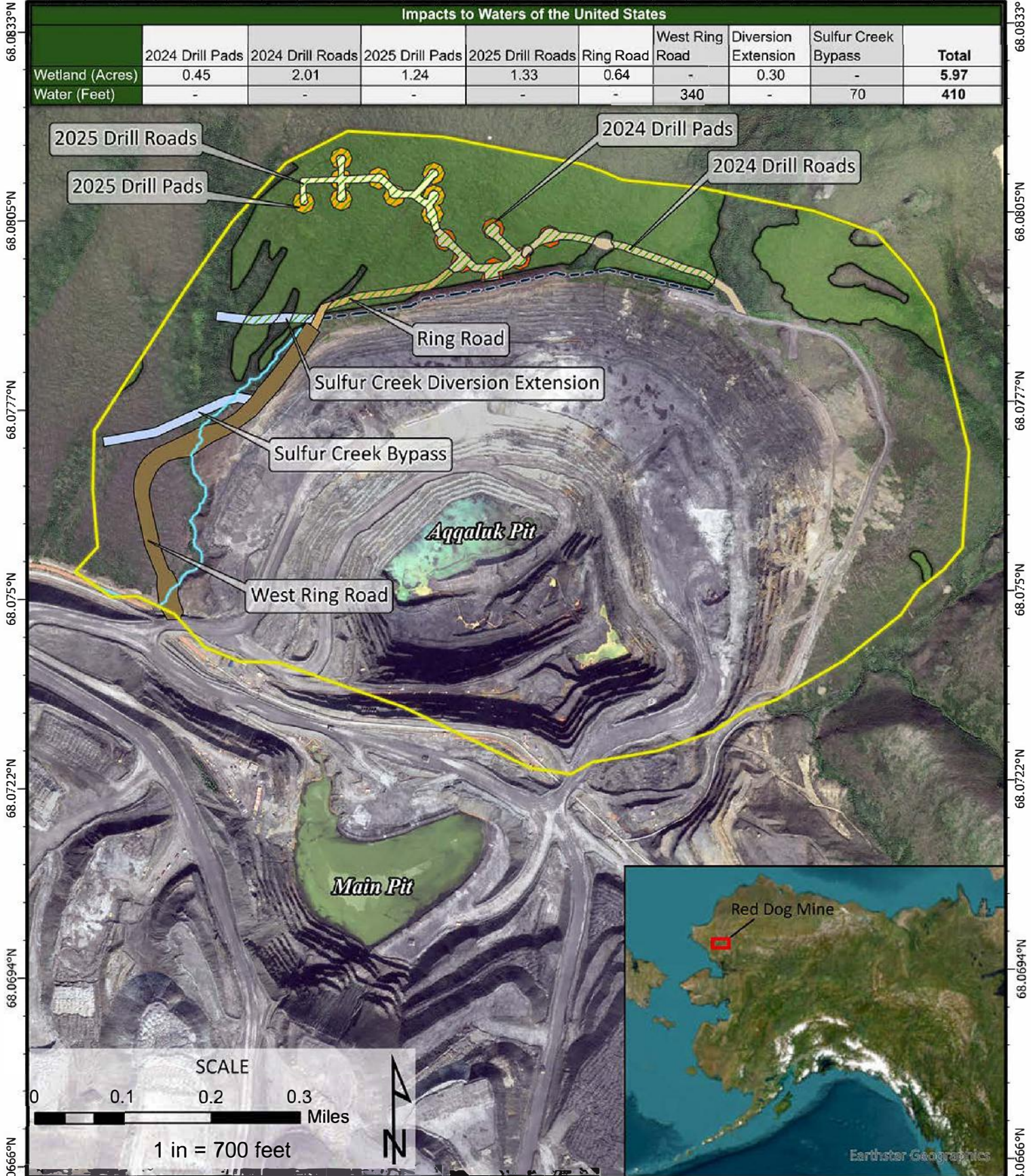
162.8334°W

162.8223°W

162.8112°W

Impacts to Waters of the United States

	2024 Drill Pads	2024 Drill Roads	2025 Drill Pads	2025 Drill Roads	Ring Road	West Ring Road	Diversion Extension	Sulfur Creek Bypass	Total
Wetland (Acres)	0.45	2.01	1.24	1.33	0.64	-	0.30	-	5.97
Water (Feet)	-	-	-	-	-	340	-	70	410



LEGEND

- 2024 PJD Mapping Boundary
- Streams
- Existing Diversion Ditch
- Aqqaluk 2024 PJD Wetlands
- Proposed Impacts in Wetlands

Background is satellite imagery dated August 2023.



Map Title: PROPOSED PROJECT OVERVIEW  
 Applicant: Teck Alaska Incorporated, Red Dog Operations  
 File No.: POA-1984-12-M47  
 Proposed Activity: Continued Operation of Aqqaluk Pit and Exploration Sections: 16,17,20,21 Township: 31N Range: 18W Meridian: KR  
 Lat: 68.0770°N Long: 162.8277°W  
 Sheet 5 of 11 Date: 2/29/2024

68.0833°N  
68.0805°N  
68.0777°N  
68.0750°N  
68.0722°N  
68.0694°N  
68.0666°N

68.0833°N  
68.0805°N  
68.0777°N  
68.0750°N  
68.0722°N  
68.0694°N  
68.0666°N

162.8445°W

162.8389°W

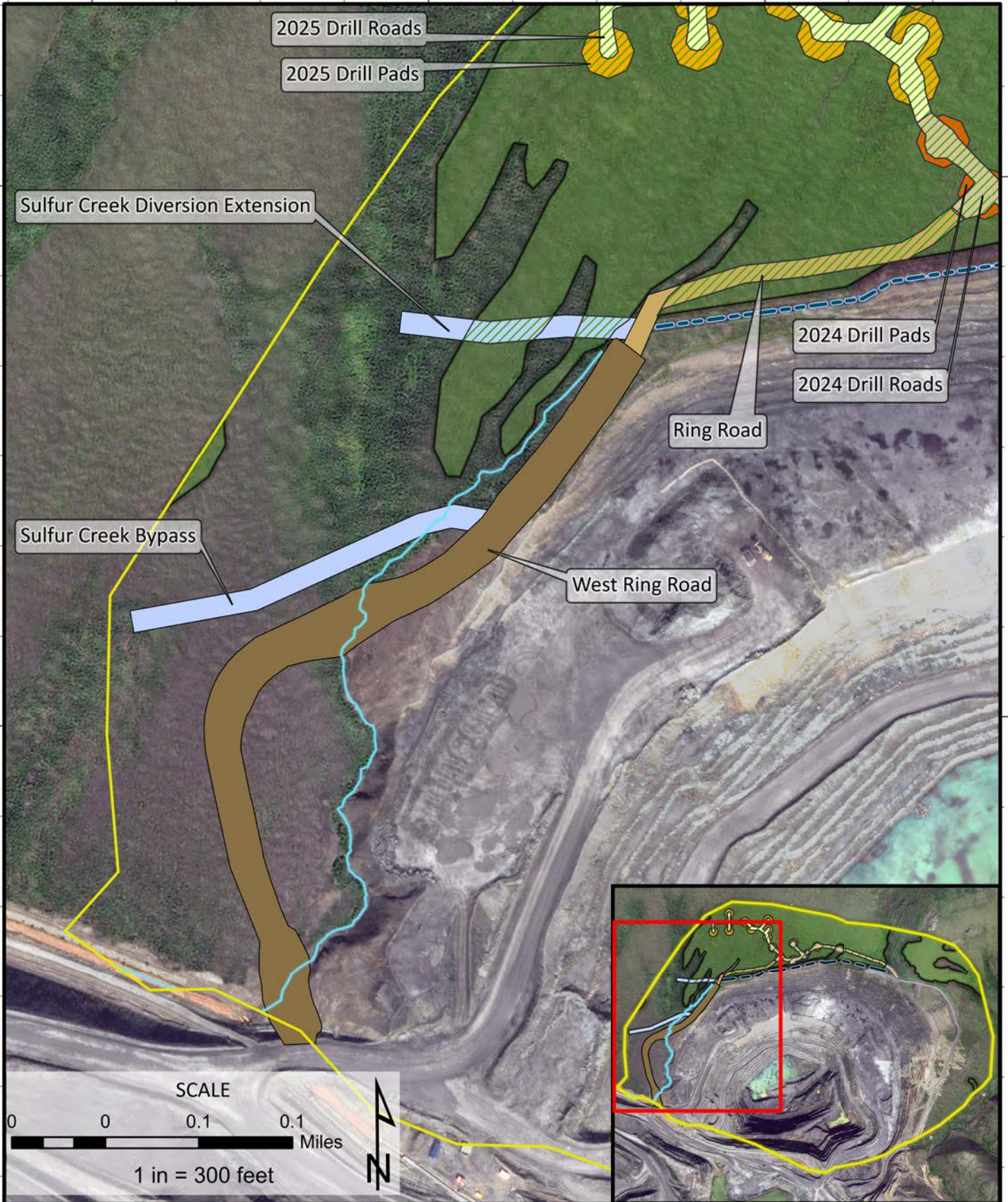
162.8334°W

68.0799°N

68.0799°N

68.0766°N

68.0766°N



**LEGEND**

2024 PJD Mapping Boundary	Aqqaluk 2024 PJD Wetlands
Streams	Proposed Impacts in Wetlands
Existing Diversion Ditch	

Background is satellite imagery dated August 2023.



**Map Title:** PROPOSED PROJECT: WEST AQQALUK  
**Applicant:** Teck Alaska Incorporated, Red Dog Operations  
**File No.:** POA-1984-12-M47  
**Proposed Activity:** Continued Operation of Aqqaluk  
**Sections:** 16,17,20,21 **Township:** 31N **Range:** 18W  
**Lat:** 68.0770°N **Long:** 162.8277°W  
**Sheet 6 of 11** **Date:** 2/29/2024

162.8334°W

162.8278°W

162.8223°W

68.0833°N

68.0833°N

68.0805°N

68.0805°N

68.0777°N

68.0777°N

2025 Drill Pads

2025 Drill Roads

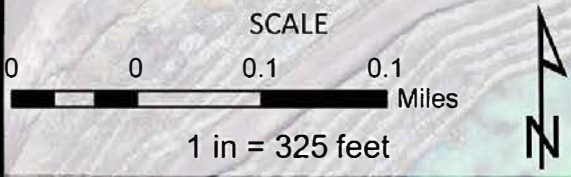
2024 Drill Pads

2024 Drill Roads

Ring Road

West Ring Road

Sulfur Creek Diversion Extension



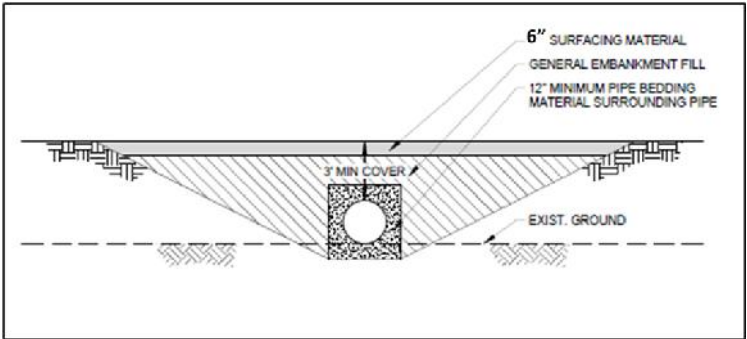
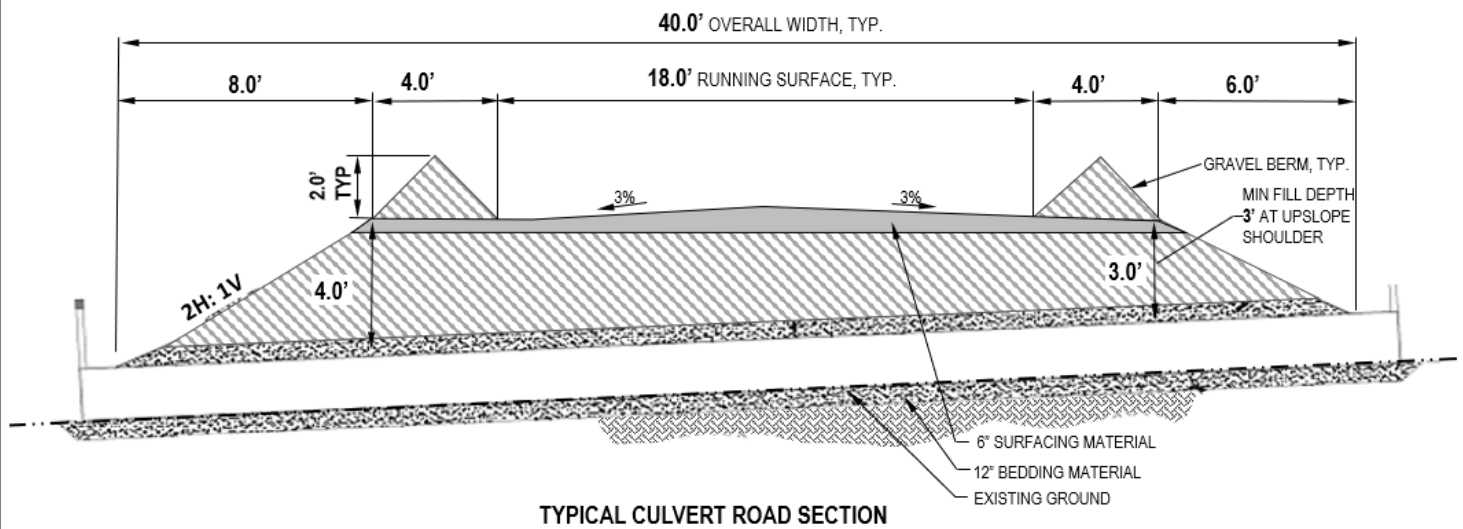
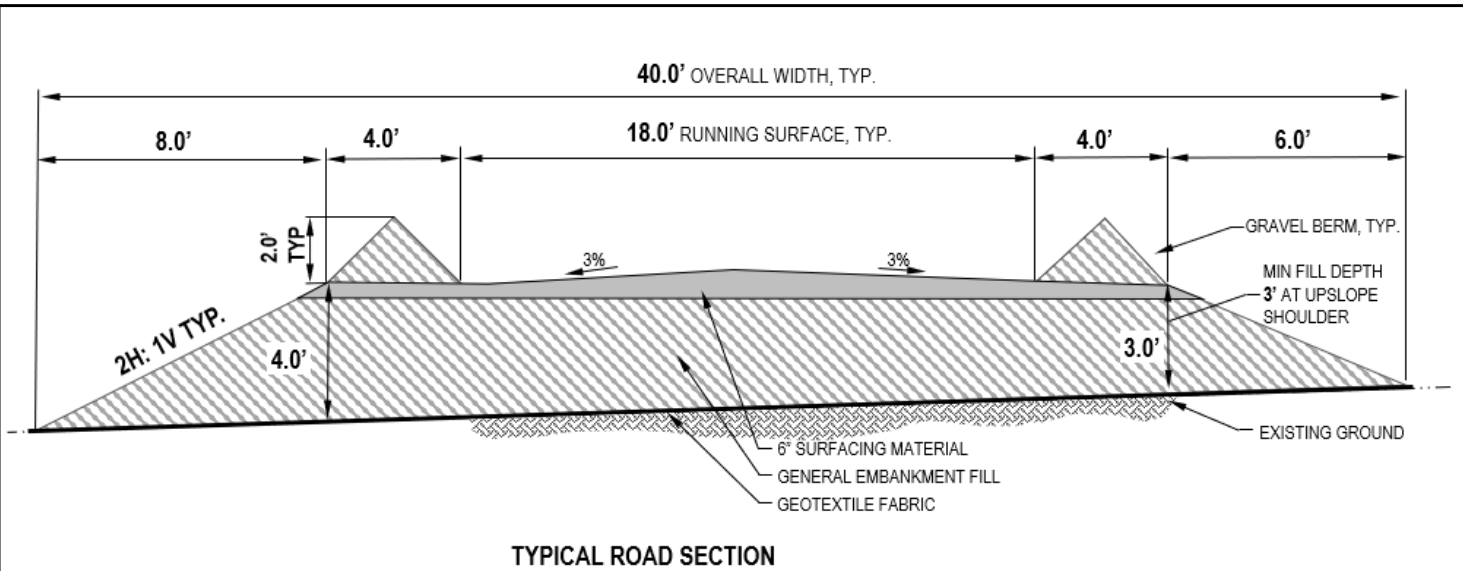
**LEGEND**

- 2024 PJD Mapping Boundary
- Streams
- Existing Diversion Ditch
- Aqqaluk 2024 PJD Wetlands
- Proposed Impacts in Wetlands

Background is satellite imagery dated August 2023.



**Map Title:** PROPOSED PROJECT: NORTH AQQALUK  
**Applicant:** Teck Alaska Incorporated, Red Dog Operations  
**File No.:** POA-1984-12-M47  
**Proposed Activity:** Continued Operation of Aqqaluk Pit and Exploration  
**Sections:** 16,17,20,21 **Township:** 31N **Range:** 18W **Meridian:** KR  
**Lat:** 68.0770°N **Long:** 162.8277°W  
**Sheet 7 of 11** **Date:** 2/29/2024



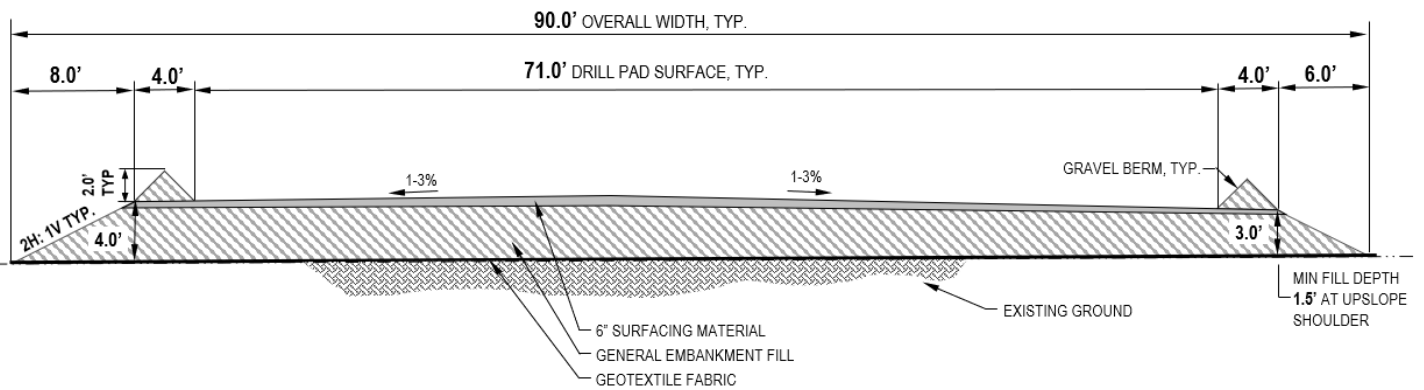
**NOTES:**

1. SURFACING MATERIAL TO BE 2" MINUS MATERIAL WITH 0-6% PASSING THE NO. 200 SIEVE (SIMILAR TO ADOT&PF SUBBASE, GRADING B.)
2. GENERAL EMBANKMENT FILL TO BE 12" MINUS PIT RUN MATERIAL WITH 0-10% PASSING THE NO. 200 SIEVE (SIMILAR TO ADOT&PF SELECTED MATERIAL, TYPE B.)
3. GEOTEXTILE FABRIC TO BE CLASS 1 SEPARATION GEOTEXTILE, AS DEFINED IN AASHTO M 288. IN AREAS, WHERE CLEAN GRAVELS ARE PRESENT, THE GEOTEXTILE CAN BE OMITTED.

SCALE: AS DEPICTED



**Title:** PROPOSED PROJECT: DRILL ACCESS ROADS AND RING ROAD  
**Applicant:** Teck Alaska Incorporated, Red Dog Operations  
**File No.:** POA-1984-12-M47  
**Proposed Activity:** Continued Operation of Aqqaluk Pit and Exploration  
**Sections:** 16,17,20,21 **Township:** 31N **Range:** 18W **Meridian:** KR  
**Lat:** 68.0770°N **Long:** 162.8277°W  
**Sheet 8 of 11**     **Date:** 2/29/2024



### NOTES:

1. SURFACING MATERIAL TO BE 2" MINUS MATERIAL WITH 0-6% PASSING THE NO. 200 SIEVE (SIMILAR TO ADOT&PF SUBBASE, GRADING B.)
2. GENERAL EMBANKMENT FILL TO BE 12" MINUS PIT RUN MATERIAL WITH 0-10% PASSING THE NO. 200 SIEVE (SIMILAR TO ADOT&PF SELECTED MATERIAL, TYPE B.)
3. GEOTEXTILE FABRIC TO BE CLASS 1 SEPARATION GEOTEXTILE, AS DEFINED IN AASHTO M 288. IN AREAS, WHERE CLEAN GRAVELS ARE PRESENT, THE GEOTEXTILE CAN BE OMITTED.

SCALE: AS DEPICTED



**Title:** PROPOSED PROJECT: DRILL PADS

**Applicant:** Teck Alaska Incorporated, Red Dog Operations

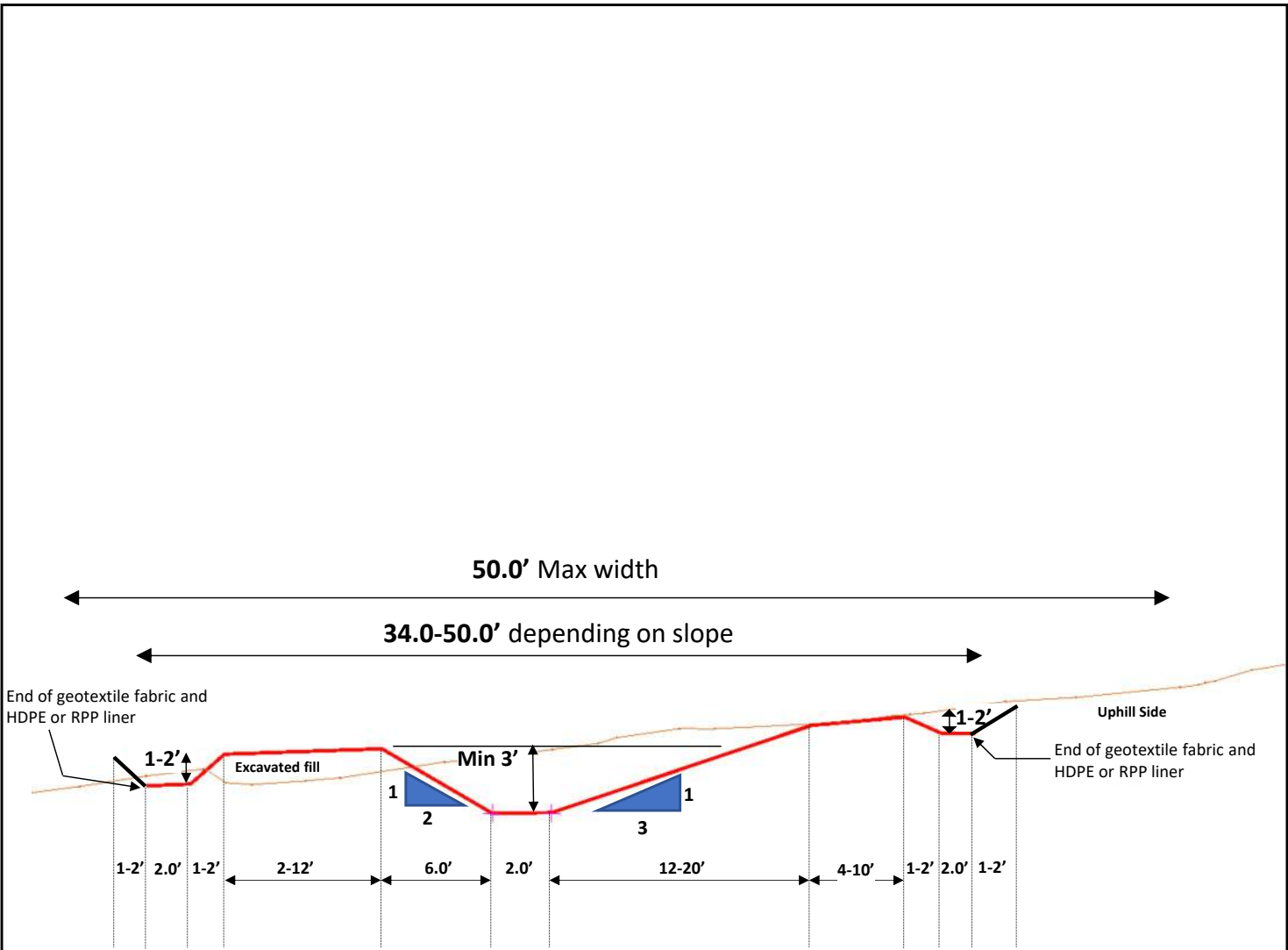
**File No.:** POA-1984-12-M47

**Proposed Activity:** Continued Operation of Aqqaluk Pit and Exploration

**Sections:** 16,17,20,21 **Township:** 31N **Range:** 18W **Meridian:** KR

**Lat:** 68.0770°N **Long:** 162.8277°W

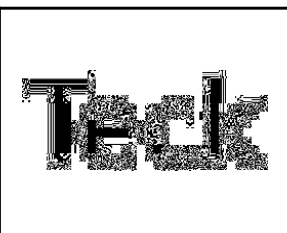
**Sheet 9 of 11** **Date:** 2/29/2024



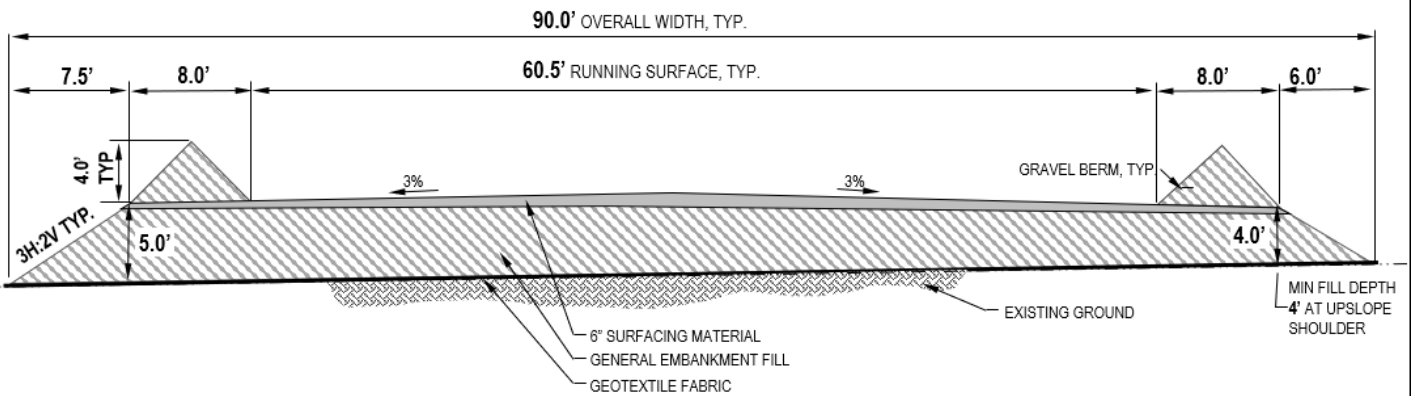
**NOTES:**

1. BROWN LINE IS Q3 2023 PHOTOGRAMMETRY SURFACE. "CURRENT SURFACE"
2. USE OF UPHILL EROSION/SILT CONTROL BERMS/FENCING BMPS.
3. ANCHOR TRENCHES 1:1 OR STEEPER SLOPES
4. 30+MIL HDPE OR RPP LINER OVER GEOTEXTILE FABRIC ON RECONTOURED PROFILE

SCALE: AS DEPICTED



**Title:** PROPOSED PROJECT: SULFUR CREEK DIVERSION STRUCTURES  
**Applicant:** Teck Alaska Incorporated, Red Dog Operations  
**File No.:** POA-1984-12-M47  
**Proposed Activity:** Continued Operation of Aqqaluk Pit and Exploration  
**Sections:** 16,17,20,21 **Township:** 31N **Range:** 18W **Meridian:** KR  
**Lat:** 68.0770°N **Long:** 162.8277°W  
**Sheet 10 of 11** **Date:** 2/29/2024



### NOTES:

1. SURFACING MATERIAL TO BE 2" MINUS MATERIAL WITH 0-6% PASSING THE NO. 200 SIEVE (SIMILAR TO ADOT&PF SUBBASE, GRADING B.)
2. GENERAL EMBANKMENT FILL TO BE 12" MINUS PIT RUN MATERIAL WITH 0-10% PASSING THE NO. 200 SIEVE (SIMILAR TO ADOT&PF SELECTED MATERIAL, TYPE B.)
3. EXCAVATED MATERIAL SHOULD BE REUSED IF IT CONFORMS TO THE ABOVE MATERIAL REQUIREMENTS.

SCALE: AS DEPICTED



**Title:** PROPOSED PROJECT: WEST RING ROAD

**Applicant:** Teck Alaska Incorporated, Red Dog Operations

**File No.:** POA-1984-12-M47

**Proposed Activity:** Continued Operation of Aqqaluk Pit and Exploration

**Sections:** 16,17,20,21 **Township:** 31N **Range:** 18W **Meridian:** KR

**Lat:** 68.0770°N **Long:** 162.8277°W

**Sheet 11 of 11** **Date:** 2/29/2024