Plan of Operations Modification

Anarraaq and Aktigiruq Exploration Program

Continued Exploration Access Road and Surface Pad Construction, Facilities Construction,

and

Underground Decline Development

Submitted To:
Alaska Department of Natural Resources
Alaska Department of Environmental Conservation
Northwest Arctic Borough

Submitted By:
Teck American Incorporated
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August 2025

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Stantec

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ACRONYMS/ABBREVIATIONS

AA.....Anarraaq and Aktigiruq
AAC ..... Alaska Administrative Code
AAEP ..... Anarraaq and Aktigiruq Exploration Program
ABA ..... Acid Base Accounting
ADEC..... Alaska Department of Environmental Conservation
ADF&G .....Alaska Department of Fish and Game
ADNR .....Alaska Department of Natural Resources
ANFO..... ammonium nitrate/fuel oil
AP.....acid potential
APDES ..... Alaska Pollutant Discharge Elimination System
ARD .....acid rock drainage
AS.....Alaska Statute
AWC ..... Anadromous Waters Catalog
BMP.....best management practice
CFR .....Code of Federal Regulations
CWA .....Clean Water Act
DA.....Department of the Army
DMLW.....Division of Mining, Land and Water
EPA .....U.S. Environmental Protection Agency
ESA .....Endangered Species Act
MP ..... Milepost
MS .....Material Site
MSGP ..... Multi-Sector General Permit
NAB .....Northwest Arctic Borough
NANA..... NANA Regional Corporation
NMFS .....National Marine Fisheries Service
NOI .....Notice of Intent
ODPCP ..... Oil Discharge Prevention Contingency Plan
PAG .....potentially acid generating
Plan ..... Plan of Operations
PoO ..... Plan of Operations
Project ..... Anarraaq and Aktigiruq Exploration Program
pXRF ..... portable x-ray diffraction instrument
R.....road
RDC..... Red Dog Creek
SPCC.....Spill Prevention, Control, and Countermeasure
State .....State of Alaska
SWPPP..... Storm Water Pollution Prevention Plan
TAI ..... Teck American Incorporated
TWUA ..... Temporary Water Use Authorization
U.S..... United States
USACE ..... U.S. Army Corps of Engineers
USFWS.....U.S. Fish and Wildlife Service
WQS ..... water quality standards
WTP..... water treatment plant

UNITS OF MEASURE

ft .....foot/feet
ft^2 .....square feet
km.....kilometer
m^2 .....square meters
yd^3 .....cubic yards

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EXECUTIVE SUMMARY

This Plan is being submitted to meet the requirements of ADNR regulations for surface use of mining claims on State of Alaska (State) land as well as material site statutes overseen by the ADNR. Teck American Incorporated (TAI) is seeking written approval from the Director of ADNR Division of Mining, Land and Water (DMLW) for all modifications proposed on TAI State mining claims (**Appendix A**) outlined in this PoO. TAI requests that the Director allow TAI to maintain restricted public access to the AA-Exploration Access Road for public safety. TAI requests approval for the continued use of explosives to quarry road construction material from at least three material sites and may require explosive for some of the road cut construction. ADNR also oversees Temporary Water Use Authorizations (TWUA); TWUAs for the AAEP have-been/will-be obtained for stream diversions and culvert installations associated with the AAEP (**Appendix B**).

Components of the AAEP occurring on NANA land were previously authorized by NANA through a separate agreement and TAI is in the process of acquiring an updated authorization inclusive of the modifications discussed in this PoO which occur on NANA land. Several additional regulatory approvals are withstanding or in the process of being updated to be inclusive of the changes to the AAEP discussed in this PoO.

Long-term goals of the AAEP include identifying a sufficient resource, amenable to underground mining and conventional milling, that warrants advancing the AAEP on a schedule that could allow TAI to timely develop the prospects into a producing mine. At the present time there is insufficient data to determine whether these prospects can be developed in a manner that is both technically feasible and economic.

Construction of the AA-Exploration Access Road began in Q4 2024, and as of June 2025, approximately 5.6 miles have been constructed. The Red Dog Creek Laydown Pad construction is also complete. The AA-Exploration Access Road construction is expected to conclude in 2026; surface pads and associated access, service, and connector roads are anticipated to be completed by Q4 2028. This modification request is being submitted for approval to change the location of the approved North Portal and North Camp Pads to a site approximately four miles south to improve the safety and underground efficiency of the AAEP. The South Portal and South Camp Pads are proposed to be the site of surface facilities that are required to support a multi-year underground exploration program. Construction of the South Camp Pad and associated project components and infrastructure will take place as soon as authorized; construction personnel are housed at existing Red Dog Mine facilities in the interim. The major physical components of the currently authorized and proposed modification to the AAEP are shown in **Figure 1**.

Components of the approved Plan to be removed, added, and retained under this modified PoO are summarized below.

Components to be removed –

- From State of Alaska lands:
    - North Portal Pad and associated facilities located at the terminus of the AA-Exploration Access Road centered at coordinates (NAD83) latitude 68.1787, longitude -162.9571;
    - Main Vent Raise Pad and Main Vent Service Road; and
    - Material Site (MS) AA-MS-5 and AA-MS-5 Access Road.

Components to be added –

- To State of Alaska lands:
    - South Portal Pad west of Ikalukrok Creek centered at coordinates (NAD83) latitude 68.1371 and longitude –162.8842; including
        - Portal pad facilities installation;
        - Dual decline portal development on portal pad; and
        - Developing underground declines to better access exploration targets; and
    - AA-MS-1 Access Road
- To Non-State of Alaska lands:
    - South Camp Pad west of Ikalukrok Creek centered at coordinates (NAD83) latitude 68.1364, longitude –162.8943;
    - South Portal Connector Road; including
        - One bridge crossing Ikalukrok Creek; and
    - AA-MS-4 Access Road

Components to be retained –

- On State of Alaska lands:
    - AA-Exploration Access Road (5.7 of 9.3 miles);
    - North Vent Raise Pad and North Vent Service Road;
    - South Vent Raise Pad and South Vent Service Road;
    - Laydown Pad 1;
    - Laydown Pad 2;
    - North Camp Pad (now the Main Vent Raise Pad);
    - Material Site AA-MS-1; and
    - Material Site AA-MS-3 (0.1 of 4.5 acres).
- On Non-state of Alaska lands:
    - AA-Exploration Access Road (3.6 on of 9.3 miles); including
        - Five bridge crossings: Red Dog Creek (1), Graying Junior Creek (1), and Ikalukrok Creek (3);
    - Red Dog Creek Laydown Pad; and
    - Material Site AA-MS-3 (4.4 of 4.5 acres).

This PoO describes the following activities on State mining claims proposed for ADNR approval:

1. TAI will continue constructing ~9.3 miles of authorized exploration access road (AA-Exploration Access Road) from the fish weir road at the Red Dog Mine and extending along Ikalukrok Creek to the proposed Main Vent Raise Pad site (formerly approved as the North Camp Pad);
2. Constructing ~3.6 miles of road to connecting the AA-Exploration Access Road to portal and camp facilities, vent raises, material sites, and laydown pads;
3. Constructing surface pads that will host the surface facilities (i.e., buildings, fuel and materials storage, etc.) required to support underground exploration;
4. Constructing the portals for declines;
5. Developing up to three material sites (including blasting and crushing) to provide sufficient material for complete road and surface pad construction; and
6. Reclamation, including an updated reclamation cost estimate for the reclamation of the additional access roads, surface pads, declines, ventilation raise, and material sites on State mining claims and NANA land.

A Reclamation Plan (SRK 2025) and reclamation cost estimate sufficient to reclaim the surface disturbance and leave it in a stable configuration if the AAEP does not advance beyond exploration is provided in **Appendix C.**

1.0 INTRODUCTION

This modified Plan of Operations ("Plan" or "PoO") is submitted to the Alaska Department of Natural Resources (ADNR) by Teck American Incorporated (TAI) in support of TAI's exploration efforts on the Anarraaq and Aktigiruq (AA) prospects located approximately nine miles north of the Red Dog Mine and 89 miles north-northwest of Kotzebue. The project discussed in this PoO is the Anarraaq and Atkigiruq Exploration Program (AAEP), referred throughout this document as the Project. This exploration effort is being conducted on State of Alaska (State) mining claims owned and operated by TAI, as well as privately owned NANA Regional Incorporated, Inc. (NANA) lands.

This Plan is being submitted to meet the requirements of ADNR regulations for surface use of mining claims on State land (**Section 3.1.1**) as well as material site statutes overseen by the ADNR (**Section 3.1.2**). TAI is seeking written approval from the Director of ADNR Division of Mining, Land and Water (DMLW) for all modification proposed on TAI State mining claims (**Appendix A**) outlined in this PoO. TAI requests that the Director allow TAI to maintain restricted public access to the AA-Exploration Access Road for public safety (**Section 2.7**). TAI requests approval for the continued use of explosives to quarry road construction material from at least three material sites and may require explosive for some of the road cut construction (**Section 3.1.1**). ADNR also oversees Temporary Water Use Authorizations (TWUA); TWUAs for the AAEP have-been/will-be obtained for stream diversions and culvert installations associated with the AAEP (**Appendix B**).

Components of the AAEP occurring on NANA land were previously authorized by NANA through a separate agreement and TAI is in the process of acquiring an updated authorization inclusive of the modifications discussed in this PoO which occur on NANA land (**Section 3.3.2**).

Several additional regulatory approvals are withstanding or in the process of being updated to be inclusive of the changes to the AAEP discussed in this PoO, including; Northwest Arctic Borough (NAB) Title 9 Conditional Use Permit [Amendment] (**Section 3.3.1**); Alaska Department of Environmental Conservation (ADEC) Construction Rock Handling Plan and Clean Water Act (CWA) Section 401 Certificate [Modification] (**Section 3.1.10**, **Section 3.2.1**); United States (U.S.) Army Corps of Engineers (USACE) CWA Section 404 Permit [Modification] (**Section 3.2.1**); and Alaska Department of Fish and Game (ADF&G) Title 16 Fish Habitat Permits (**Section 3.1.7**).

1.1 Project Overview

TAI is proposing the activities in this Plan as the next phase in evaluating the economic and technical feasibility of mining lead-zinc resources identified near upper Ikalukrok Creek, known as the Anarraaq and Aktigiruq prospects. Potentially, the evaluation of these prospects may lead to the definition of mineable resources that could provide feed to the Red Dog mill.

Long-term goals of the AAEP include identifying a sufficient resource, amenable to underground mining and conventional milling, that warrants advancing the AAEP on a schedule that could allow TAI to timely develop the prospects into a producing mine. At the present time there is insufficient data to determine whether these prospects can be developed in a manner that is both technically feasible and economic.

TAI is submitting this modified PoO for approval to construct surface and underground support facilities using the roads, bridges, and surface pads authorized in the PoO. Total disturbance for the activities described in this modified PoO is 206.5 acres, including 133.8 acres on State land and 72.7 acres on NANA Regional Corporation, Inc. (NANA) land.

The activities for which TAI is seeking ADNR approval will occur on State of Alaska mining claims under 100% ownership of TAI. Components of the AAEP that would be located on State land include the South Portal Pad, North, South and Main Vent Raise Pads and their service roads, Laydown Pads 1 and 2, Material Site (MS) AA-MS-1 and its access road, and a portion of Material Site AA-MS-3 (0.1 of 4.5 acres) and the AA-Exploration Access Road (5.7 of 9.3 miles).

On State of Alaska lands, the South Portal Pad and portals to the underground workings will be constructed, along with fuel storage facilities, diesel generator pad, truck washout pad, and lined temporary waste rock storage pad. Underground activities will include installing dual adjacent portals, developing approximately 80,000 feet (ft) of underground exploration ramps, drifts, and ventilation shafts and executing approximately 300,000 ft of exploratory drilling over a multi-year period. The ventilation shaft pad (Main Vent Raise Pad) will be constructed at the end of the 9.3-mile AA-Exploration Access Road. The North and South Vent Raise Pads are retained for future use. Excess groundwater produced, modeled to be an estimated 50 gpm, would be discharged at surface to permitted processing facilities or utilized for subsurface development activities. Surface water runoff and groundwater are to be treated at the water treatment plant (WTP) to meet ADEC water quality standards (WQS), at anticipated production rates up to 500 gpm.

TAI is updating the current Access and Land Use Agreement with NANA for proposed additional activities on non-State of Alaska lands. The South Camp Pad, South Portal Connector Road, Red Dog Creek (RDC) Laydown Pad, Material Site AA-MS-4 and its access road, and the majority of Material Site AA-MS-3 (4.4 of 4.5 acres), and 3.6 miles of the 9.3-mile AA-Exploration Access Road would be located on NANA land. Five bridges would be constructed along the AA-Exploration Access Road and one new bridge on the South Portal Connector Road; all of which are located on NANA land. The major physical components of the currently authorized and the proposed modification to the AAEP are shown on **Figure 1** and outlined in **Table 1**.

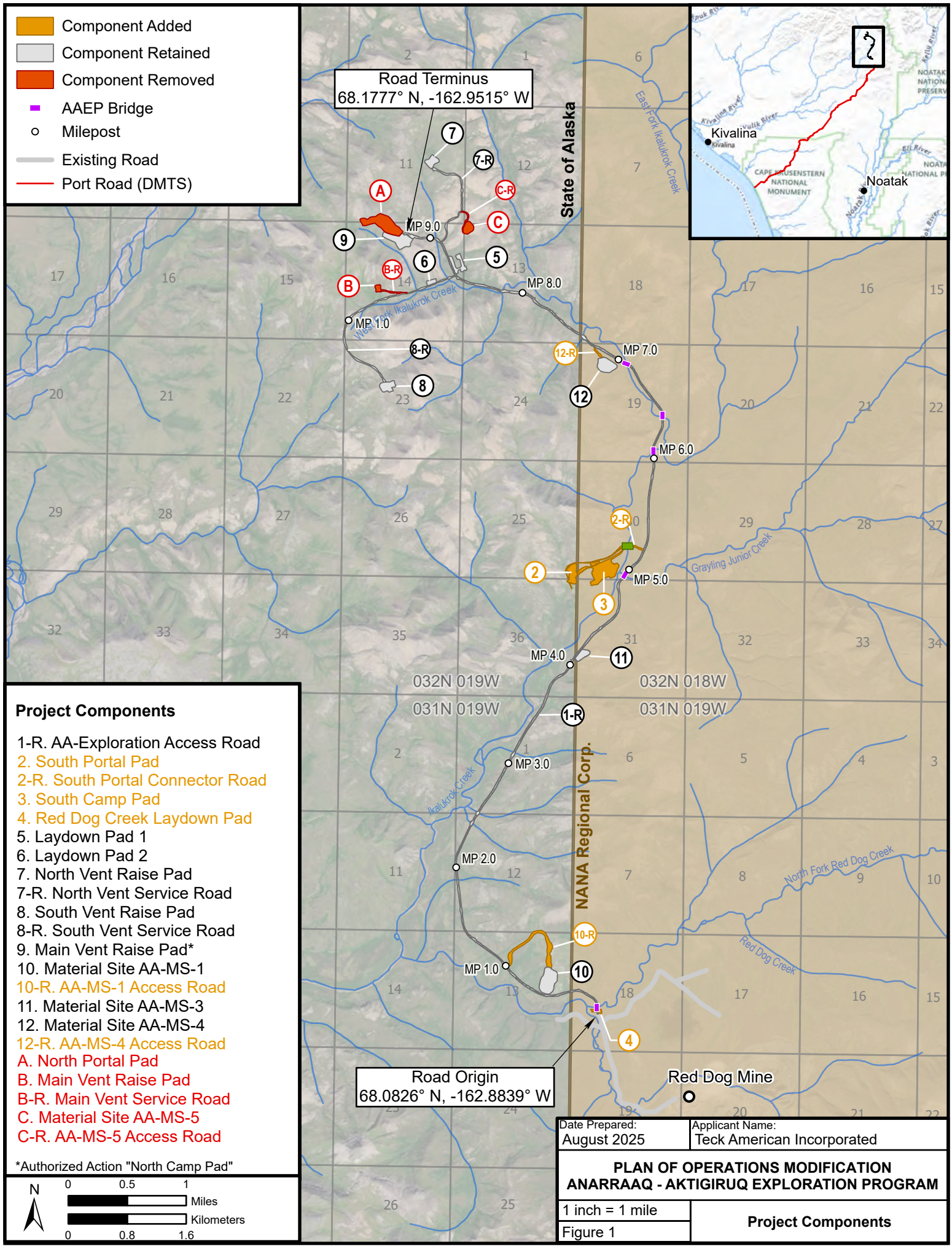

Component Added
Component Retained
Component Removed
AAEP Bridge
Milepost
Existing Road
Port Road (DMTS)
Road Terminus
68.1777° N, -162.9515° W
Road Origin
68.0826° N, -162.8839° W
State of Alaska
NANA Regional Corp.
MP 9.0
MP 8.0
MP 7.0
MP 6.0
MP 5.0
MP 4.0
MP 3.0
MP 2.0
MP 1.0
MP 1.0
Kivalina
Noatak
Red Dog Mine
032N 019W
031N 019W
032N 018W
031N 019W
Project Components
1-R. AA-Exploration Access Road
2. South Portal Pad
2-R. South Portal Connector Road
3. South Camp Pad
4. Red Dog Creek Laydown Pad
5. Laydown Pad 1
6. Laydown Pad 2
7. North Vent Raise Pad
7-R. North Vent Service Road
8. South Vent Raise Pad
8-R. South Vent Service Road
9. Main Vent Raise Pad*
10. Material Site AA-MS-1
10-R. AA-MS-1 Access Road
11. Material Site AA-MS-3
12. Material Site AA-MS-4
12-R. AA-MS-4 Access Road
A. North Portal Pad
B. Main Vent Raise Pad
B-R. Main Vent Service Road
C. Material Site AA-MS-5
C-R. AA-MS-5 Access Road
*Authorized Action "North Camp Pad"
N
0 0.5 1
Miles
0 0.8 1.6
Kilometers
Date Prepared:
August 2025
Applicant Name:
Teck American Incorporated
PLAN OF OPERATIONS MODIFICATION
ANARRAAQ - AKTIGIRUQ EXPLORATION PROGRAM
1 inch = 1 mile
Figure 1
Project Components

Table 1. 2025 Project Component Labels

2025 Component Label	Authorized AAEP Component Name	Modified AAEP Component Name
Gravel Roads		
1-Road (R)	AA-Exploration Access Road	
2-R	N/A	South Portal Connector Road
7-R	North Vent Service Road	
8-R	South Vent Service Road	
10-R	N/A	AA-MS-1 Access Road
12-R		AA-MS-4 Access Road
B-R	Main Vent Service Road	N/A
C-R	AA-MS-5 Access Road	
Gravel Pads		
2	N/A	South Portal Pad
3		South Camp Pad
4		Red Dog Creek (RDC) Laydown Pad
5	Laydown Pad 1	
6	Laydown Pad 2	
7	North Vent Raise Pad	
8	South Vent Raise Pad	
9	North Camp Pad	Main Vent Raise Pad
A	North Portal Pad	N/A
B	Main Vent Raise Pad	
Material Sites		
10	Material Site AA-MS-1	
11	Material Site AA-MS-3	
12	Material Site AA-MS-4	
C	Material Site-AA-MS-5	N/A

2025 Component Labels reference the components depicted on **Figure 1.*

1.2 Location, Access, and Property Description

Red Dog Mine is located on NANA land in the NAB in northwest Alaska. The mine is located 40 miles north of Noatak, 51 miles northeast of Kivalina, and approximately 615 miles northwest of Anchorage. The Anarraaq and Aktigiruq deposits are located on State land northwest of Red Dog Mine (6.2 miles and 7.5 miles, respectively). There is no existing overland access to the exploration area, which is currently accessed primarily by costly helicopter support. TAI proposes constructing a single lane exploration access road (AA-Exploration Access Road). The initial point of the road is at the terminus of the existing fish weir road at the Red Dog Mine, ultimately extending for approximately 9.3 miles north, along Ikalukrok Creek and the West Fork Ikalukrok Creek, to the site of the Main Vent Raise Pad (formerly the North Camp Pad). The proposed South Portal Pad would provide access to Anarraaq and Aktigiruq deposits and would be located approximately five miles northwest of Red Dog Mine operations (approximate milepost [MP] 5.2 of the AA-Exploration Access Road).

The entirety of the AAEP is situated within Township 31 North, Range 18 West, Section 18; Township 31 North, Range 19 West, Sections 1, 12, and 13; Township 32 North, Range 18 West, Sections 18, 19, 30, and 31; and Township 32 North, Range 19 West, Sections 11, 12, 13, 14, 15, 22, 23, 25 and 36 of the Kateel River Meridian (**Figure 2**). The South Portal Pad and portal access would be located within Township 32 North, Range 19 West, Sections 25 and 36.

The AAEP crosses State land (where TAI owns State mining claims [**Appendix A**]) and NANA land. NANA has previously authorized TAI to construct the segments of the AAEP on their land; authorization of the activities in this Plan occurring on NANA lands are in the process of being acquired. Project land status is depicted on **Figure 2**.

The disturbance acreage for the currently authorized PoO totals 182 acres on State and NANA owned lands. The proposed modified PoO would disturb 133.8 acres on State land and 72.7 acres on NANA land, totaling 206.5 acres (**Table 2**).

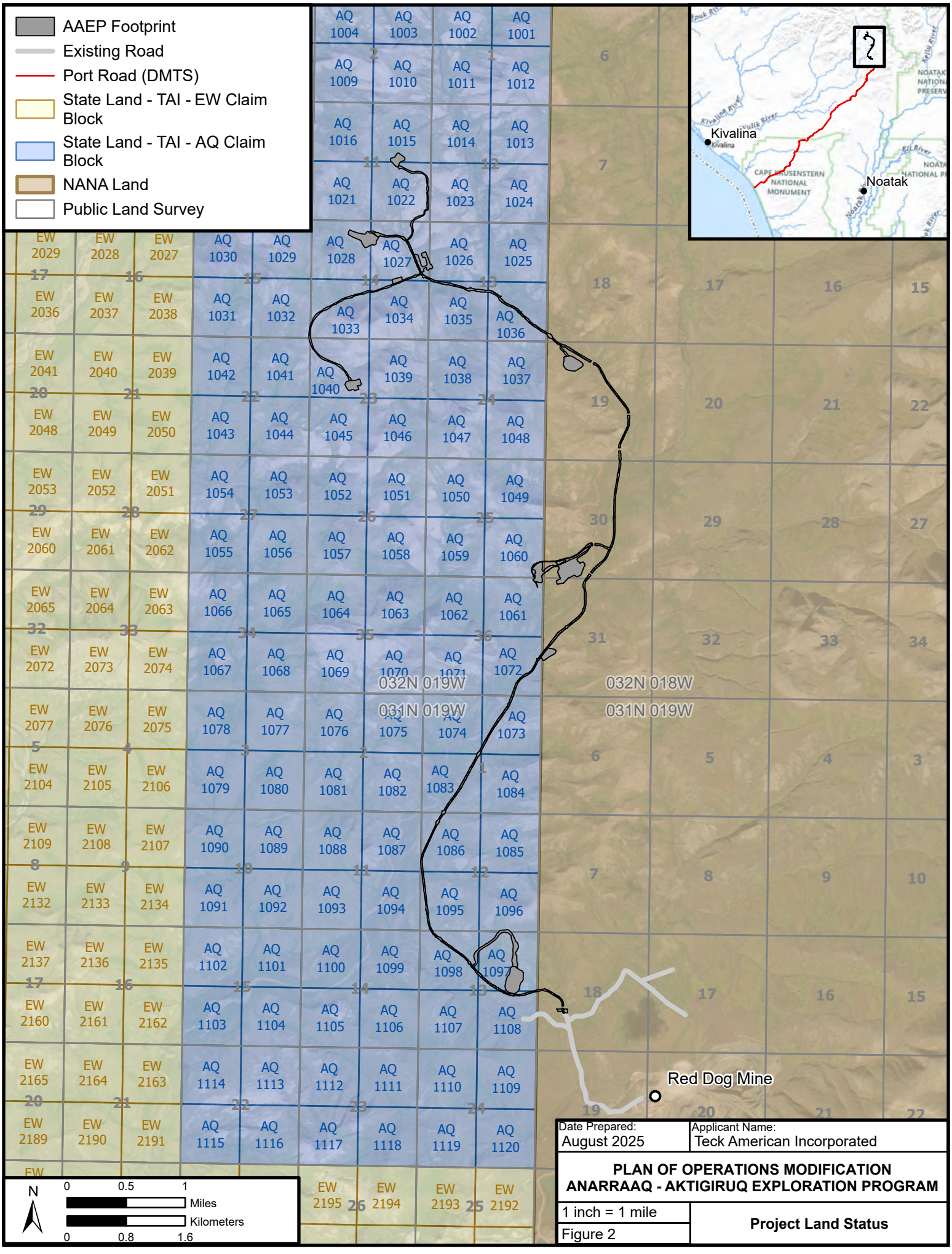

AAEP Footprint
Existing Road
Port Road (DMTS)
State Land - TAI - EW Claim Block
State Land - TAI - AQ Claim Block
NANA Land
Public Land Survey
Kivalina
Noatak
Red Dog Mine
032N 019W
031N 019W
032N 018W
031N 019W
N
0 0.5 1
Miles
0 0.8 1.6
Kilometers
Date Prepared:
August 2025
Applicant Name:
Teck American Incorporated
PLAN OF OPERATIONS MODIFICATION
ANARRAAQ - AKTIGIRUQ EXPLORATION PROGRAM
1 inch = 1 mile
Figure 2
Project Land Status

Table 2. Land Status of Surface Disturbance

2025 Component Label	Modified AAEP Component Name	State Land		NANA Land		Total	
		Acres	Miles	Acres	Miles	Acres	Miles
Roads							
1-Road (R)	AA-Exploration Access Road	47.8	5.6	29.5	3.6	77.3	9.3
2-R	South Portal Connector Road	-	-	1.2	0.2	1.2	0.2
7-R	North Vent Service Road	6.4	0.9	-	-	6.4	0.9
8-R	South Vent Service Road	12.3	1.7	-	-	12.3	1.7
10-R	AA-MS-1 Access Road	12.5	0.8	-	-	12.5	0.8
12-R	AA-MS-4 Access Road	-	-	1.0	0.1	1.0	0.1
	Total Roads	***79.0***	***9.0***	***31.7***	***3.9***	***110.8***	***12.9***
Surface Pads							
2	South Portal Pad	7.3		-		7.3	
3	South Camp Pad	-		25.5		25.5	
4	RDC Laydown Pad	-		1.2		1.2	
5	Laydown Pad 1	6.4		-		6.4	
6	Laydown Pad 2	1.9		-		1.9	
7	North Vent Raise Pad	4.9		-		4.9	
8	South Vent Raise Pad	6.0		-		6.0	
9	Main Vent Raise Pad	12.1		-		12.1	
	Total Surface Pads	***38.7***		***26.6***		***65.3***	
Material Sites							
10	Material Site AA-MS-1	16.0		-		16.0	
11	Material Site AA-MS-3	0.1		4.4		4.5	
12	Material Site AA-MS-4	-		9.9		9.9	
	Total Material Sites	***16.1***		***14.3***		***30.4***	
	Total Modified AAEP	***133.8***		***72.7***		***206.5***	***12.9***

2.0 DESCRIPTION OF OPERATIONS

These are the principal activities included in this PoO:

1. TAI will continue constructing ~9.3 miles of authorized exploration access road (AA-Exploration Access Road) from the fish weir road at the Red Dog Mine and extending along Ikalukrok Creek to the proposed Main Vent Raise Pad site (formerly approved as the North Camp Pad).
2. Constructing ~3.6 miles of road to connecting the AA-Exploration Access Road to portal and camp facilities, vent raises, material sites, and laydown pads;
3. Constructing surface pads that will host the surface facilities (i.e., buildings, fuel and materials storage, etc.) required to support underground exploration;
4. Constructing the portals for declines;
5. Developing up to three material sites (including blasting and crushing) to provide sufficient material for complete road and surface pad construction;
6. Reclamation, including an updated reclamation cost estimate for the reclamation of the additional access roads, surface pads, declines, ventilation raise, and material sites on State mining claims and NANA land.

The AA-Exploration Access Road provides access to Anarraaq and Aktigiruq mineral deposits and all AAEP infrastructure. Additional roads include AA-MS-1 Access Road, South Portal Connector Road, AA-MS-4 Access Road, South Vent Service Road, and North Vent Service Road. Surface pads include RDC Laydown Pad, South Camp Pad, South Portal Pad, Laydown Pad 1, Laydown Pad 2, North Vent Raise Pad, South Vent Raise Pad, and Main Vent Raise Pad. Material sites include Material Site AA-MS-1, AA-MS-3, and AA-MS-4 (**Table 2**).

Road and pad construction will require approximately 989,000 yd^3 of fill which will be obtained from cut sections of the road, material sites developed along the road, and the existing DD-2 material site at the Red Dog Mine. The locations of material sites are illustrated in **Figure 1** and discussed and illustrated in more detail in **Section 2.1.3**.

All personnel working on the initial construction project will be housed in facilities at the Red Dog Mine until the South Camp Pad is occupiable.

2.1 Construction Operations

2.1.1 CONSTRUCTION SCHEDULE

Construction activities are currently focused on advancing the AA-Exploration Access Road while necessary approvals for construction of the South Camp Pad are pending. South Portal Connector Road, the associated bridge, and the South Camp Pad construction will take priority as soon as authorized; construction personnel are housed at existing Red Dog Mine facilities in the interim.

Construction activities began in Q4 2024, with approximately 5.6 miles of the AA-Exploration Access Road complete as of June 2025. Construction of the RDC Laydown Pad, located just south of the RDC bridge near the origin of the AA-Exploration Access Road, was completed in Q1 2025. All roads are surface pads and anticipated to be completed by the end of 2028. Ice bridges were/will-be used to allow access road construction to advance in frozen ground conditions; bridge installation will lag somewhat behind the road construction until spring. Underground exploration and portal decline development will continue through 2030 followed by reclamation and post-closure procedures occurring through 2040[1] (**Table 3**). The reclamation plan is provided in **Appendix C** (SRK 2025).

Table 3. Tentative Construction Schedule

Exploration Ends in 2030 →

Project - AAEP	Project Development and Exploration Period						Reclamation		Post Closure	
Calendar Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2040
Closure Year	-6	-5	-4	-3	-2	-1	1	2	3	10
AA-Exploration Access Road Construction										
Surface Pads Development and Infrastructure										
Underground Exploration and Decline Development										
Remove Underground Utilities and Equipment										
Install Portal Plugs										
Water Treatment (UG management until closure)										
Reclamation - WTP and Surf. Water Mgt. Structures										
Reclamation - Yard and Misc. Surface facilities										
Remove All Surface Structures (buildings)										
Reclamation - Roads and borrow Sites										
BMP and Revegetation Maintenance										
Water Monitoring										
Well Abandonment										

[1] The construction schedule may change subject to weather, equipment availability, timing and duration of spring freshet, permitting delays, or other unforeseen circumstances.

2.1.2 EXPLORATION ACCESS ROADS

The AAEP roads total 12.9 miles and 110.8 acres, of which 9.0 miles and 79.0 acres are located on State land, including [completely or partially] the AA-Exploration Access Road, AA-MS-1 Access Road, South Vent Service Road, and North Vent Service Road The South Portal Connector Road and AA-MS-3 Access Road are located on non-State (NANA) land (**Figure 1**).

The AA-Exploration Access Road and South Portal Connector Road will have a driving surface up to 30 ft wide with wider pullouts located along the AA-Exploration Access Road, to allow passing. Access roads to material sites and service roads to vent raises will have a driving surface up to 20 ft wide and will also utilize the same cut and fill methods employed on the AA-Exploration Access Road. Ditches and other best management practices (BMPs) will be deployed and maintained along all roads to control storm water runoff.

Necessary approvals applicable to proposed components described in this PoO are in the process of being or have been acquired. All necessary approvals for components that are retained from previous plans (authorized components) are in place. Proposed and authorized AAEP roads are described below.

AA-Exploration Access Road

The AA-Exploration Access Road is authorized by ADNR and NANA for construction of approximately 9.3 miles of road extending from the north end of the fish weir road, along Red Dog and Ikalukrok Creeks, to the Main Vent Raise Pad (**Figure 1**). Total surface disturbance authorized for the AA-Exploration Access Road is 77.3 acres; of which 47.8 acres and 5.7 miles will occur on State land.

The AA-Exploration Access Road construction began with snow removal in Q4 2024. Geotextile were/will-be placed where there is evidence of moisture-rich frozen soils that may be subject to thermal instability and settling. TAI anticipates that geotextile will be placed under approximately 50% of the road. Road construction occurs during frozen ground conditions minimizing thermal impacts/melting that would otherwise be associated with summer construction in ice-rich soils. Likely owing to frozen ground conditions, woody organics were/will-be removed with a pass of the dozer and road fill was/will-be placed on the frozen soil and geotextile. As a result, TAI will not be stockpiling significant volumes of organics or topsoil.

An ice road is/will-be used adjacent to the access road to provide two-way access and support construction. The ice road consists of pre-packing existing snow coverage, adding any additional snow necessary to make a level driving surface, then adding water along the ice road alignment to stabilize the surface for driving. Water has/will-be withdrawn from approved TWUAs along the road as the road progresses north away from the Red Dog Mine (**Section 2.2**). In addition to the ice road alignment, temporary ice pads will-be utilized near each of bridge construction sites as laydown yards as the road advances.

The AA-Exploration Access Road utilizes cut and fill methods as illustrated generally in **Figure 3**. Sufficient fill will be placed to build up the road surface to meet the road design specifications. In 2017 and 2018, TAI collected 26 samples for rock characterization studies from proposed road cuts along the road alignment (SRK 2019). TAI anticipates excavating some potentially acid generating (PAG) material along road and pad cuts and is authorized by ADEC to manage those materials in accordance with the approved Construction Rock Handling Plan as described in **Section 2.3**.

Typical construction equipment that will be used for road construction is listed in **Table 4**, as is some of the equipment that would be used in the underground decline construction.

Table 4. Examples of Equipment for Road, Pad, and Underground Construction

Description	Quantity, Model	Description	Quantity, Model
SURFACE		**UNDERGROUND**	
Surface Haul Trucks	4; CAT 772/773	Drills, jumbo	5
Front-end Loader,	2; CAT 988H	Air compressors	6
Front-end Loader, small	1; CAT 966	Pumping stations, water	6 - 10
Rock Truck, medium	1; CAT 740	Muckers/slushers	8
Bulldozer, large	1; CAT D10	Load-haul-dump vehicles	5
Excavator, medium	1; CAT 375	Powder truck, sticks	2
Excavator, large	1; CAT 385	Underground pickup	4-8
Water truck	1; CAT Water	Service trucks,	3-4
Grader, large	1; CAT 16H	Manlifts, underground	3
Vibratory roller	1; CAT CB-10	Light plants/Electrical	2 - 5
Drills/ Compressors	3; Ingersoll-Rand		
Manlift	2		
Welding machines	3, portable		
Heaters	4, portable, diesel-		
Light plants	14, portable		
Pickup trucks	12		
Service trucks	3		
Tire truck	1		
Boom truck	1		
Flatbed truck	1		
Powder truck, slurry	1		
Tractor trailer	1		
Fuel truck	1		

West Fork Ikalukrok Creek will be crossed near MP 8.2 on State land using four large-diameter culverts (two 8-ft diameter primary culverts and two 7-ft diameter overflow culverts). A profile of the West Fork Ikalukrok crossing is shown in **Figure 4**. Additional culverts will be installed to maintain hydrologic connectivity along the AA-Exploration Access Road.

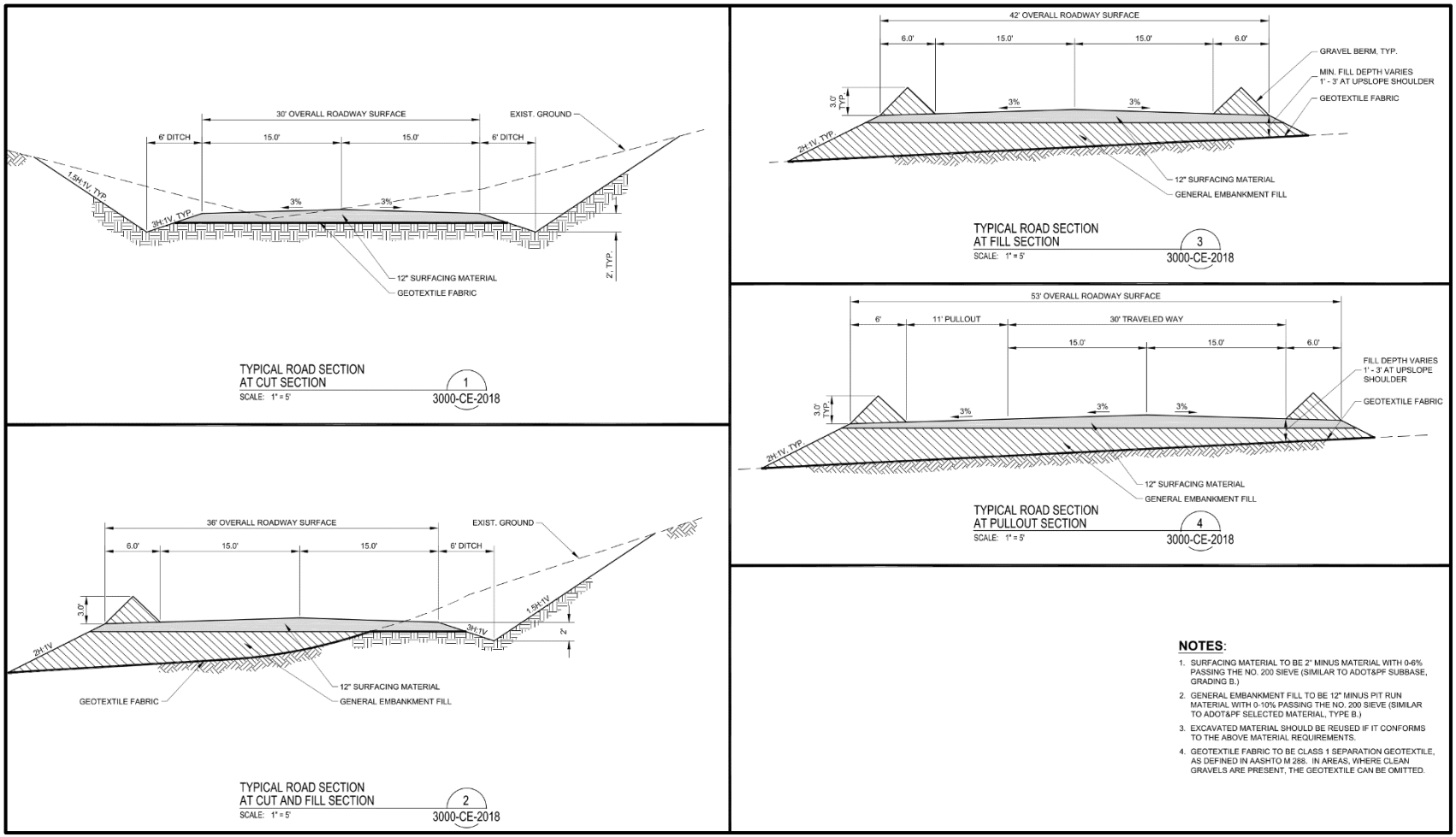


Figure 3. Access Road Typical Cut (top) and Fill (bottom) Sections

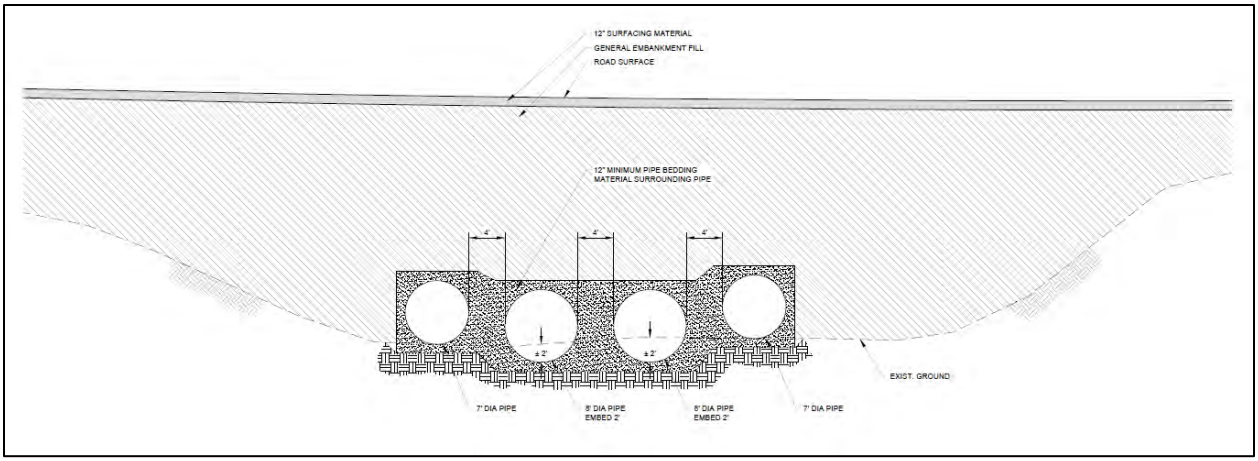


Figure 4. West Fork Ikalukrok Creek Culvert Crossing

All AA-Exploration Access Road bridges (5) are located on NANA land and will be approved by NANA and necessary agencies. Title 16 Fish Habitat Permits were obtained for bridge crossings over fish-bearing streams and remain in effect for the life of the structures (**Section 3.1.7**). A typical bridge section is shown in **Figure 5.**

South Portal Connector Road

The proposed road is located on NANA land and will be approved by NANA and necessary agencies. It would provide access from approximately MP 5.2 of the AA-Exploration Access Road to the South Camp and South Portal Pads. The connector road would total 0.2 miles in length and 1.2 acres of surface disturbance on NANA land (**Figure 6**).

One bridge crossing, Ikalukrok Creek, is planned for the South Portal Connector Road. A Title 16 Fish Habitat Permit will be obtained from ADF&G. Road and bridge construction methods would be consistent with the AA-Exploration Access Road (**Figure 3**, **Figure 5**).

South Vent Service Road

The authorized road will provide access from approximately MP 8.6 of the AA-Exploration Access Road to the South Vent Raise Pad. The service road will total 1.7 miles in length and 12.3 acres of surface disturbance on State land (**Figure 7**).

North Vent Service Road

The authorized road will provide access from approximately MP 8.9 of the AA-Exploration Access Road to the North Vent Raise Pad. The service road will total 0.9 miles in length and 6.4 acres of surface disturbance on State land (**Figure 7**).

AA-MS-1 Access Road

The proposed road would provide access from approximately MP 1.0 of the AA-Exploration Access Road to Material Site AA-MS-1. The access road would total 0.8 miles in length and 12.5 acres of surface disturbance on State land (**Figure 8**).

AA-MS-4 Access Road

The proposed road is located on NANA land and will be approved by NANA and necessary agencies. It would provide access from approximately MP 7.2 of the AA-Exploration Access Road to Material Site AA-MS-4. The access would total 0.1 miles in length and 1.0 acres of surface disturbance on NANA land (**Figure 9**).

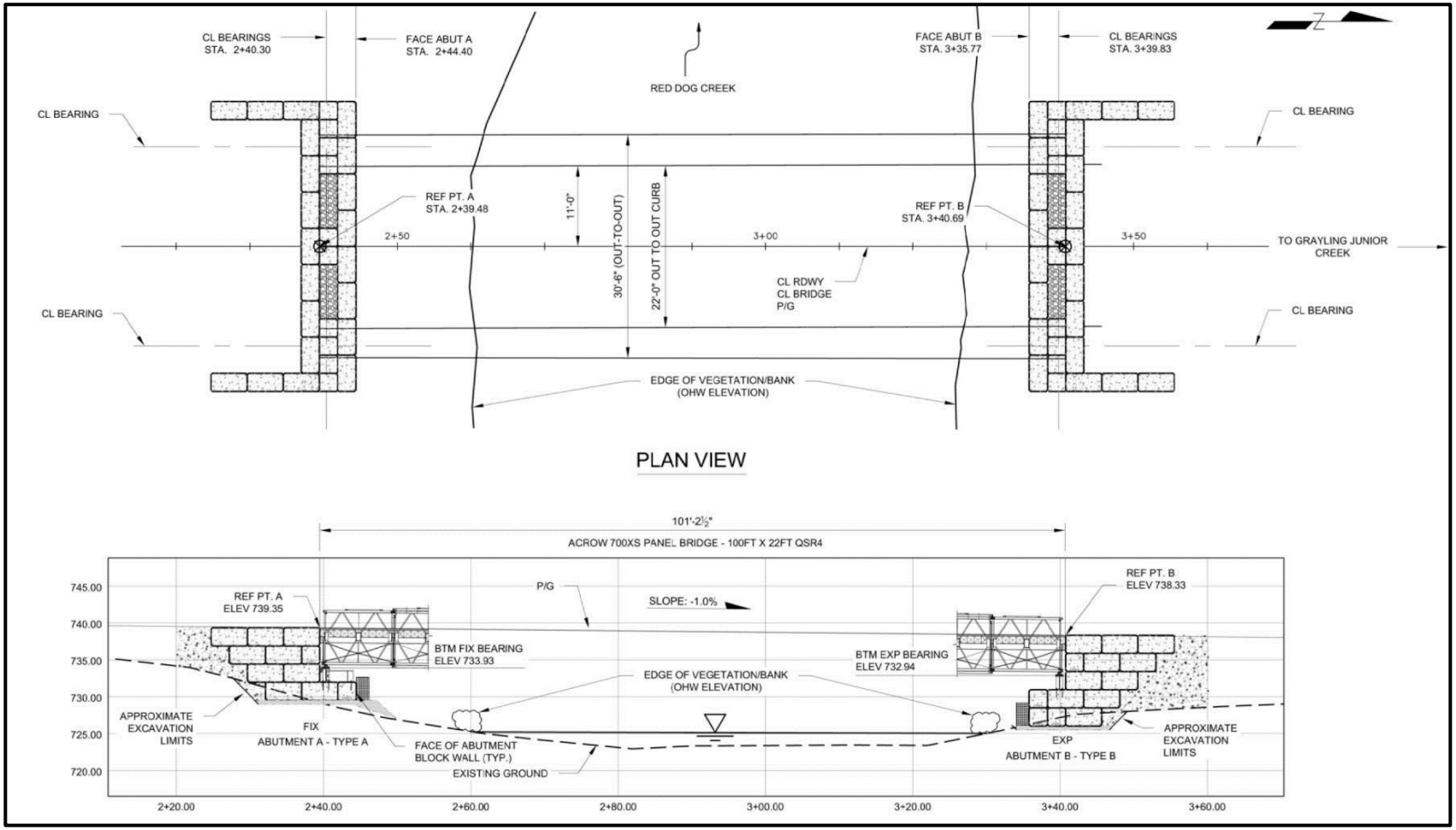
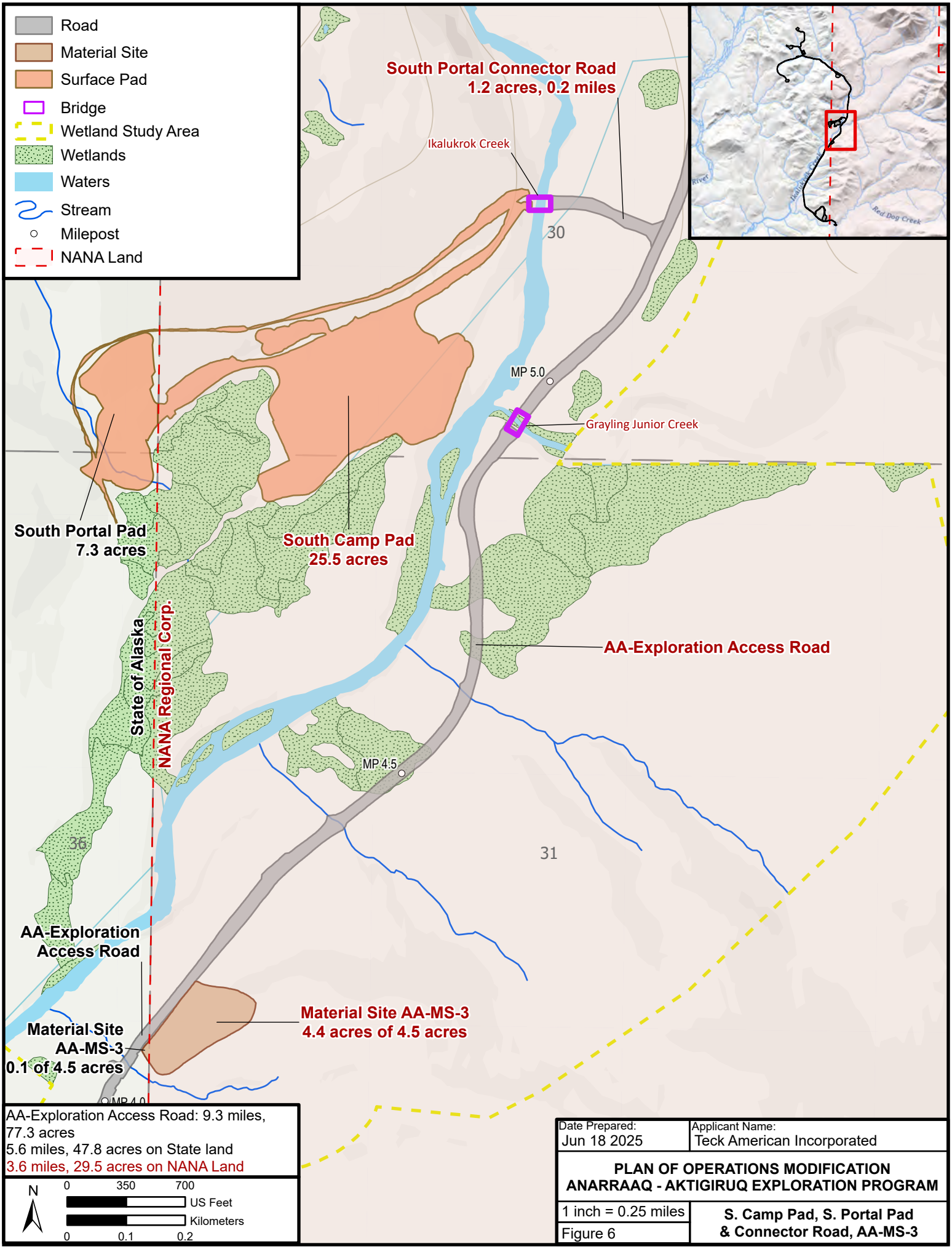
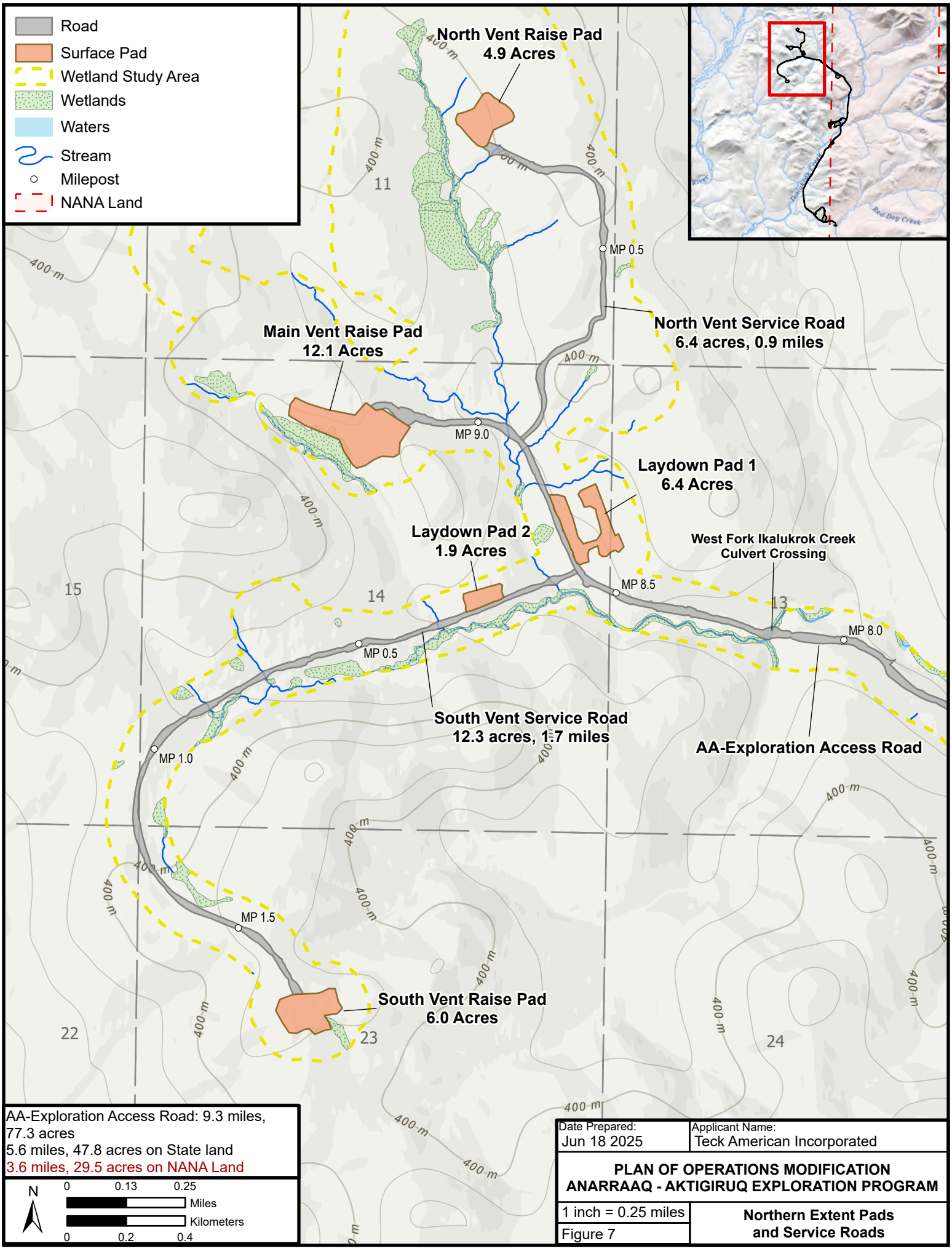
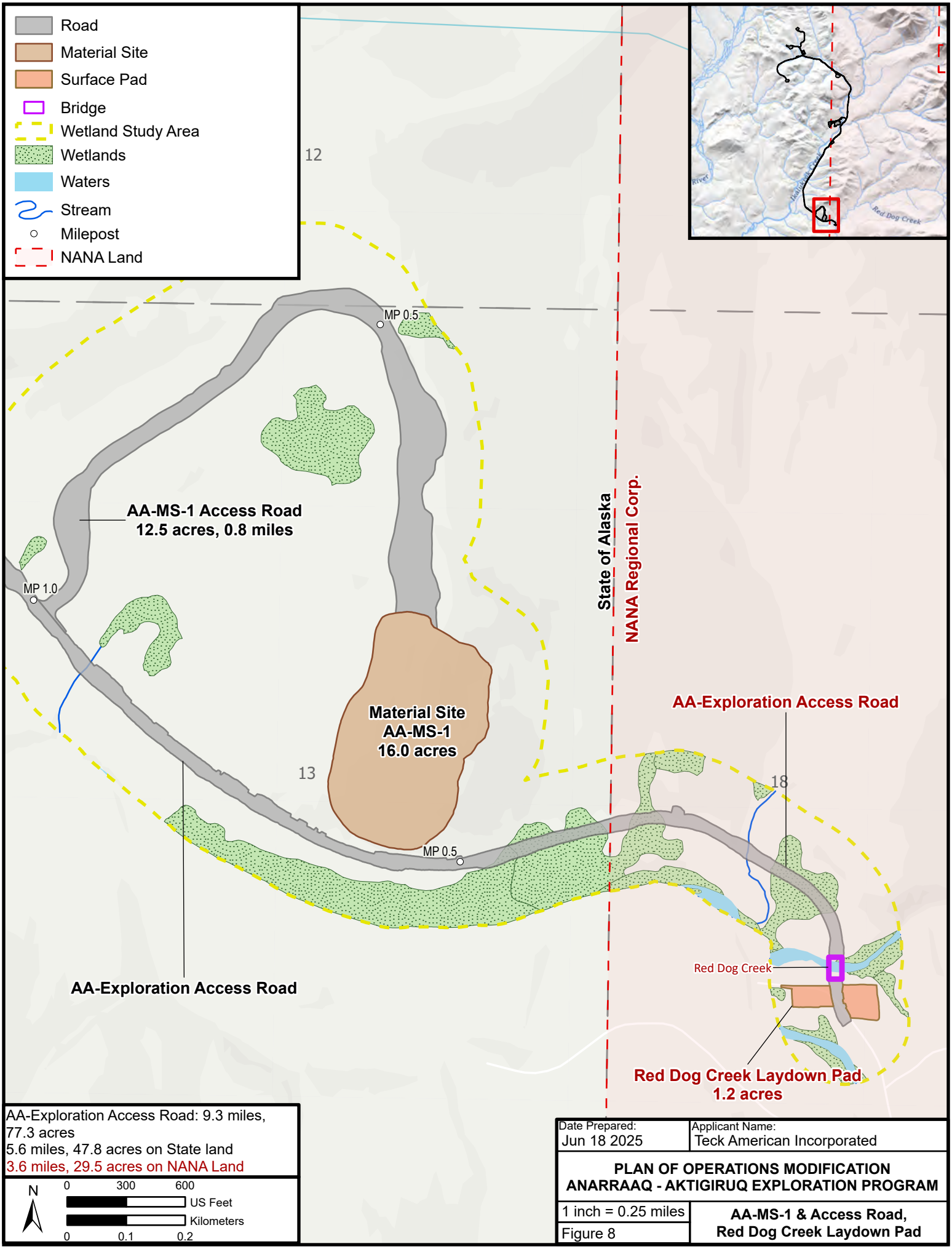
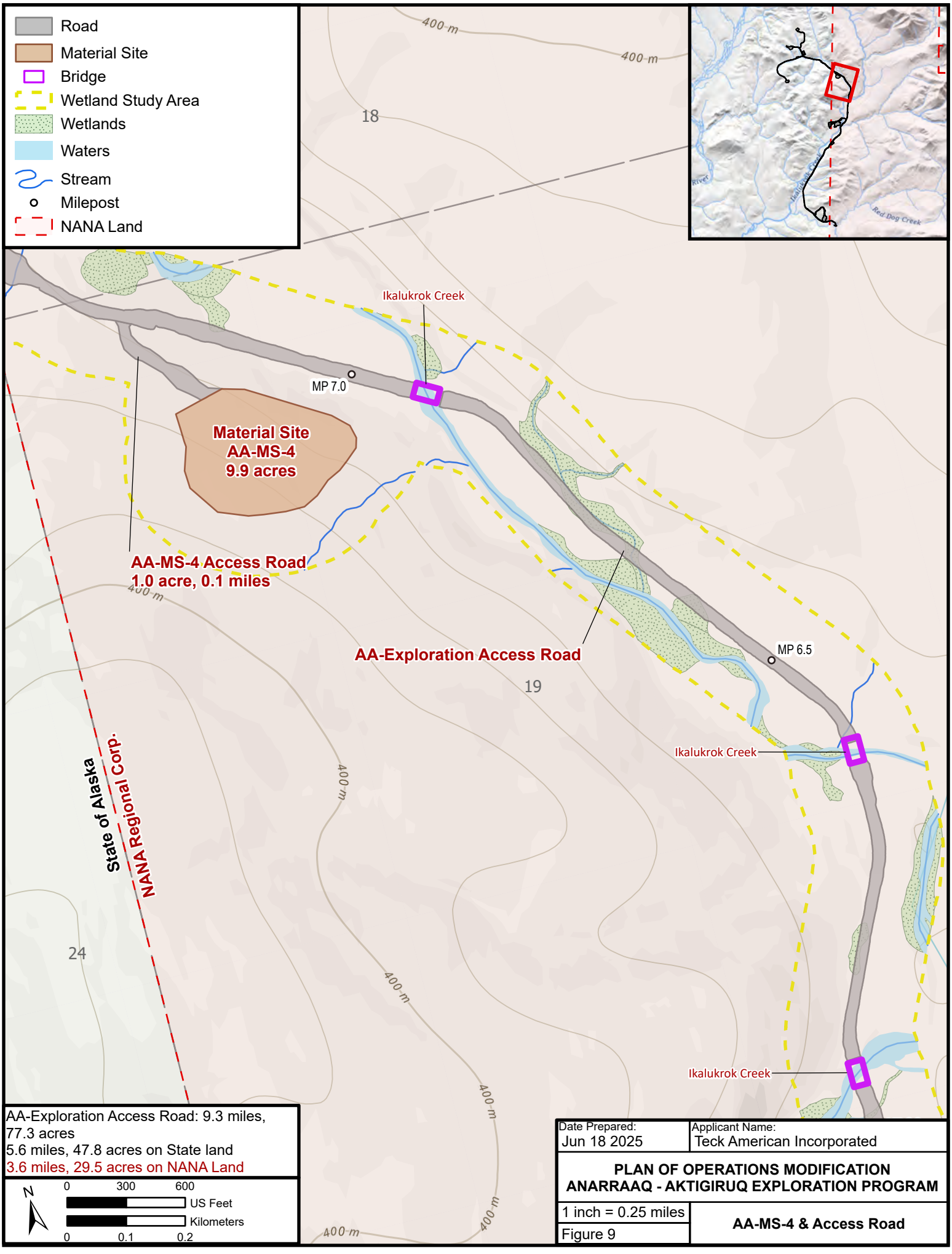


Figure 5. Typical Bridge Details


Road
Material Site
Surface Pad
Bridge
Wetland Study Area
Wetlands
Waters
Stream
Milepost
NANA Land
South Portal Connector Road
1.2 acres, 0.2 miles
Ikalukrok Creek
30
MP 5.0
Grayling Junior Creek
South Portal Pad
7.3 acres
South Camp Pad
25.5 acres
AA-Exploration Access Road
State of Alaska
NANA Regional Corp.
MP 4.5
36
31
AA-Exploration
Access Road
Material Site AA-MS-3
4.4 acres of 4.5 acres
Material Site
AA-MS-3
0.1 of 4.5 acres
MP 4.0
AA-Exploration Access Road: 9.3 miles,
77.3 acres
5.6 miles, 47.8 acres on State land
3.6 miles, 29.5 acres on NANA Land
N
0 350 700
US Feet
Kilometers
0 0.1 0.2
Date Prepared:
Jun 18 2025
Applicant Name:
Teck American Incorporated
PLAN OF OPERATIONS MODIFICATION
ANARRAAQ - AKTIGIRUQ EXPLORATION PROGRAM
1 inch = 0.25 miles
Figure 6
S. Camp Pad, S. Portal Pad
& Connector Road, AA-MS-3


Road
Surface Pad
Wetland Study Area
Wetlands
Waters
Stream
Milepost
NANA Land
North Vent Raise Pad
4.9 Acres
Main Vent Raise Pad
12.1 Acres
North Vent Service Road
6.4 acres, 0.9 miles
Laydown Pad 1
6.4 Acres
Laydown Pad 2
1.9 Acres
West Fork Ikalukrok Creek
Culvert Crossing
South Vent Service Road
12.3 acres, 1.7 miles
AA-Exploration Access Road
South Vent Raise Pad
6.0 Acres
MP 0.5
MP 9.0
MP 8.5
MP 8.0
MP 0.5
MP 1.0
MP 1.5
11
15
14
13
22
23
24
400 m
Red Dog Creek
AA-Exploration Access Road: 9.3 miles,
77.3 acres
5.6 miles, 47.8 acres on State land
3.6 miles, 29.5 acres on NANA Land
N
0 0.13 0.25
Miles
0 0.2 0.4
Kilometers
Date Prepared:
Jun 18 2025
Applicant Name:
Teck American Incorporated
PLAN OF OPERATIONS MODIFICATION
ANARRAAQ - AKTIGIRUQ EXPLORATION PROGRAM
1 inch = 0.25 miles
Figure 7
Northern Extent Pads
and Service Roads


Road
Material Site
Surface Pad
Bridge
Wetland Study Area
Wetlands
Waters
Stream
Milepost
NANA Land
12
MP 0.5
AA-MS-1 Access Road
12.5 acres, 0.8 miles
MP 1.0
State of Alaska
NANA Regional Corp.
AA-Exploration Access Road
Material Site
AA-MS-1
16.0 acres
13
18
MP 0.5
Red Dog Creek
AA-Exploration Access Road
Red Dog Creek Laydown Pad
1.2 acres
AA-Exploration Access Road: 9.3 miles,
77.3 acres
5.6 miles, 47.8 acres on State land
3.6 miles, 29.5 acres on NANA Land
N
0 300 600
US Feet
Kilometers
0 0.1 0.2
Date Prepared:
Jun 18 2025
Applicant Name:
Teck American Incorporated
PLAN OF OPERATIONS MODIFICATION
ANARRAAQ - AKTIGIRUQ EXPLORATION PROGRAM
1 inch = 0.25 miles
Figure 8
AA-MS-1 & Access Road,
Red Dog Creek Laydown Pad


Road
Material Site
Bridge
Wetland Study Area
Wetlands
Waters
Stream
Milepost
NANA Land
400 m
18
19
24
Ikalukrok Creek
MP 7.0
MP 6.5
Material Site
AA-MS-4
9.9 acres
AA-MS-4 Access Road
1.0 acre, 0.1 miles
AA-Exploration Access Road
State of Alaska
NANA Regional Corp.
Red Dog Creek
AA-Exploration Access Road: 9.3 miles,
77.3 acres
5.6 miles, 47.8 acres on State land
3.6 miles, 29.5 acres on NANA Land
N
0 300 600
US Feet
Kilometers
0 0.1 0.2
Date Prepared:
Jun 18 2025
Applicant Name:
Teck American Incorporated
PLAN OF OPERATIONS MODIFICATION
ANARRAAQ - AKTIGIRUQ EXPLORATION PROGRAM
1 inch = 0.25 miles
Figure 9
AA-MS-4 & Access Road

2.1.3 MATERIAL SITE DEVELOPMENT

Pursuant to 11 Alaska Administrative Code (AAC) 96.010 (a)(1)(A) an activity involving the use of explosives and explosive devices, except firearms, requires a permit or other written authorization from ADNR. TAI will use drill and blast techniques to develop the material sites to provide construction material for the roads and surface pads. TAI is hereby formally requests continued authorization to carry out blasting activities as described in this modified PoO, through its approval. Packaged ammonium nitrate/fuel oil (ANFO) bulk explosive will be used as a blasting agent for developing the material sites. The ANFO will be stored at the Red Dog Mine.

ADNR has authorized the development of material sites on State land (AA-MS-1 and AA-MS-5) under Alaska Statute (AS) 38.05.565. This PoO removes Material Site AA-MS-5 from the Plan and requests approval on the one-tenth of an acre of AA-MS-3 on State land. TAI will purchase the material it extracts from material sites on State and NANA land for road and pad construction. Should TAI need to identify alternative material sites prior to or during construction, sites will be approved by ADNR or NANA and appropriate authorizations will be obtained prior to any surface disturbance at the sites.

Based on current road and pad designs, TAI anticipates requiring approximately 989,000 yd^3 of fill to construct the road, berms, and pads and most of this material will be extracted from the material sites. Up to approximately 166,000 yd^3 of material will be excavated from the cut sections of the road. However, some of that will be unusable as fill elsewhere if it is determined to be PAG material when it is excavated and will be managed in accordance with the Construction Rock Handling Plan as discussed in **Section 2.3**. Reclamation costs for the authorized material sites are provided in **Appendix C** (SRK 2025).

Additional material will be obtained from the DD-2 material site at the Red Dog Mine and paid for under an existing material sale contract with the State.

The authorized material sites are all on uplands and the material consists of variably weathered shale, chert, quartzite, limestone, and/or limey sandstone. Material will be blasted, excavated, and some will be passed through a stationary grizzly before being hauled for use in road and pad construction. Some material will also be processed through a crusher. Run-of-mine material will generally be ~12-inch size and used as general embankment fill for road construction. Material Site AA-MS-4 is more siliceous, and the plan is to crush this material and use it to top the general embankment fill to generate a firm and durable driving surface.

In 2017 and 2018, TAI collected surface outcrop grab samples from the general area of the material sites and facility pads and submitted them for Acid Base Accounting (ABA) geochemical analyses. The data indicate the material is non-acid generating (“non-PAG”) to uncertain (**Figure 10**). “Uncertain” means the material falls within a range that it could produce acid depending on some additional screening. That screening is described in the Construction Rock Handling Plan discussed in **Section 2.3**. **Table 5** summarizes the samples collected for ABA analyses from proposed material sites and road cuts in the project area.

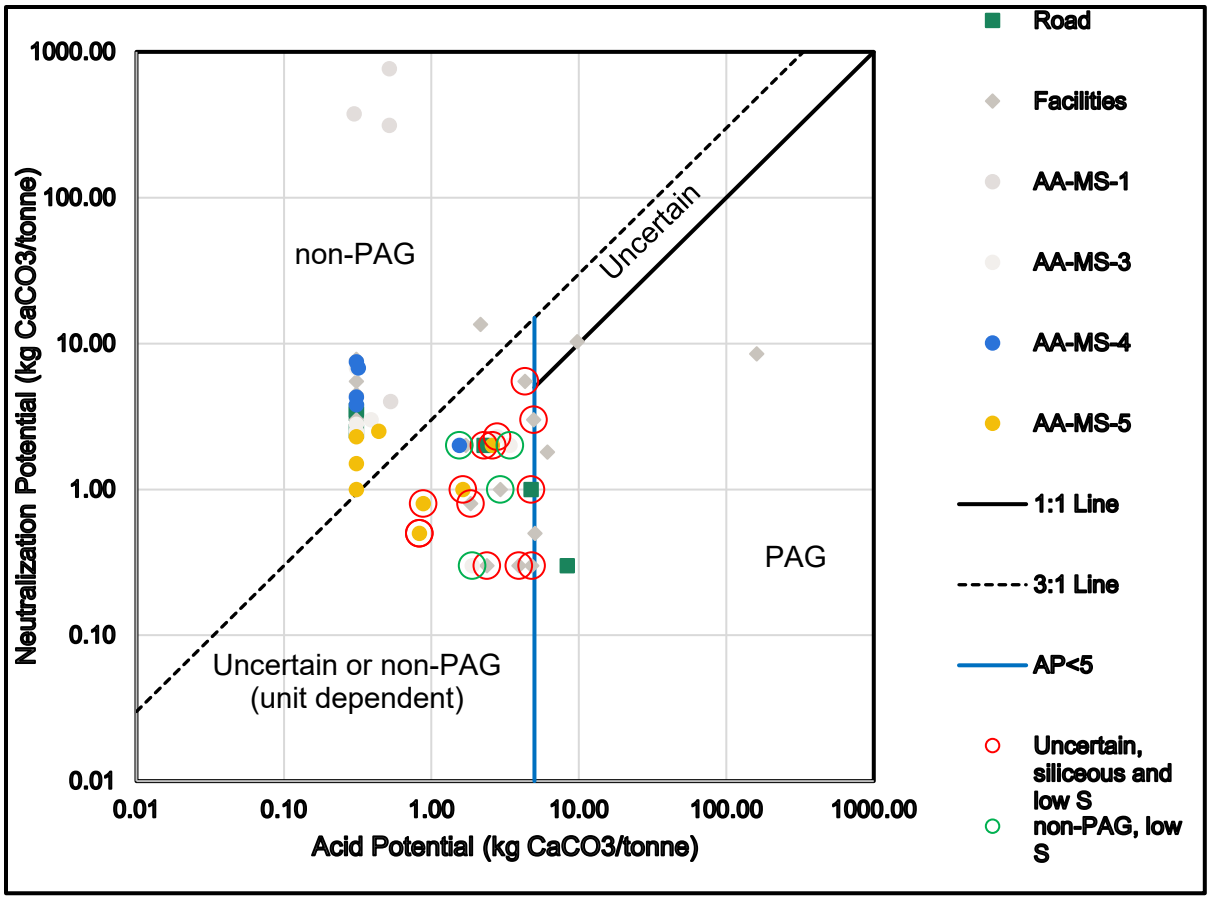


Figure 10. ARD Potential of Surface Rock Samples Classified by Surface Location

Table 5. ARD Classification of Surface Rock Sample

Sample ID	Easting WGS 84 Zone 3 N (m)	Northing WGS 84 Zone 3 N (m)	Stratigraphic Unit	Lithology	Units	Neutralization Potential	Acid Potential	NP/AP	TIC/AP	ARD Classification
						kg $CaCO_3$/T	kg $CaCO_3$/t			
2768209	(m)	7562440	Okpikruak	Sandstone	Outcrop	3.8	0.31	12.16	3.64	non-PAG
2768235	587730	7562445	Okpikruak	Sandstone	Subcrop	2	1.55	1.29	0.29	non-PAG - low S
205253	587846	7562495	Okpikruak	Sandstone	Subcrop	6.8	0.32	21.59	10.82	non-PAG
205254	587939	7562444	Okpikruak	Sandstone	Subcrop	7.5	0.31	24.00	8.73	non-PAG
205255	587772	7562445	Okpikruak	Sandstone	Subcrop	4.3	0.31	13.76	2.18	non-PAG - low S
205244	585585	7565073	Okpikruak	Sandstone	Float	9.5	0.31	30.40	14.55	non-PAG
205211	584244	7562390	Okpikruak	Mudstone	Outcrop	0.50	0.31	1.60	1.45	non-PAG - low S
205245	585466	7565171	Okpikruak	Mudstone	Float	3.80	0.31	12.16	2.18	non-PAG - low S
205250	587112	7563098	Okpikruak	Shale/Mudstone	Subcrop	3.30	0.31	10.56	2.18	non-PAG - low S
8801	584609	7561917	Ipewik	Shale	Drill Core	19	0.31	60.80	122.91	non-PAG
205206	584761	7562042	Ipewik	Mudstone	Outcrop	4	0.31	12.80	3.64	non-PAG
205201	584972	7562065	Middle Otuk	Chert	Subcrop	6.30	1.23	5.12	5.92	non-PAG
205202	584907	7562090	Middle Otuk	Chert	Outcrop	12.50	0.31	40.00	33.45	non-PAG
205203	584734	7562004	Middle Otuk	Chert	Outcrop	8.00	0.31	25.60	26.18	non-PAG
205204	584790	7561953	Middle Otuk	Chert	Outcrop	1.30	3.37	0.39	0.81	Uncertain - low S, but siliceous
205207	584604	7562102	Middle Otuk	Chert	Outcrop	12.00	0.31	38.40	23.27	non-PAG
205208	584643	7562249	Middle Otuk	Chert	Subcrop/Float	12.30	0.31	39.18	36.20	non-PAG
205215	584758	7563357	Middle Otuk	Chert	Float	2.00	1.71	1.17	1.33	Uncertain - low S, but siliceous
205216	584880	7563273	Middle Otuk	Chert	Float	1.00	4.74	0.21	0.53	Uncertain - low S, but siliceous
205234	584932	7564085	Middle Otuk	Chert	Subcrop	7.80	0.31	24.96	16.73	non-PAG
205235	584798	7564261	Middle Otuk	Chert	Subcrop/Float	0.30	2.38	0.13	0.48	Uncertain - low S, but siliceous
205236	584541	7564220	Middle Otuk	Chert	Float	3.00	4.93	0.61	0.92	Uncertain - low S, but siliceous
205238	584624	7564322	Middle Otuk	Chert	Subcrop	5.50	4.32	1.27	1.58	Uncertain - low S, but siliceous
205239	584805	7564372	Middle Otuk	Chert	Outcrop	40.50	0.96	42.10	5.43	non-PAG
8800	584503	7564171	Lower Otuk	Shale	Drill Core	8.5	161.09	0.05	0.08	PAG
205219	585392	7563509	Upper Siksikpuk	Chert	Float	0.3	3.93	0.08	0.12	Uncertain - low S, but siliceous
205223	585864	7564231	Upper Siksikpuk	Silicified shale/Chert	Subcrop	0.5	0.83	0.60	0.82	Uncertain - low S, but siliceous
205224	585777	7564168	Upper Siksikpuk	Silicified Shale	Subcrop/Float	2.5	0.44	5.71	1.04	Uncertain - low S, but siliceous
205225	585868	7564179	Upper Siksikpuk	Chert	Float	1	0.31	3.20	4.36	non-PAG
205227	585982	7564262	Upper Siksikpuk	Silicified shale/Chert	Outcrop	1	1.64	0.61	0.69	Uncertain - low S, but siliceous
205228	585849	7564211	Upper Siksikpuk	Chert	Outcrop	2	2.59	0.77	0.18	Uncertain - low S, but siliceous
205229	585842	7564230	Upper Siksikpuk	Chert	Float	0.8	0.88	0.91	0.77	Uncertain - low S, but siliceous
205231	585721	7564081	Upper Siksikpuk	Silicified shale	Subcrop	1.5	0.31	4.80	2.91	Uncertain - low S, but siliceous
205233	585047	7564012	Upper Siksikpuk	Silicified shale	Outcrop	0.8	1.85	0.43	0.49	Uncertain - low S, but siliceous
205240	585633	7564263	Upper Siksikpuk	Chert	Subcrop/Float	2	2.28	0.88	0.60	Uncertain - low S, but siliceous
205241	585687	7564551	Upper Siksikpuk	Chert	Outcrop	1.5	3.13	0.48	0.36	Uncertain - low S, but siliceous
205242	585677	7564731	Upper Siksikpuk	Chert	Outcrop	0	1.97	0.05	0.23	Uncertain - low S, but siliceous
205243	585769	7564876	Upper Siksikpuk	Chert	Subcrop	1.3	0.63	2.07	1.81	Uncertain - low S, but siliceous
205246	586140	7564762	Upper Siksikpuk	Chert	Subcrop	3.3	0.31	10.56	4.36	non-PAG
205248	586331	7564622	Upper Siksikpuk	Chert	Outcrop	5	0.31	16.00	11.64	non-PAG
205249	586721	7563436	Upper Siksikpuk	Chert	Outcrop	2.5	0.31	8.00	8.00	non-PAG
8799	584503	7564171	Upper Siksikpuk	Chert	Drill Core	13.5	2.16	6.24	7.88	non-PAG
205256	587903	7558343	Upper Siksikpuk	Chert	Outcrop	6.8	0.31	21.76	18.91	non-PAG
2768210	587993	7562687	Middle Siksikpuk	Shale	Outcrop	0.3	2.13	0.14	0.96	non-PAG - low S
2762811	585363	7564079	Middle Siksikpuk	Shale	Outcrop	3.5	0.31	11.20	1.45	non-PAG - low S
2768212	585924	7563993	Middle Siksikpuk	Shale	Outcrop	4.5	0.31	14.40	1.45	non-PAG - low S
205217	585342	7563356	Middle Siksikpuk	Shale	Outcrop	1	2.94	0.34	0.23	non-PAG - low S
205222	585782	7563895	Middle Siksikpuk	Shale	Outcrop	5.5	0.31	17.60	2.91	non-PAG - low S
205226	585869	7564234	Middle Siksikpuk	Shale	Float	2.3	0.31	7.36	2.18	non-PAG - low S
205230	585688	7564014	Middle Siksikpuk	Shale	Subcrop	1	0.31	3.20	2.18	non-PAG - low S
205232	585090	7564002	Middle Siksikpuk	Shale	Outcrop	3	0.31	9.60	3.64	non-PAG
205247	586107	7564736	Middle Siksikpuk	Shale	Subcrop	2.3	0.31	7.36	2.18	non-PAG - low S
8802	585310	7563565	Middle Siksikpuk	Shale	Drill Core	5.3	0.31	16.96	18.91	non-PAG
205257	587869	7558356	Middle Siksikpuk	Shale	Outcrop	2.8	0.31	8.96	2.91	non-PAG - low S
205258	587727	7558415	Middle Siksikpuk	Shale	Float	2.5	0.31	8.00	2.18	non-PAG - low S
205259	587627	7558473	Middle Siksikpuk	Shale	Outcrop	2.5	0.31	8.00	2.18	non-PAG - low S
2768203	587223	7557488	Lower Siksikpuk	Siliceous shale	Outcrop	6.3	3.69	1.71	0.74	Uncertain - low S, but siliceous
2768204	587358	7557466	Lower Siksikpuk	Siliceous shale	Subcrop	2.8	2.00	1.40	0.57	Uncertain - low S, but siliceous
2768205	587358	7557444	Lower Siksikpuk	Siliceous shale	Talus	3.5	2.82	1.24	0.16	Uncertain - low S, but siliceous
2768206	587772	7558497	Lower Siksikpuk	Siliceous shale	Subcrop	2.3	2.79	0.83	0.41	Uncertain - low S, but siliceous
2768208	587979	7558521	Lower Siksikpuk	Shale	Outcrop	0.3	1.89	0.16	0.36	non-PAG - low S
2768207	587808	7558533	Lower Siksikpuk	Chert	Outcrop	2	3.41	0.59	0.20	low S - non-PAG
2768230	584595	7563413	Lower Siksikpuk	Shale	Drill Core	10.3	9.75	1.06	1.89	Undertain
205214	584290	7563173	Lower Siksikpuk	Chert	Outcrop	7.5	4.61	1.63	2.46	Uncertain - low S, but siliceous
205260	587751	7558544	Lower Siksikpuk	Chert	Outcrop	3	0.39	7.69	9.90	non-PAG
205205	584750	7561978	Ikalukrok	Chert	Subcrop	0.30	5.35	0.06	0.17	PAG
205210	584304	7562339	Ikalukrok	Chert	Subcrop	2.80	2.60	1.08	0.96	Uncertain - low S, but siliceous
205212	584202	7562770	Ikalukrok	Chert	Subcrop/Float	1.30	6.64	0.02	0.17	PAG
205213	584318	7562957	Ikalukrok	Chert	Subcrop	1.50	4.03	0.02	0.23	Uncertain - low S, but siliceous
205220	585825	7563778	Ikalukrok	Chert	Float	1.80	6.12	0.29	0.15	PAG
205221	585869	7563665	Ikalukrok	Chert	Float	0.30	4.80	0.06	0.28	Uncertain - low S, but siliceous
205237	584515	7564396	Ikalukrok	Chert	Outcrop	0.50	5.03	0.10	0.18	PAG
205252	587598	7562709	Ikalukrok	Chert	Float	0.30	8.36	0.04	0.08	PAG
2768213	584380	7563391	Ikalukrok	Ssiliceous shale	Outcrop	3.3	3.42	0.97	0.20	Uncertain - low S, but siliceous
205209	584404	7562289	Ikalukrok	Shale	Subcrop	1	4.55	0.22	0.20	non-PAG - low S
205251	587384	7562895	Ikalukrok	Shale	Float	2.5	6.63	0.02	0.10	PAG
205218	585482	7563438	Ikalukrok	Silicified Shale	Outcrop	0.5	12.12	0.01	0.06	PAG
2768201	587479	7554214	Undifferentiated Kogruk	Chert	Outcrop	4	0.53	7.61	32.00	non PAG
205261	587446	7553962	Undifferentiated Kogruk	Chert	Outcrop	375	0.30	1241.91	1158.37	non-PAG
205262	587449	7554077	Undifferentiated Kogruk	Limestone	Outcrop	313	0.52	599.89	562.78	non-PAG
2768202	587471	7554168	Undifferentiated Kogruk	Limestone	Outcrop	764	0.52	1478.97	1405.23	non PAG

AA-MS-1

This authorized site will be located on State land at the end of the AA-MS-1 Access Road, which veers from the AA-Exploration Access Road at approximately MP 1.0. The material has been mapped as limestone of the Kogruk Formation. The entire AA-MS-1 Area was classified as non-PAG material based on mapped Kogruk Formation and the non-PAG low sulfur classification of five ABA samples collected from within the material source area. AA-MS-1 could be developed into a large material site owing to the high quality of the material. The material site totals 16.0 acres on State land. The site is illustrated in **Figure 8**.

AA-MS-3

One-tenth of an acre of AA-MS-3 is proposed on State land; the remaining 4.4 acres are on NANA land and have been approved by NANA and necessary agencies. The material site totals 4.5 acres and will be located at approximately MP 4.2 on the AA-Exploration Access. TAI requests authorization to extract and purchase material from the one-tenth of an acre of AA-MS-3 located on State land.

The material has been mapped as Lower Siksikpuk Formation consisting of shale and chert. The north half of the AA-MS-3 area was classified as having an uncertain acid rock drainage (ARD) potential. Of the three ABA samples collected within, or adjacent to this section of AA-MS-3, one had an uncertain classification and two had a non-PAG classification. The southern half of the AA-MS-3 was classified as non-PAG or an area of geological uncertainty due to the lack of outcrops. Two non-PAG samples were collected from within the material source area boundary and two samples with a non-PAG classification were collected southeast of the material source area. This material site straddles an unnamed stream drainage which may restrict full development of the site. The site is illustrated in **Figure 6**.

AA-MS-4

The authorized material site is located on NANA land and has been approved by NANA and necessary agencies. This authorized site will be located on NANA land at the end of the AA-MS-4 Access Road, which veers from the AA-Exploration Access Road at approximately MP 7.2. The material has been mapped as sandstone/quartzite from the Okpikruak Formation and the ARD potential ranges from non-PAG to uncertain. The five ABA samples collected within the material source area boundary are considered non-PAG. However, there remains some geological uncertainty in the northern portion due to the lack of outcrops. The material site totals 9.9 acres on NANA land. The site is illustrated in **Figure 9**.

2.1.4 SURFACE PAD CONSTRUCTION

The general arrangement of the surface pads is illustrated in **Figure 1** and includes eight surface pads totaling 65.3 acres of surface disturbance; of which 38.7 acres is on State land. Pads will consist of up to 3 ft of general embankment fill from the material sites and capped with resistant material suitable as a driving surface. Fill in wetlands will comply with USACE permit conditions and be filled in frozen ground conditions to avoid potential permafrost issues.

South Camp Pad

The proposed South Camp Pad is located on NANA land (25.5 acres) and will be approved by NANA and necessary agencies. South Camp Pad facilities will include a camp pad with camp buildings to house approximately 250 personnel, as well as WTPs, maintenance, contractor, medical, dining, and recreational facilities. **Figure 11** depicts a conceptual layout of the South Camp Pad and South Portal Pad. Water is to be treated at the on-site WTPs to meet State WQS and then be discharged to Ikalukrok Creek.

Construction of the South Portal Connector Road, the associated Ikalukrok Bridge, and the South Camp Pad will take priority as soon as authorized. Construction personnel are housed at existing Red Dog Mine facilities in the interim.

South Portal Pad

The proposed South Portal Pad is located on State land (7.3 acres) with facilities including a portal pad area with dual portals, a lined waste rock stockpile area, powder magazine, detonator magazine, diesel fuel storage, heaters, compressor and generator, an electrical room, and truck wash (**Table 6**). Construction of the South Portal Pad will commence in conjunction with or following South Camp Pad construction.

Table 6. Tentative List of South Portal Facilities and their Dimensions

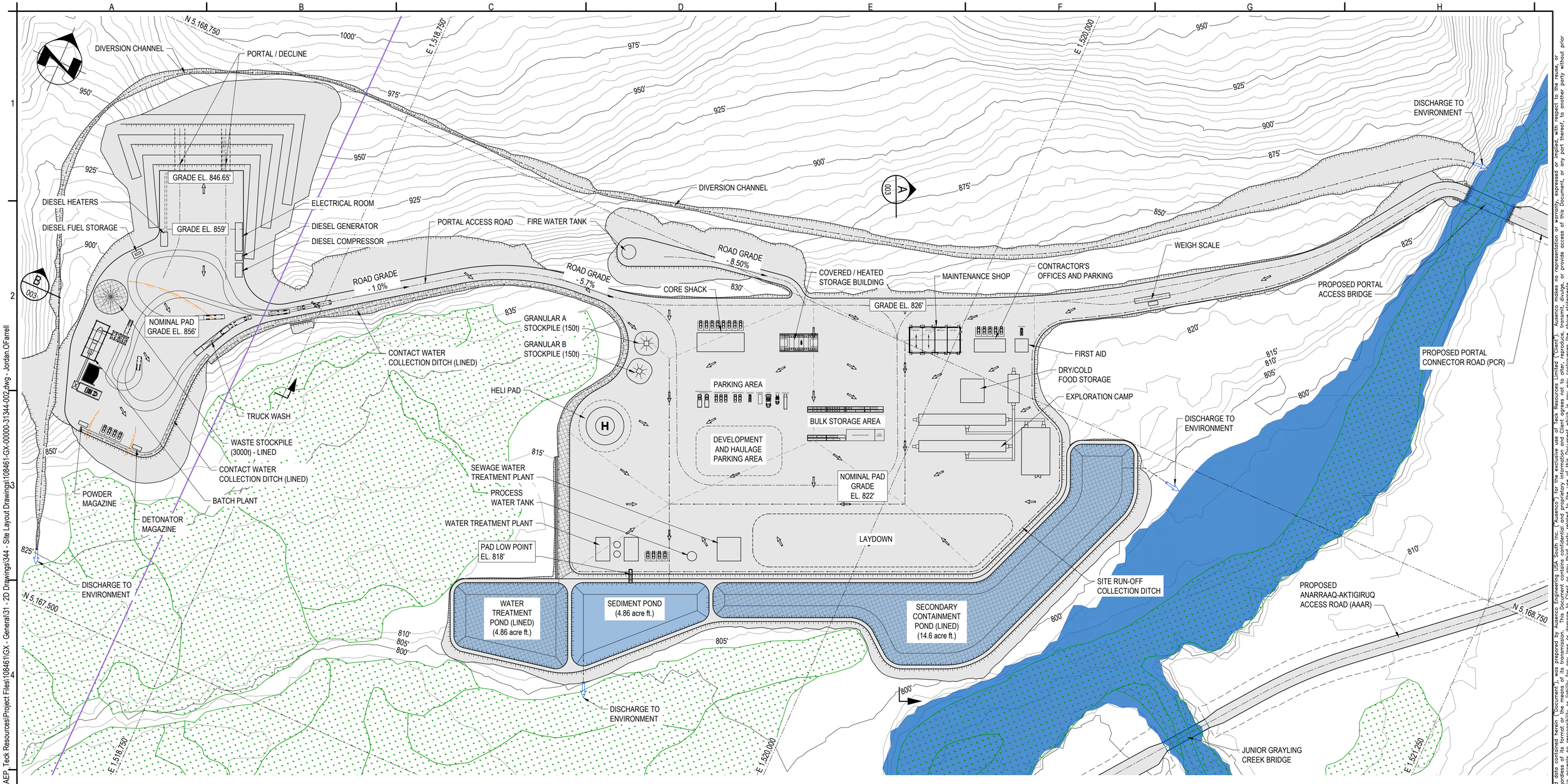
NAME	LENGTH (FT)	WIDTH (FT)	HEIGHT (FT)	AREA (FT^2)
Buildings				
Electrical Room	60.0	15.0	10.0	900.0
Powder Magazine	20.0	8.0	10.0	160.0
Detonator Magazine	20.0	8.0	10.0	160.0
Diesel Heater	TBD	TBD	TBD	TBD
Areas without Buildings				
Portal Entrances (x2)	18.0	18.0		648.0
Waste Stockpile (Lined)	TBD	TBD		TBD
Truck Wash	90.0	11.0		990.0
Diesel Fuel Storage	22.0	14.0		308.0
Diesel Generator	15.0	15.0		225.0
Diesel Compressor	30.0	15.0		450.0

Two northerly oriented portals will be developed on the northwest part of the pad. The declines are planned to be 100 ft apart with connecting crosscuts at 500 ft intervals below ground surface. The declines will be 18 ft x 18 ft each, and approximately 17,500 ft long; declination will be approximately -14.5%. Ramps and underground drill pads will be developed from the terminus of the declines. Shotcrete may be applied to the box cut and underground workings for geotechnical stability. It would be sourced from a commercial batch plant and left in place for closure. Composition of the shotcrete would be adjusted for wallrock composition. Underground activities accessed from the South Portal Pad will include development of the dual portals, underground exploration ramps, drifts, and ventilation shafts, totaling approximately 300,000 ft of exploratory drilling over a multi-year period.

The lined temporary waste rock stockpile has a 3,000-ton capacity, with maximum dwell time for the waste rock of 72 hours. Rock haulage trucks will be loaded with waste/development rock from the portals. All waste rock will be hauled to authorized storage at the Red Dog mine. A truck wash-out will be at the entry to the portal pad. The powder magazine and detonator magazine would likely be situated on the south edge of the pad, separated by approximately 1,000 ft.

The electrical room will be heated with electrical heaters powered by the diesel generator on the South Portal Pad which will also supply power to the South Camp Pad through lines housed in underground conduits. The foundations for areas without buildings will be slab-on-grade or concrete blocks, as required. The concrete will be cement that is resistant to acidic environments, Type 5 or other appropriate types. Facilities with temporary occupancy will be constructed with concrete block foundations; examples include the truck weight scale, detonator magazine, and powder magazine.

Water management systems on the South Portal Pad total 0.7 acres of the 7.3-acre pad area and include diversion channels north and west of the pad and contact water collection ditches along the southern perimeter of the pad. Water collection ditches will drain contact water from the lined waste rock stockpile and truck wash to the WTP on the South Camp Pad. **Figure 11** depicts a conceptual layout of the South Portal Pad and South Camp Pad.



LEGEND:

- WETLANDS
- 1000 YEAR FLOOD EXTENTS
- NANA MINING LEASE BOUNDARY
- SURFACE DRAINAGE FLOW DIRECTION
- DRAINAGE TO ENVIRONMENT

NOTES:

1. PLANT DATUM COORDINATES ARE IN ALASKA STATE PLANE - US SURVEY FT. NAD83 (AK83-7F).
2. LAYOUT WITHIN THE PROPOSED MODIFIED PERMIT BOUNDARY MAY CHANGE.

PORTAL LOCATION - EXPLORATION LAYOUT

1" = 1000'

100' 0 100' 200' 300' 400'

SCALE: 1"=100'

PERMITTING

RESERVED FOR ENGINEER SEAL

Safety In all we do

No	BY	DATE	REVISION DETAILS	CHKD	ENG	APPR
D	JOF	02APR2025	ISSUED FOR PERMITTING	AS	BL	BL
C	JOF	12MAR2025	ISSUED FOR PERMITTING	AS	BL	BL
B	JOF	14FEB2025	ISSUED FOR CLIENT REVIEW	AS	BL	BL
A	JOF	10FEB2025	PRELIMINARY REVISION		BL	

DRAWING No. | REFERENCE DRAWING TITLE

DRAWN	J. O'FARRELL	18DEC2024
CHECKED	A. SMITH	10MAR2025
DESIGNED	J. O'FARRELL	18DEC2024
DES. APPR	B. LARSON	10MAR2025
PROJ APPR		

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CLIENT: TECK RESOURCES LIMITED

TITLE: AAEP PFS
PORTAL - PAD LAYOUT
EXPLORATION PHASE

PROJ No 108461-01 | SCALE AS SHOWN | SIZE D | SHEET 1 OF 1

CLIENT DRAWING No: RDM004-1000-CE-GAD-40002 | REV D

DRAWING No: 108461-GX-00000-31344-002

Aug 06,2025 - 7:39am C:\Aus_DCIACCDocs\Ausenco\108461_Teck AAEP_Teck Resources\Project Files\108461\GX - General\31 - 2D Drawings\344 - Site Layout Drawings\108461-GX-00000-31344-002.dwg - Jordan.OFarrell

Laydown Pads 1 and 2

The authorized Laydown Pad 1 is located on State land at MP 8.7 of the AA-Exploration Access Road and totals 6.4 acres. The authorized Laydown Pad 2 is located on State land at MP 0.2 of the South Vent Service Road and totals 1.9 acres (**Figure 7**). Laydown Pads 1 and 2 are intended for storage of drill core, drilling and mining equipment and other supplies, some of which will be stored in stacked Conex containers. Construction of Laydown Pads 1 and 2 will likely occur in 2028.

Main Vent Raise Pad

The authorized Main Vent Raise Pad (formerly North Camp Pad) is located on State land at the end of the 9.3-mile AA-Exploration Access Road and totals 12.1 acres (**Figure 7**). The Main Vent Raise Pad will have one building to house the fan and other necessary equipment. Construction of the pad will be completed in time to support development of the vent raise, later in the underground exploratory development program.

North and South Vent Raise Pads

The authorized South Vent Raise Pad is located on State land at the end of its 1.7-mile South Vent Service Road and totals 6.0 acres. The authorized North Vent Raise Pad is located on State land at the end of its 0.9-mile North Vent Service Road and totals 4.9 acres (**Figure 7**). The North and South Vent Raise Pads are retained for future use. Construction of the North and South Vent Raise Pads will likely occur in 2028.

Red Dog Creek Laydown Pad

The authorized RDC Laydown Pad is located on NANA land and approved by NANA and necessary agencies. The pad is located at the start of the AA-Exploration Road, just south of the RDC Bridge (**Figure 8**). The pad totals 1.2 acres and is used for road construction storage.

The RDC Laydown Pad was authorized in a Reclamation Plan amendment, dated September 21, 2023 (ADNR 2023).

2.2 Temporary Water Use

TAI and/or its construction contractors are/will-be relying on water application to suppress dust during construction of the access road and surface pads and initially, to construct an ice/snow road and ice road stream crossings at the start of road construction activities. Small volumes of water will also be required for concrete work at the bridge abutments. Water will be sourced from one or more streams along the access road, or Bons Reservoir. In addition to continued use of existing authorizations, TAI has obtained TWUAs for the AAEP, outlined in **Appendix B.** Existing TWUAs from ADNR include water withdraw from Bons Reservoir, RDC, Ikalukrok

Creek, and two tributaries to Ikalukrok Creek along the proposed access road. Additional TWUAs have-been/will-be obtained for stream diversion and culvert installations.

2.3 Construction Rock Management

In the process of constructing the access road and pads, and developing the material sites, TAI will identify, segregate, and manage PAG rock. PAG is widespread in the region owing to the intrinsic characteristics of bedrock. The following discussion describes what BMPs are/will-be applied that will allow TAI to proceed with construction activities while managing PAG and being protective of the environment.

The BMPs described below are summarized from the *Anarraaq and Aktigiruq Exploration Program Revised Construction Rock Handling Plan* (TAI 2022). The plan was initially approved by ADEC in February 2019 and TAI submitted an amendment to the plan in January 2022 reflecting minor modifications to the access road alignment but preserving the construction rock characterization and segregation procedures. TAI received approval of the amended plan prior to initiating road construction.

TAI has identified the geological units at material sites, along cut segments of the proposed roads and at the pads where bedrock will be blasted and removed to achieve the design grade. Those cut segments have been compared with TAI's regional geologic map and the locations of geochemical samples collected in 2017 and 2018 to identify cuts that have the potential to produce PAG rock when they are excavated.

TAI will implement the Construction Rock Handling Plan with the objective of managing excavated rock during construction from all areas where bedrock is excavated. The following BMPs are from the TAI Construction Rock Handling Plan:

- A trained geologist will visually examine the bedrock cut material and decide whether the material is suitable for construction (i.e., non-PAG) based on the following:
    - Once "bedrock" is exposed in the excavation the geologist will examine it and confirm it corresponds to the recognized geologic units in the maps provided in the construction rock handling plan (typically should agree with map). If the geologist determines the bedrock is not part of the geologic unit assigned to it on the ARD Classification map (unit uncertainty), or the unit assigned has uncertainty in the ARD classification (geochemical uncertainty), then the ARD classification will continue with the steps described below.
        - The geologist will examine hand samples from the bedrock cut and visually estimate the sulfide types (i.e., pyrite, galena, sphalerite, pyrrhotite) and abundance (%) of each.
        - The geologist will use the portable x-ray diffraction (pXRF) instrument to test for Sulfur as Fe-sulfide and acid potential (AP) from at least five fresh bedrock surfaces within the excavation within a 25m^2 area. The pXRF will be

pre-programmed for the rock types present and the calculation process for Fe-sulfide and AP is automated.

- The geologist will use dilute (10% HCl) to perform fizz tests on the same bedrock surfaces for the presence of carbonate and describe the effervescence as weak or strong.
- The geologist will use this information, and criteria provided in the construction rock handling plan to assign the rock as either PAG or non-PAG.

- Road cut and portal material designated as PAG will be segregated, removed from the cut and hauled to a temporary storage area prior to final disposal. All waste rock will be hauled to authorized storage at the Red Dog mine.
- For PAG encountered on pads, the material may be removed or may be used as internal fill in the same pad if placed more than 100 ft inside the designed edge of the pad and covered with at least 3 ft of clean fill as part of the pad construction.
- PAG identified at material sites will be disturbed as little as practicable and left at the material sites.
- Road cut material designated as non-PAG material is suitable for use for all aspects of road and pad construction.

2.4 Storm Water Management

During the road and surface pad construction, storm water is/will-be managed in accordance with ADEC Multi-Sector General Permit (MSGP) for Storm Water Discharges Associated with Industrial Activities (2020 MSGP, Alaska Pollutant Discharge Elimination Program [APDES] General permit number AKR060000, authorization number. AKR06AF84). Storm water management will be part of the construction contractor's contractual obligation with TAI. In advance of yearly start up the construction contractor will review and revise as necessary the existing Storm Water Pollution Prevention Plan (SWPPP) submitted to ADEC by TAI as part of the Notice of Intent (NOI) for coverage under the MSGP (revised and re-submitted June 2020 for the 2020 MSGP).

The construction contractor(s) will be responsible for all aspects of storm water management during the construction period. Storm water BMPs required for road construction that may include settling basins, velocity dissipaters, silt fences, wattles, etc., will be constructed, installed, and maintained by the contractor. After construction, TAI will assume management of the BMPs and overall management of storm water.

2.5 Fuel Management

Fuel for the access road construction activities will be sourced from bulk storage at the Red Dog Mine. Spill prevention and response for fuel storage and handling at the Mine is described in the

Red Dog Mine Spill Prevention, Control, and Countermeasure (SPCC) Plan, authorized by the Environmental Protection Agency (EPA), and the Oil Discharge Prevention and Contingency Plan (ODPCP), authorized by ADEC.

Fuel storage and handling for road construction is/will-be managed in accordance with an SPCC Plan prepared by TAI. During road construction, fuel sourced from Red Dog Mine bulk storage will be hauled in fuel truck(s) directly to the equipment in the field for refueling. A temporary fuel storage tank will be placed at a practical location along the access road and the fuel haul truck will refuel construction equipment along the road. Once the South Portal Pad and South Camp Pad are constructed, slab-on-grade containment facilities will be constructed for fuel tanks at the South Portal. These containments will comply with ADEC requirements for above-ground fuel storage tanks. The TAI construction SPCC Plan will be appropriately certified and implemented prior to fuel storage in regulated quantities at the road construction or Red Dog Mine.

2.6 Minimization of Fish and Wildlife Impacts

Regulation 11 AAC 86.800(b)(9) requires that a PoO describe the actions taken to avoid or minimize detrimental effects on fish and wildlife and their habitats.

TAI has taken several steps to minimize these impacts. Teck Alaska, owner and operator of the Red Dog Mine, has engaged ADF&G for more than 20 years in the mine area, including Ikalukrok Creek, to study the distribution and health of aquatic systems including anadromous and resident fish, aquatic invertebrates, and periphyton. To avoid or minimize detrimental effects on fish and fish habitat, TAI will install six steel span bridges where the AA-Exploration Access Road (5) and South Portal Connector Road (1) cross large streams, including the first three crossings of the AA-Exploration Access Road (RDC, Grayling Jr. Creek, and the first Ikalukrok Creek crossing) and the Ikalukrok crossing on the South Portal Connector Road where the streams are known to support Arctic Grayling and Dolly Varden. West Fork Ikalukrok Creek is crossed at MP 8.2 and is not fish-bearing; the large stream crossing will be constructed using fill and two 8’ culverts with two 7’ overflow culverts (**Figure 4**).

Bridge construction was/will-be during frozen ground conditions and the bridge abutment construction will be above ordinary high-water without modifying the natural stream channels. The use of the bridges, rather than culverts, on fish-bearing stream crossings will avoid effects to natural stream channels and allow fish passage for the duration of the AAEP. ADF&G reviewed the bridge designs of the bridges across fish bearing streams as part of the Title 16 permitting review (**Section 3.1.7**).

TAI has collaborated with the Red Dog Mine environmental staff to develop procedures for AA-Exploration Access Road users to minimize impacts to caribou from vehicular traffic on the road. The draft caribou road procedures are included in **Appendix D.** The Red Dog Mine has developed a similar plan for use along the DeLong Mountain Transportation System road to the port, which includes temporary road closures or halted traffic to accommodate caribou

movements. The Red Dog Mine caribou plan served as the basis for AA-Exploration Access Road caribou procedures.

By shifting to the proposed South Portal from the approved North Portal location, TAI has designed the project to reduce impacts to wildlife and fisheries. There will be reduced risks from vehicle impacts with wildlife due to less traffic to the northern area of the AAEP, reduced risk of spills into the waterways and wetlands, and reduced noise and visual effects to the area.

Migratory birds nest in the project area. TAI recognizes it has obligations to avoid disturbance and taking of Bald Eagles, Golden Eagles, and migratory birds under the various acts that protect these species (**Section 3.2.3**, **Section 3.2.4**). The U.S. Fish and Wildlife Service (USFWS) will be consulted, and guidance adhered to.

In 2018, as part of the initial permitting process for the CWA Section 404 permit (**Section 3.2.1**), the USACE consulted with the USFWS about compliance with the Endangered Species Act (ESA; **Section 3.2.5**). USFWS provided informal consultation under the ESA that there are no threatened or endangered species in the project area and USFWS did not expect project-related activities to adversely impact listed species. The USFWS mapper was consulted again in 2025 to assess proposed project footprint changes, and no threatened or endangered species reside in the modified AAEP (USFWS 2025, Stantec 2025).

2.7 Request to Restrict Public Access

TAI requests that the Director of ADNR DMLW allow TAI to maintained restricted public access to the AA-Exploration Access Road for public safety per 11 AAC 86.800(b)(12) which requires an applicant to include such a request for any site the operator (applicant) wants the Division to close to public access to protect public safety or to prevent unreasonable interference with the rights of the operator. Heavy equipment operations, diesel air emissions, and the storage and use of explosives on the surface warrant restriction. The risk to public safety from TAI operations started with the initiation of construction activities and continues for the life of this Project as TAI constructs surface facilities and proceeds with underground exploration. The Director has the authority to allow this public access restriction under 11 AAC 86.145(a)(1).

3.0 REGULATORY REQUIREMENTS

3.1 State of Alaska Regulations

3.1.1 REGULATIONS FOR SURFACE USE OF MINING CLAIMS

The following is a discussion of the regulations that apply to allowable surface uses of the State mining claims and the approvals necessary for them that apply to this PoO.

According to 11 AAC 86.145(a)

(1) A (mining claim) locator does not have exclusive use of the surface of the location. A locator may use the surface of the location only to the extent necessary for the prospecting for, extraction of, or basic processing of mineral deposits. A locator may not restrict public access to or other uses of the surface unless approved in writing by the director. The director may allow the locator to restrict public access or other surface uses of the location only to protect public safety or prevent unreasonable interference with the rights of the locator.

(2) The building, placing, or use of surface structures or other surface improvements, including airstrips and roads, within the boundaries of a mining property must be approved by the director in writing through a plan of operations, land use permit, or other written authorization. The director will only approve surface structures or other surface improvements that are necessary to carry out authorized operations. Factors to be used by the director in approving the surface structures, other surface improvements, or uses include access to the property, remoteness of location, security of the operations, planned level of operations, existing authorized surface uses, and the current level of activity.

TAI is requesting the Director [of the ADNR DMLW] allow TAI to maintain restricted public access to the roads and surface facilities of this Project for their safety per 11 AAC 86.800(b)(12). Heavy equipment operations, diesel air emissions and use of explosives on the surface warrant such a restriction. The Director is given the authority to allow this access restriction under 11 AAC 86.145(a)(1).

Regulation 11 AAC 86.145(a)(2) is the legal underpinning for this PoO. This Plan is being submitted to meet the requirements of this regulation by obtaining the approval of the director, in writing, for all the modifications proposed on TAI State mining claims in the PoO.

According to 11 AAC 96.010(a)(1)(A), an activity involving the use of explosives and explosive devices, except firearms, requires a permit or other written authorization. TAI anticipates using explosive to quarry road construction material from at least three material sites and may require explosive for some of the road cut construction. TAI is applying for written authorization for continued use of explosives for these purposes through the approval of this PoO.

3.1.2 MATERIAL SALES STATUTES

ADNR has authorized the development of material sites AA-MS-1 and AA-MS-5 under AS 38.05.565. This PoO removes Material Site AA-MS-5 from the Plan and requests approval on the one-tenth of an acre of AA-MS-3 on State land. The statute allows ADNR to dispose of materials from sources or sites to a holder of a permit, land lease, or right-of-way issued by the department. TAI will be required to pay for the materials, likely at the same yardage rate Teck Alaska, Inc. currently pays for materials it extracts from MS-DD-2 at the Red Dog Mine.

3.1.3 TEMPORARY WATER USE REGULATIONS

Pursuant to 11 AAC 93.035 (a)-(b) and 11 AAC 93.220, a Temporary Water Use Authorization must be received from ADNR prior to:

(1) the consumptive use of more than 5,000 gallons of water from a single source in a single day; or
(2) the regular daily or recurring consumptive use of more than 500 gallons per day (gpd) from a single source for more than 10 days per calendar year; or
(3) the non-consumptive use of more than 30,000 gallons per day (0.05 cubic ft per second) from a single source; or
(4) any water use that may adversely affect the water rights of other appropriators or the public interest.

TAI and/or its construction contractor(s) will be relying on the application of water for ice road construction and dust suppression during construction and operation of the AAEP roads, pads, and material sites. Water will be sourced from streams along the road alignment. TAI will apply for additional TWUA from ADNR in addition to currently active TWUAs. The volume of water that may be withdrawn will be specified in TWUA application(s) rather than in this document.

3.1.4 PLAN OF OPERATIONS REGULATIONS

According to 11 AAC 86.800, an approved PoO can take the place of a land use permit or a miscellaneous land use permit that would be required under Title 11 for unleased State lands. The lands described in this PoO are TAI owned and operated State mining claims, or private (NANA) land. Per 11 AAC 86.800(f) - For the operator's convenience, the proposed PoO may include information needed to apply for approvals from other departments or local and federal agencies under other applicable laws and regulations, such as effects of the operation on air and water quality, disposal of toxic wastes, effects on navigation, and effects on anadromous fish habitat. In accordance with 11 AAC 86.800(b), the plan must show how the operator proposes to comply with performance standards, stipulations, or conditions applicable to the prospecting permit or lease. The proposed PoO must address the areas to be mined, location and design of settling ponds, tailings disposal, overburden storage, permanent or temporary diversions of water, access routes, reclamation plans, and other actions necessary to conduct

the operation. The plan must include statements and maps or drawings setting out the following, as applicable:

(1) the sequence, schedule, and duration of the proposed operations;
(2) size and purpose of the operations;
(3) number of pieces of equipment and people working on the program;
(4) amount of material to be handled, processed, or removed, and how the material will be processed;
(5) method of tailings disposal;
(6) area of timber to be cleared, amount to be used, and clearing methods;
(7) overland access routes to be used, and whether new roads, landing strips, or other new transportation facilities will be needed;
(8) reclamation that will be carried out, including a timetable for each step in the reclamation, an estimate of the cost, and a description of the measures to ensure that all debris is disposed of in a sound manner;
(9) the actions to be taken to avoid or minimize detrimental effects on fish and wildlife and their habitats;
(10) amount and source of water to be used;
(11) location and size of camp facilities;
(12) any site the operator wants the division to close to public access to protect public safety or to prevent unreasonable interference with the rights of the operator;
(13) how the operator's plans for compliance with other applicable laws and regulations, including size and location of required facilities or improvements, will affect resources under the jurisdiction of the department; and
(14) any additional information required by the director to assist in evaluating the proposed plan of operations.

All of the above information, applicable to the proposed project, is addressed in this Plan. As this Plan does not propose any mining, and because there is no timber in the Project area, TAI submits that 11 AAC 86.800(b)(5), and (6) are not applicable and are not addressed in this Plan. In addition, withdrawal of water is authorized under Temporary Water Use Authorizations from ADNR-Water Resources Section.

3.1.5 RECLAMATION PLAN AND RECLAMATION BONDING STATUTES AND REGULATIONS

In addition to the requirement in 11 AAC 86.800(b)(8) that a PoO must include information (statements, maps, and drawings) describing the reclamation that will be carried out, including a timetable for each step in the reclamation, an estimate of the cost, and a description of the measures to ensure that the all debris is disposed of in a sounds manner, ADNR also regulates project reclamation planning and the requirement for financial assurances (Reclamation Bonding) under AS 27.19 and 11 AAC 97. Specifically,11 AAC 97.200 states that reclamation must result in disturbed surfaces to be left in a stable condition, and defines stable condition as follows:

"…a stable condition that 'allows for the reestablishment of renewable resources on the site within a reasonable period of time by natural processes' means a condition that can reasonably be expected to return waterborne soil erosion to pre-mining levels within one year after the reclamation is completed, and that can reasonably be expected to achieve revegetation, where feasible, within five years after the reclamation is completed, without the need for fertilization or reseeding." (11 AAC 97.200).

11 AAC 97.210 addresses the removal of buildings, debris, and structures on state land, including the option of leaving buildings and structures if the surface owner or land manager approves it. 11 AAC 97.220 requires openings of all shafts, adits, tunnels, and air vents to underground mine workings shall be stabilized and properly sealed to protect the public, wildlife, and the environment. 11 AAC 97.240 requires a miner shall reclaim a mined area that has potential to generate acid rock drainage (acid mine drainage) in a manner that prevents the generation of acid rock drainage or prevents the offsite discharge of acid rock drainage. Additional requirements for the reclamation plan are prescribed in 11 AAC 97.300-350.

Reclamation bonding is regulated under 11 AAC 97.400 and requires that miners either:

(1) participate in the statewide bonding pool under 11 AAC 97.425;
(2) post a performance bond with the commissioner to ensure complete compliance with AS 27.19, this chapter, and the approved reclamation plan, consisting of either
    (A) a corporate surety bond under 11 AAC 97.405; or
    (B) a personal bond accompanied by a letter of credit, by a certificate of deposit, or by a deposit of cash or gold, under 11 AAC 97.410;
(3) post a bond or financial guarantee with another government agency to satisfy that agency's reclamation related bond requirements if, in a cooperative management agreement with that agency, the commissioner has determined that the agency's bond requirements are at least as effective as those of AS 27.19 and that requiring another bond would be unnecessary; or
(4) post a general performance bond that
    (A) is written in favor of an agency of the State of Alaska;
    (B) requires reclamation to standards no less effective than those of AS 27.19 and this chapter;
    (C) is in an amount no less than $750 per acre of mined area or area to be mined;
    (D) remains in effect until the mined area is reclaimed to standards no less effective than those of AS 27.19 and this chapter; and
    (E) requires that, if the bond is liquidated, proceeds in the amount of $750 per acre of mined area will be paid or reserved exclusively for the purpose of reclamation until all mined areas are reclaimed to standards no less effective than those of AS 27.19 and this chapter.

Another option for meeting financial assurance obligations for reclamation is the State mine reclamation trust fund established under AS 37.14.800. This is a State-managed trust fund

companies can contribute to as a means of later withdrawing funds to meet their reclamation obligations. Currently no active mines participate in the trust fund.

This PoO includes a Reclamation Plan (SRK 2025; **Appendix C**) which meets the regulatory requirements for a Reclamation Plan described here. The Reclamation Plan is described in more detail in **Section 4.0** and included in its entirety in **Appendix C** (SRK 2025).

3.1.6 STORM WATER REGULATIONS

Storm water is regulated by ADEC under the APDES program, delegated to the State by the EPA. Storm water management for the AAEP are/will-be managed under the terms of an MSGP (#AK060000) for storm water discharges associated with industrial activity. Storm water discharges associated with industrial activities are defined by 40 Code of Federal Regulations (CFR) 122.26(b) (14) (i-ix and xi). To ensure protection of water quality and human health, the permit establishes control measures and BMPs that must be used to control the types and amounts of pollutants that can be discharged from certain industrial activities. This general permit is intended to regulate storm water (rain, snow, and snowmelt) runoff which may come in contact with industrial activities and/or materials which may cause contamination.

To obtain authorization to operate under the MSGP, the permittee must develop a SWPPP, submit the SWPPP to ADEC with a NOI to operate under the MSGP and pay the authorization fee in accordance with 18 AAC 72.

TAI is requiring its construction contractor to be responsible for maintaining the SWPPP, constructing and maintaining storm water BMPs and otherwise managing storm water during construction activities. TAI submitted the road construction SWPPP with the NOI and authorization fee to ADEC on December 14, 2018. TAI updated the SWPPP with the requirements of the 2020 MSGP and submitted a new NOI on June 25, 2020. ADEC issued MSGP number AKR06AF84 on September 17, 2020. The TAI construction contractor will review and revise the SWPPP as required prior to the start of road construction activities.

3.1.7 FISH PASSAGE STATUTES AND REGULATIONS

The Anadromous Fish Act (AS 16.05.871- .901) requires an individual or government agency provide prior notification and obtain permit approval from ADF&G before altering or affecting “the natural flow or bed” of a specified waterbody, or fish stream. All activities within or across a specified anadromous waterbody including construction; road crossings; gravel removal; mining; water withdrawals; the use of vehicles or equipment in the waterway; stream realignment or diversion; bank stabilization; blasting; and the placement, excavation, deposition, or removal of any material require approval from the ADF&G Habitat Section.

The location of specified anadromous waterbodies is contained in the Anadromous Waters Catalog (AWC) is updated annually and adopted into regulation (5 AAC 95.011) after public review; it is the legal record of known anadromous fish streams in the State of Alaska.

The AWC indicates that the Ikalukrok Creek is rearing habitat for Dolly Varden up to the confluence with the East Fork Ikalukrok Creek.

The Fishway Act (or Fish Passage Act AS 16.05.841), requires an individual or government agency notify and obtain authorization from the ADF&G Habitat Section for activities within or across a stream used by fish if it is determined such uses or activities could represent an impediment to the efficient passage of resident or anadromous fish.

In addition to the presence of Dolly Varden in Ikalukrok Creek, other data from ADF&G (Al Ott, 2018) have established the presence of Arctic Grayling in Ikalukrok Creek and some of its tributaries including Grayling Junior Creek. While Arctic Grayling is not an anadromous fish, compliance with the Fishway Act protects the movement of this species within these drainages.

TAI applied for and obtained Title 16 Fish Habitat Permits in 2018 from ADF&G for crossings over fish habitat streams and will comply with both the Anadromous Fish Act and the Fishway Act as required at stream crossings. These permits include FH18-III-235, 236, and 237 for RDC, Ikalukrok Creek, and Grayling Jr. Creek, respectively (ADF&G 2018a, 2018b, 2018c). TAI is in the process of obtaining Fish Habitat Permits for the proposed Ikalukrok Creek crossing on the South Portal Connector Road.

3.1.8 OIL DISCHARGE PREVENTION REGULATIONS

Oil discharge prevention and response planning may be required for this Project under 18 AAC 75. The trigger for an ODPCP is 5,000 barrels (210,000 U.S. gallons) of crude oil or 10,000 barrels (420,000 U.S. gallons) of refined product. This would be triggered if the ADEC determined that the construction project was part of a facility subject to 18 AAC 75.400 (i.e., part of the Red Dog Mine).

TAI will collaborate with ADEC in the determination of whether the AAEP is considered part of the regulated mine facility for the purposes of triggering addition to the Mine's ODPCP.

3.1.9 AIR QUALITY REGULATIONS

The construction, modification, and operation of mining facilities that produce air contaminant emissions require an ADEC Air Quality Control Permit to Construct and a separate Air Quality Control Permit to Operate. The determination to require a permit is based on the source location, total emissions, and changes in emissions for sources specified in 18 AAC 300(a). Generally, air quality must be maintained at the lowest practical concentrations of contaminants specified in the Ambient Air Quality Standards of 18 AAC 50.020(a). Public notice is required prior to final approval.

TAI will comply with State air quality requirements.

3.1.10 SOLID WASTE REGULATIONS

Waste rock is managed under ADEC solid waste management regulations 18 AAC 60. Due to the intrinsic characteristics of the bedrock in the region, TAI anticipates excavating potentially acid-generating materials along the main access road and the portal and camp pads. Potentially acid-generating rock generated during the construction of the roads and surface pads proposed in this Plan is being regulated under 18 AAC 60.005(e) which states:

> If a person treats a waste and demonstrates to the department's satisfaction that the potential for a release of hazardous constituents is eliminated by the treatment and the treated waste will not present a threat to the public health, safety, or welfare or to the environment, the department will allow the treated waste to be managed as an inert waste under 18 AAC 60.460 or an exempt waste under (c) of this section. The operator of the treatment works must
>
> (1) secure the approval of the department before handling the waste as inert or exempt under this subsection; and
> (2) keep records demonstrating that all waste managed under this subsection was treated in the manner on which the approval was based.

TAI submitted the Construction Rock Handling Plan (TAI 2018) to ADEC in 2018 and obtained plan approval on February 1, 2019 (ADEC 2019) to treat the PAG construction rock as an exempt inert waste. An amendment to that plan is under review by ADEC that addresses a minor realignment of the main access road. Additional information about TAI's Construction Rock Handling Plan and the BMPs that TAI will implement to ensure the safe management of PAG material and protection of the environment during construction in in **Section 2.3**.

Waste rock is also managed by ANDR acid rock drainage regulation 11 AAC 97.240 which state that a mined area with the potential to generate acid rock drainage must be reclaimed in a matter that prevents the generation of such or prevents the offsite discharge of such.

3.1.11 WASTE MANAGEMENT

Integrated Waste Management Permit and Financial Responsibility - The Integrated Waste Management Permit authorizes the disposal of waste rock and wastewater that are not discharged into waters of the United States. This permit usually requires pre-operational, operational, and post-closure monitoring. The permit also requires proof of financial responsibility (i.e. bonding) to assure compliance with applicable closure standards and post-closure monitoring requirements. Public notice is required before final approval.

TAI will haul waste materials generated from the AAEP to the Red Dog Mine and dispose of these materials – organic and inorganic sludge, untreated wastewater, office and residential garbage that is generated onsite – and dispose of these materials in approved facilities at Red Dog Mine.

Alaska Pollutant Discharge Elimination Permit - The State of Alaska has the authority to administer the National Pollutant Discharge Elimination System (NPDES) program for the mining sector under 18 AAC 83, APDES program. All facilities in Alaska that have a discharge to surface or marine waters of the United States are required to obtain an APDES permit prior to discharging. Under this program, mine discharges are still required to meet applicable (40 CFR 440.104) New Source Performance Standards (NSPS) and ADEC WQS, whichever provides the more stringent limitation. APDES permits require regular monitoring to ensure compliance with permit stipulations and the protection of water quality. Public notice is required prior to final approval.

Under this program, the discharge from a wastewater treatment plant must meet applicable (40 CFR 440.104) NSPS and ADEC WQS, whichever provide the more stringent limitation. TAI agrees to apply for a CWA 402 permit with ADEC before discharging water from the treatment plant located on the South Camp Pad. The proposed discharge would enter into Ikalukrok Creek.

Wastewater Treatment and Disposal - Septage, sewage, sludge and wastewater disposal is managed under 18 AAC 72 (Wastewater Treatment and Disposal). These materials are required to be disposed of in an ADEC permitted facility.

TAI will dispose of these materials at existing Red Dog Mine facilities.

Storm Water Discharge Pollution Prevention Plan - ADEC administers APDES Storm Water General Permits for both construction activities and during operational phases of the facilities through the APDES MSGP for industrial activities. ADEC approves SWPPPs that include storm water best management practices. The facility may have separate APDES permits to cover wastewater and storm water discharges, or the requirements may be combined into one APDES permit.

TAI has applied for general permits for the AAEP.

Domestic and Non-Domestic Wastewater Disposal Permits - Under 18 AAC 72, ADEC permits wastewater discharges to state land and groundwater. If injection wells are part of the wastewater disposal plan, then the requirements for the EPA Underground Injection Control Class V wells must be met in addition to any requirements in a state wastewater permit.

No underground injection or land application of water are planned for the AAEP.

Plan Review for Non-Domestic Wastewater Treatment System - Engineered plans for disposal of wastewater from milling operations and other non-domestic wastewater sources must be submitted to ADEC for approval through either a state Wastewater Disposal Permit or an APDES Permit. Public notice is required prior to final approval.

TAI will coordinate with ADEC to acquire the APDES permit for the AAEP.

3.2 Federal Government Regulations

3.2.1 FILL TO WATERS OF THE U.S.

Clean Water Act Section 404 - Activities involving dredging or discharge of fill material within waters of the United States are governed by the terms and conditions of a CWA Section 404 Permit from the USACE. Proposed activities are regulated through a Department of the Army (DA) permit process by the USACE that evaluates applications under a public interest review, as well as the environmental criteria set forth in the CWA Section 404(b)(1) Guidelines.

TAI resubmitted[2] a DA permit application in 2022 for exploration roads and facilities to support the original PoO for mineral exploration of the Anarraaq and Aktigiruq mineral deposits. The USACE permit for the north portal and AA Exploration Road was authorized December 3, 2024, under POA-2018-00075. TAI in June of 2025 submitted a minor permit modification to USACE for the design changes incorporated in this modified Plan.

Clean Water Act Section 401 - CWA Section 401 requires the applicant to obtain state certification that any discharge under CWA Section 404 will comply with applicable ADEC WQS.

A CWA 401 water quality certification was issued for POA- 2018-00075 by ADEC on May 23, 2022. A CWA 401 Certificate modification has been filed with ADEC for the Project described in this Plan.

3.2.2 OIL POLLUTION PREVENTION REGULATIONS

The EPA's oil pollution prevention regulations are contained in 40 CFR 112, the SPCC Rule, authorized under Section 311 of the CWA. Facilities that store 1,320 gallons or more of oil-based products in containers with volumes of 55-gallons or more, are subject to the SPCC Rule. The planned construction operation will require oil-based storage more than 1,320 gallons; therefore, a SPCC Plan is required. If the total capacity of SPCC-regulated oil containers at the facility reaches 10,000 gallons, the SPCC Plan must be reviewed and certified by a professional engineer.

TAI will develop an SPCC Plan specific to the construction activities and will amend the plan as needed during the construction effort to reflect actual operating conditions.

3.2.3 MIGRATORY BIRD TREATY ACT

The Migratory Bird Treaty Act makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to

[2] The permit was originally submitted in 2018 and then resubmitted in 2022.

Federal regulations. The migratory bird species protected by the Act are listed in 50 CFR 10.13. TAI adherence to the Migratory Bird Treaty Act is discussed in **Section 2.6**.

3.2.4 BALD AND GOLDEN EAGLE PROTECTION ACT

The Bald and Golden Eagle Protection Act (16 United States Code 668-668c), enacted in 1940, and amended several times since then, prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles, including their parts, nests, or eggs. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

"Disturb" means: “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death, or nest abandonment.

Neither Bald nor Golden Eagles have been formally identified in the Project area. The area is within the range of the Golden Eagle. TAI’s compliance with the Bald and Golden Eagle Protection Act is described in **Section 2.6**.

3.2.5 ENDANGERED SPECIES ACT

The purpose of the ESA is to protect and recover imperiled species and the ecosystems upon which they depend. It is administered by the USFWS and the Commerce Department's National Marine Fisheries Service (NMFS). The Service has primary responsibility for terrestrial and freshwater organisms, while the responsibilities of NMFS are mainly marine wildlife, such as whales, and anadromous fish, such as salmon.

Under the ESA, species may be listed as either endangered or threatened. "Endangered" means a species is in danger of extinction throughout all or a significant portion of its range. "Threatened" means a species is likely to become endangered within the foreseeable future. All species of plants and animals, except pest insects, are eligible for listing as endangered or threatened. For the purposes of the ESA, Congress defined species to include subspecies, varieties, and, for vertebrates, distinct population segments.

The USACE consulted with the USFWS to check for the presence of ESA-species in the project area as part of the Section 404 Permit Action, POA 2018-00075. No threatened or endangered species exist in the project area (USFWS 2025, Stantec 2025).

3.3 Local Regulations

3.3.1 NORTHWEST ARCTIC BOROUGH

The NAB is a permitting agency at the borough level. The borough exercises land use planning and related zoning powers under the terms of state law and the borough home rule charter. This is codified under Title 9 which addresses zoning and land use and provides the NAB with the authority to guide, control, regulate and/or preclude future development of land within the borough in accordance with the land use policies stated in Title 9 and the NAB Comprehensive Plan.

Title 9 Permit applications are due before initiating any land use activity. The AAEP is situated within the NAB Resource Development District, and under NAB code, the exploration activities require a Master Plan permit. TAI is applying for a modified Title 9 Conditional Use Permit Amendment for the activities and changes described in this Plan.

3.3.2 NANA REGIONAL CORPORATION

NANA is the Alaska Native Claims Settlement Act chartered regional corporation responsible for oversight of the surface and subsurface native lands associated with the AAEP.

TAI has previously been provided written authority to construct the AA-Exploration Access Road segments on their land under a separate agreement between TAI and NANA. Authorization of the activities and changes in this Plan (occurring on NANA lands) are in the process of being acquired.

4.0 RECLAMATION AND RECLAMATION BONDING

TAI is obligated to reclaim impacts that result from its exploration activities. A description of the reclamation plan is required under 11 AAC 86.800 as part of the PoO. TAI has developed this Reclamation Plan (SRK 2025) described below and included in its entirety in **Appendix C.**

4.1 Reclamation Plan

The reclamation plan for the AAEP (SRK 2025; **Appendix C**) includes the following major components and will occur from north to south:

- Reclamation and abandonment of underground decline and portals in accordance with ADNR regulations.
- Removal of all surface facilities;
- Reclamation of surface pads;
- Reclamation of the material sites on State and NANA land along the access road; and
- Reclamation of the AA-Exploration Access Road, service roads to vent raises, access roads to material sites, and the South Portal Connector Road.

Road reclamation will include removal of all bridges and culverts, ripping or scarifying the road surface to encourage moisture and seed retention, and reseeding the road with an approved seed mixture to stabilize the surface and encourage recruitment of native vegetation. Boulders or signage will be placed along highwalls around the material sites for public safety. Water bars and crowns will be constructed on the road surface as required during reclamation to discourage erosion, redirect runoff and discourage ponding. The surface pads and material sites will be dressed, as necessary, to discourage ponding by directing runoff without encouraging erosion. The surfaces will be ripped or scarified to discourage erosion and encourage moisture and seed retention. The scarified surface will be reseeded with an approved seed mixture (see Tables 4 and 5 in the Reclamation Plan [SRK 2025; **Appendix C**]) for stabilization while native revegetation recruitment occurs over the longer term. The eventual goal is to have stable native vegetation through natural recruitment of native species from the surrounding undisturbed lands. In the arctic environment with its short growing season and immature soils, it is expected to take several years before there is measurable natural plant recruitment.

It is noted that owing to the arctic environment, the native organic soil horizon (i.e., “organic mat”) and native vegetation is sparse; therefore, it is generally impractical and not permittable to strip and stockpile organic matter during frozen ground conditions. As a result, the Reclamation Plan (SRK 2025; **Appendix C**) does not include stockpiling the organic layer or other growth

media during construction, or the transportation and application of growth media to the scarified road surface during reclamation.

Reclamation will begin after cessation of exploration activities if the AAEP does not progress to production. Reclamation sequencing would start with the surface pads. Following reseeding of the surface pads, road reclamation would start at the north road end and surface dressing and reseeding would take place in segments as culverts and bridges are removed and the entire reclamation effort “retreats” towards the bridge across RDC at the southern terminus of the AA-Exploration Access Road. Removal of the RDC bridge and reseeding the ground surface where the bridge abutments were, will be the final reclamation activity.

Once the road is closed and reclaimed, TAI will submit a Notice of Termination signifying the end of the operations under the MSGP for storm water. TAI has included costs in the reclamation cost estimate for seasonal aerial inspections along the reclaimed road for locations that might not have stabilized and appear to be contributing to storm water quality exceedances. TAI has included labor costs for periodically addressing these spots for a period of five years following reclamation of the road. Mitigation measures for storm water issues after road closure and reclamation will be limited to what can be accomplished with hand tools or helicopter-portable equipment. The Reclamation Plan is provided in **Appendix C** (SRK 2025).

4.2 Financial Assurance

TAI has developed a cost estimate for the activities described above and in the Reclamation Plan in **Appendix C** (SRK 2025). The total cost estimate for reclamation, and post reclamation monitoring for a five-year period is presented in the Reclamation Plan and includes Indirect Costs consistent with ADNR reclamation cost estimation. TAI intends to post financial assurance in a form acceptable to the State prior to initiating facilities construction and underground development under this PoO.

5.0 REFERENCES

Alaska Department of Fish and Game (ADF&G). 2018a. Fish Habitat Permit FH18-III-0235 Red Dog Creek Bridge. Issued November 30.

ADF&G. 2018b. Fish Habitat Permit FH18-III-0236 Ikalukrok Creek Bridge. Issued November 30.

ADF&G. 2018c. Fish Habitat Permit FH18-III-0237 Grayling Junior Creek Bridge. Issued November 30.

Alaska Department of Natural Resources (ADNR). 2023. Division of Mining, Land & Water. Mining Section. Request to Amend Reclamation Plan Approval F20229339RPA to incorporate an additional 1.29-acre laydown pad within NANA land. Approval. September 21.

SRK Consulting Inc. (SRK). 2019. Interim Static and Kinetic Geochemical Characterization of Access Road, Material Sites and Pad Sites at the Anarraaq and Aktigiruq Project, Alaska. Prepared for Teck American Incorporated. February.

SRK. 2025. Anarraaq and Aktigiruq Exploration Program. Reclamation Plan. Prepared for Teck American Incorporated. June.

Stantec Consulting Service Inc (Stantec). 2025. Anarraaq and Aktigiruq Exploration Program (AAEP). Amended Environmental Evaluation Document. June 2025 Amendments to January 2022 Amended Document (Original Document August 2018). Prepared for Teck American Incorporated. June.

TAI. 2022. Anarraaq and Aktigiruq Exploration Program Revised Construction Rock Handling Plan. Teck American Report. January March 2022. 22p.

USFWS. 2025. IPAC Information for Planning and Consultation. Accessed on January 28, 2025 at https://ipac.ecosphere.fws.gov

APPENDIX A MINING CLAIM TABLE

ADL No.	Claim Name	Location Date	Map Reference MTRS Quarter Section
725339	AQ 1021	07/Sep/2017	Kateel River, 32N 19W, 11, SW
725340	AQ 1022	07/Sep/2017	Kateel River, 32N 19W, 11, SE
725341	AQ 1023	07/Sep/2017	Kateel River, 32N 19W, 12, SW
725343	AQ 1025	07/Sep/2017	Kateel River, 32N 19W, 13, NE
725344	AQ 1026	07/Sep/2017	Kateel River, 32N 19W, 13, NW
725345	AQ 1027	07/Sep/2017	Kateel River, 32N 19W, 14, NE
725346	AQ 1028	07/Sep/2017	Kateel River, 32N 19W, 14, NW
725350	AQ1032	07/Sep/2017	Kateel River, 32N 19W, 15, SE
725351	AQ 1033	07/Sep/2017	Kateel River, 32N 19W, 14, SW
725352	AQ 1034	07/Sep/2017	Kateel River, 32N 19W, 14, SE
725353	AQ 1035	07/Sep/2017	Kateel River, 32N 19W, 13, SW
725354	AQ 1036	07/Sep/2017	Kateel River, 32N 19W, 13, SE
725355	AQ 1037	07/Sep/2017	Kateel River, 32N 19W, 24, NE
725358	AQ 1040	07/Sep/2017	Kateel River, 32N 19W, 23, NW
725359	AQ 1041	07/Sep/2017	Kateel River, 32N 19W, 22, NE
725378	AQ1060	07/Sep/2017	Kateel River, 32N 19W, 25 SE
725379	AQ1061	07/Sep/2017	Kateel River, 32N 19W, 36 NE
725390	AQ 1072	07/Sep/2017	Kateel River, 32N 19W, 36, SE
725391	AQ 1073	07/Sep/2017	Kateel River, 31N 19W, 1, NE
725392	AQ 1074	07/Sep/2017	Kateel River, 31N 19W, 1, NW
725401	AQ 1083	07/Sep/2017	Kateel River, 31N 19W, 1, SW
725402	AQ 1084	07/Sep/2017	Kateel River, 31N 19W, 1, SE
725404	AQ 1086	07/Sep/2017	Kateel River, 31N 19W, 12, NW
725405	AQ 1087	07/Sep/2017	Kateel River, 31N 19W, 11, NE
725412	AQ 1094	07/Sep/2017	Kateel River, 31N 19W, 11, SE
725413	AQ 1095	07/Sep/2017	Kateel River, 31N 19W, 12, SW
725415	AQ 1097	07/Sep/2017	Kateel River, 31N 19W, 13, NE
725416	AQ 1098	07/Sep/2017	Kateel River, 31N 19W, 13, NW
725417	AQ 1099	07/Sep/2017	Kateel River, 31N 19W, 14, NE
725425	AQ 1107	07/Sep/2017	Kateel River, 31N 19W, 13, SW
725426	AQ 1108	07/Sep/2017	Kateel River, 31N 19W, 13, SE

APPENDIX B TEMPORARY WATER USE AUTHORIZATIONS

TWUA ID #	Description	Water Sources
TWUA F2022-107	Issued Nov. 18 2022 Expires Nov. 17 2027 For water withdrawals for winter seasonal ice road construction from multiple sources.	Source 1. The reach of Ikalukrok Creek flowing from SE1/4 Section 13, Township 32 North, Range 19 West, Kateel River Meridian; through SW1/4 Section 18, as it flows through Sections 19, 30, and NW1/4 Section 31, Township 32 North, Range 18 West, Kateel River Meridian; through SE1/4 Section 36, Township 32 North, Range 19 West, Kateel River Meridian; and then as it flows through Section 1, SE1/4SE1/4 Section 2, E1/2 Section 11, and W1/2NE1/4 Section 14, Township 31 North, Range 19 West, Kateel River Meridian.
		Source 2. The reach of Red Dog Creek flowing from SW1/4 Section 18, Township 31 North, Range 18 West, Kateel River Meridian as it flows through Section 13, to NE1/4 Section 14, Township 31 North, Range 19 West, Kateel River Meridian.
		Source 3. The reach of an unnamed stream locally known as Grayling Jr Creek within S1/2S1/2 Section 30, Township 32 North, Range 18 West, Kateel River Meridian.
		Source 4. The reach of West Fork Ikalukrok Creek flowing from S1/2 Section 13, to SE1/4 Section 14, Township 32 North, Range 19 West, Kateel River Meridian.
		Source 5. Bons Creek Reservoir within NW1/4SW1/4 Section 20, Township 31 North, Range 18 West, Kateel River Meridian.
TWUA F2023-004	Issued May 15 2023 Expires Oct. 31 2027 For development of three material sites (AA-MS-1, AA-MS-3, and AA-MS-4), and the construction of access roads to two of the material sites.	Ikalukrok Creek: A maximum combined daily total of 5,400 gpd is to be withdrawn utilizing up to one pump at a maximum pump withdrawal rate of 30 gpm per pump for up to three hours per day for up to 15 days per month (a maximum combined pump rate of 30 gpm is also authorized under TWUA F2022-107).
		Red Dog Creek: A maximum combined daily total of 3,600 gpd is to be withdrawn utilizing one pump at a maximum pump withdrawal rate of 30 gpm per pump for up to two hours per day for up to 10 days per month. This maximum combined pump rate is not to exceed 30 gpm (a max pump withdrawal rate of 100 gpm is also authorized under F2022-107).
		Grayling Jr Creek. A maximum combined daily total of 3,600 gpd is to be withdrawn utilizing one pump at a maximum pump withdrawal rate of 30 gpm per pump for up to two hours per day for up to 10 days per month (a maximum combined pump rate of 30 gpm is also authorized under TWUA F2022-107).
TWUA F2023-086 through TWUA F2023-089	Issued Nov. 3 2023 Expires Nov. 2 2028 For water diversion culvert placement at multiple sources.	There are a total of twenty (20) sources of water that have been requested for authorization for the culvert installation project. Water diversion activities are required for culvert installation for East Fork Ikalukrok Creek and nineteen (19) unnamed streams (including locally named Madison Creek).

APPENDIX C RECLAMATION PLAN (SRK 2025)

Anarraaq and Aktigiruq Exploration Program Reclamation Plan

Prepared for Teck American Incorporated

Prepared by SRK Consulting Inc.

June 2025

Teck

Anarraaq and Aktigiruq Exploration Program

Reclamation Plan

Prepared for

Teck American Incorporated

Prepared by

srk consulting

SRK Consulting (U.S.), Inc.
USPR002151
August 2025

Anarraaq and Aktigiruq Exploration Program

Reclamation Plan

August 2025

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Project No: USPR002151

File Name: Final AAEP Reclamation Plan_USPR002151_20250807.docx

srk consulting

Executive Summary

This Reclamation Plan outlines Teck American Incorporated's (TAI's) approach to reclaiming both surface and underground components of the Anarraaq and Aktigiruq Exploration Program. Building on a previously approved plan, this updated version incorporates previous amendments and expands its scope to include underground exploration reclamation. The Reclamation Plan (Plan) reflects TAI's ongoing commitment to responsible land use and environmental stewardship, with reclamation activities set to begin immediately upon project completion.

The Plan is organized into eight sections that address regulatory requirements, project and site descriptions, detailed reclamation methods and schedules, cost estimates using the Standardized Reclamation Cost Estimator (SRCE), and post-reclamation monitoring. Supporting documentation and references are included to provide transparency and ensure compliance with State of Alaska reclamation standards. A brief summary of the contents of each section of this Plan is as follows:

- **Section 1** – Describes the purpose and scope of the Plan, including a summary of the contents of each section on the Plan, and applicant information, as well as all applicable State of Alaska reclamation and closure requirements.
- **Section 2** – Provides required applicant information.
- **Section 3** – Provides a detailed project description, including location and land status information, as well as general environmental information.
- **Section 4** – Begins with a brief overview of the proposed Project and outlines the surface and underground components to be constructed for the Project. It details the location and land status of the property, and both current and proposed access to the site. This section also provides a more in-depth description of the surface components and associated disturbances, along with a sequence and schedule for all proposed construction activities.
- **Section 5** – Describes State of Alaska reclamation requirements, reclamation performance standards, and temporary closure.
- **Section 6** – Describes the planned reclamation and closure activities, including, the reclamation methods, equipment, and schedule for reclaiming the access road, secondary and material site access roads, bridges, surface pads, material sites, and underground portal and ventilation openings. It also covers the post-reclamation monitoring that will be conducted by TAI.
- **Section 7** – Describes the reclamation cost estimate and bonding. Drawings of the reclamation along the road corridors are included in the SRCE Excel file. The estimated costs for temporary closure, reclamation, and post-closure monitoring were derived using the Standardized Reclamation Cost Estimator (SRCE) software. The Basis of Estimate Report which outlines the sources, assumptions, and methodology used in the cost estimation, is included in Appendix A to this Plan. Additionally, several supporting documents with more detailed information are referenced throughout the Plan.
- **Section 8** – Provides a comprehensive list of references used throughout the Plan.

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List of Abbreviations

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
ADNR	Alaska Department of Natural Resources
AS	Alaska Statute
BMP	Best Management Practices
BOE	Basis of Estimate
CMP	Corrugated metal pipe
DMLW	Division of Mining, Land and Water
MS	Material Site
NDEP	Nevada Department of Environmental Protection, Bureau of Mining Regulation and Reclamation
NOT	Notice of Termination
PAG	Potentially acid generating
Plan	Reclamation Plan
Project	Anarraaq and Aktigiruq Exploration Program
QA/QC	Quality Assurance/Quality Control
RDM	Red Dog Mine
SRCE	Standardized Reclamation Cost Estimate
TAI	Teck American Incorporated
USGS	U.S. Geological Survey

Units of Measure

ft	foot/feet
Mt	metric tonne
yd^3	cubic yard
yd^2	square yard

1 Introduction

Teck American Incorporated (TAI) is proposing the development of the Anarraaq and Aktigiruq Exploration Program (Project), an underground exploration program to evaluate the economic and technical feasibility of mining lead-zinc resources identified near upper Ikalukrok Creek and the Red Dog Mine (RDM) in northwest Alaska, known as the Anarraaq and Aktigiruq deposits (**Figure 1**). The Project will include the construction of surface and underground facilities and other regulated activities associated with the underground exploration program.

TAI is committed to protecting the environment and the people living near the Project area. As part of this commitment, TAI has developed this Reclamation Plan (Plan) which details the orderly closure of the Project and reclamation of all disturbed areas. This Plan has been prepared in accordance with State of Alaska requirements, as provided by Alaska Statute (AS) 27.19 and Alaska Administrative Code 11 AAC 97, for reclamation and reclamation bonding and is intended to present the proposed reclamation activities in sufficient detail for regulatory agency review and approval.

1.1 Purpose of Reclamation Plan

Reclamation of the proposed Anarraaq and Aktigiruq Exploration Program falls under the jurisdiction of the Alaska Department of Natural Resources (ADNR), Division of Mining, Land and Water (DMLW), Mining Section.

This document presents a revised comprehensive Reclamation Plan for the entirety of the Project, including surface and underground infrastructure and developments. This Plan has been updated from the previous Plan, approved by the State of Alaska in August 2022 (No. F20229339RPA), to address changes to scope of the exploration program. The previously approved Plan and amendments (No. F20229339RPA.01, F20229339RPA.02, and F20229339RPA.03) outlined the reclamation of all surface components of the project including the access road to the proposed underground exploration area, secondary access and material site access roads, surface pads, and material sites. This revised comprehensive Plan includes all previously approved reclamation activities, and all activities associated with underground development, including the portal, twin declines, and ventilation shaft. This Plan is limited to describing the reclamation of all components associated with the exploration development in the event that the Project does not advance beyond underground exploration.

The purpose of this Reclamation Plan is to provide guidelines for implementing reclamation procedures for the roads, surface pads, bridges, material sites, underground access portals, ventilation opening, and all other support infrastructure associated with the proposed Anarraaq and Aktigiruq Exploration Program. These guidelines are based on the best available reclamation technologies and practices. This Plan describes the procedures and processes used to return land disturbed by exploration activities to a stabilized condition providing long-term protection of land and water resources as required by Alaska Statute (AS) 27.19 and Alaska Administrative Code (AAC), Title 11 and Chapter 97.

This Plan describes the schedule for reclamation activities, general reclamation procedures, and the methods for achieving the final closure requirements and objectives. Further, this Plan serves as a basis for calculating reclamation costs and the amount of financial assurance necessary to satisfy bonding requirements per AS 27.19.040(a) and 11 AAC 97.400.

1.2 Scope of Reclamation Plan

This Reclamation Plan describes the reclamation activities necessary for the development of the exploration program from initiation through commencement. Facilities included in this Plan include the main access road, secondary roads and material site access roads, bridges, laydown pads, camp and portal pads, vent raise pads, material sites, underground access portals, ventilation shaft and support infrastructure. Construction of the access road began in December 2024 and will continue through the summer of 2026 when the final compacted crown of the road will be completed. Underground exploration is anticipated to begin in 2028 and conclude in 2030, at which point TAI will determine if the Project advances beyond underground exploration. The general location and components of the Project are shown in **Figure 1** and the mining claims associated with the Project are shown in **Figure 2**. The remaining figures **(Figures 3 – 9)** represent a detailed view of the project development and reclamation activities covered under this Plan.

This Plan describes the activities required to reclaim all components of the proposed Project and provides a cost estimate for completing these reclamation activities. This Plan considers reclamation of the access road, secondary roads, material site access roads, surface pads, material sites, temporary surface structures, and underground access and ventilation openings. **Section 6** describes the activities planned for the closure period.

This Plan and accompanying Appendix are intended to present the proposed reclamation activities in sufficient detail for regulatory agency review and approval.

2 Applicant Information

As required by 11 AAC 97.310(b)(1), the following provides contact information for the designated agent and all owners, operators, or leaseholders of the mining operation.

2.1 Corporate Officer Completing Application

Name:	Jacob Rowland
Manager:	Lead, Regulatory Approvals
Telephone:	(907) 229-7527
Date:	June 2025

2.2 Designated Contact Person

Name:	Jacob Rowland
Manager:	Lead, Regulatory Approvals
Telephone:	(907) 229-7527

2.3 Corporate Information

Business Name:	Teck American Incorporated
Address:	501 N Riverpoint Blvd., Suite 300 Spokane, Washington 99202
Telephone:	(509) 747-6111
President:	Brock Gill
Vice President:	Karla Mills
Treasurer:	Tammy Nelson
Secretary:	Deanna Willman (General Counsel)
Signing Officer:	Mary Mitchener
Directors:	Brock Gill, Tom Appleman, Anissa Bay, Dave Enos

2.4 Alaska Registered Agent

Name	C T Corporation Service Company
Address:	8585 Old Dairy Road, Suite 208 Juneau, AK 99801

3 Project Description and Location

3.1 Project Description

TAI is proposing the development of an advanced stage underground exploration program to evaluate the economic and technical feasibility of mining lead-zinc resources identified near upper Ikalukrok Creek and the Red Dog Mine (RDM) in northwest Alaska, known as the Anarraaq and Aktigiruq deposits (**Figure 1**).

The project involves the development of infrastructure to support an underground exploration program. This includes the construction of an access road with multiple bridge crossings, secondary roads, surface pads, material sites, underground access and ventilation openings, and other related activities. Further details about the exploration program are provided in the amended Plan of Operations Modification for the Anarraaq and Aktigiruq Exploration Program (TAI 2025). See **Section 4** for a more detailed description of the Project and its components.

This Plan expands on the document originally submitted to and approved by ADNR in 2022 for reclamation of all surface components of the Project and now covers reclamation of both the surface and underground components of the Project.

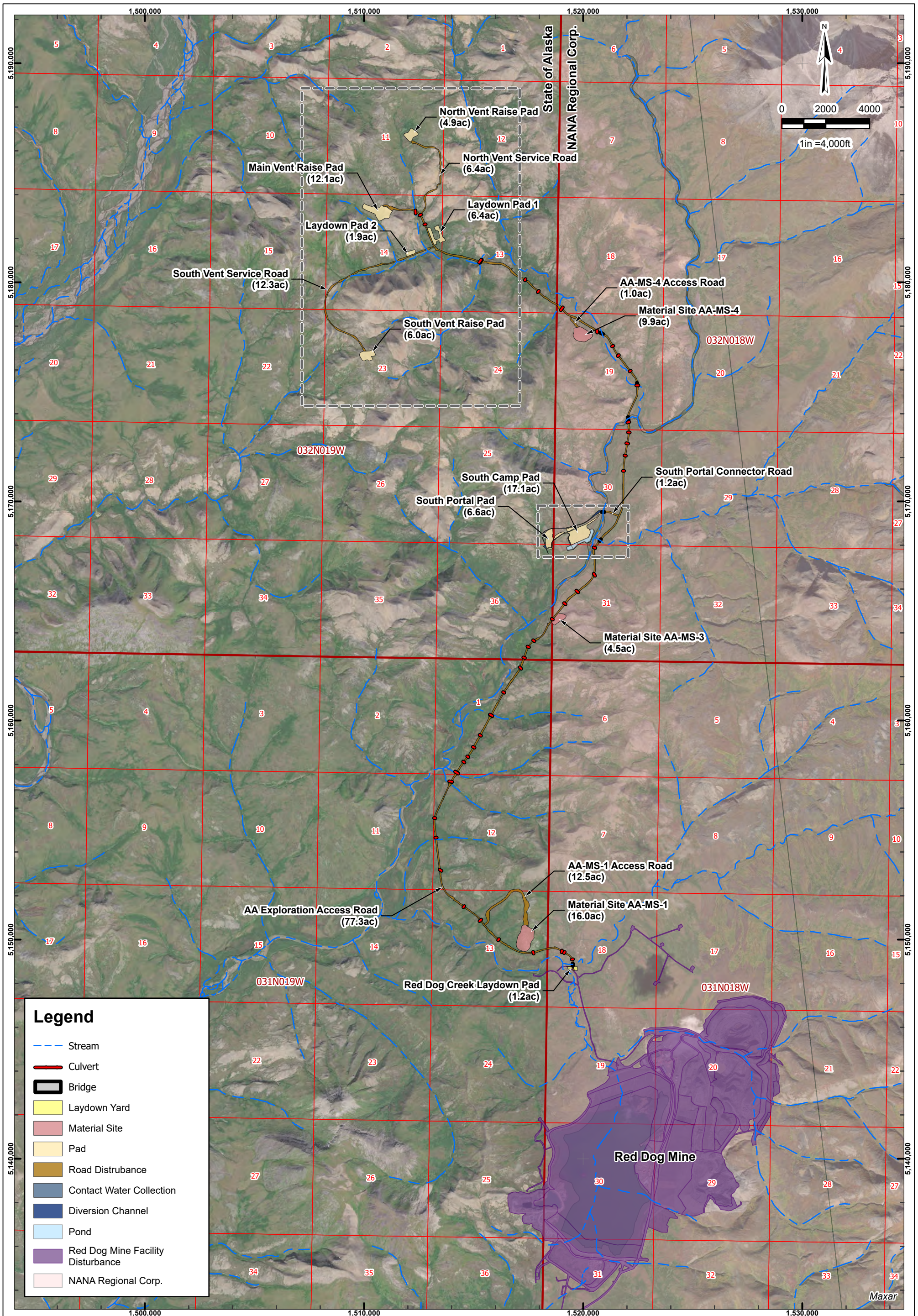
3.2 Location, Land Status, and Property Description

The Project site is located approximately 51 miles northeast of Kivalina and 8 miles north of the existing Red Dog Mine (**Figure 1**). The proposed project is within the Delong Mountains A-2 1:63,360 U.S. Geological Survey (USGS) quadrangle of the Delong Mountains 1:250,000 quadrangle map. The exploration property is situated within four townships including Township 31 North, Range 18 West, Section 18; Township 31 North, Range 19 West, Sections 1, 12, and 13; Township 32 North, Range 18 West, Sections 18, 19, 30, and 31; and Township 32 North, Range 19 West, Sections 11, 12, 13, 14, 15, 22, 23, 25 and 36 of the Kateel River Meridian (**Figure 1**).

There is currently no existing overland access to the exploration area; however, TAI began constructing a single lane exploration access road to the site in December 2024. The exploration access road for the Project begins near the terminus of the existing Fish Weir Road below the Tailings Storage Facility at Red Dog Mine and extends in a northerly direction for approximately 9.3 miles along Ikalukrok Creek and the West Fork Ikalukrok Creek to the proposed Anarraaq and Aktigiruq exploration area (**Figure 1**). The access road route crosses State land where TAI owns State mining claims (**Table 1 and Figure 2**) but also includes two segments that cross NANA land in Township 31 and 32 North, Range 18 West (**Figure 1**). NANA has provided written approval to construct the exploration access road segments on their land under a separate agreement between TAI and NANA. The proposed exploration project is wholly owned and operated by TAI, a separate legal entity from Teck Alaska who owns and operates the existing Red Dog Mine.

Table 1. Project Area Mining Claims

ADL No.	Claim Name	Location Date	MTRS Quarter Section
725339	AQ 1021	07/Sep/2017	Kateel River, 32N 19W, 11, SW
725340	AQ 1022	07/Sep/2017	Kateel River, 32N 19W, 11, SE
725341	AQ 1023	07/Sep/2017	Kateel River, 32N 19W, 12, SW
725343	AQ 1025	07/Sep/2017	Kateel River, 32N 19W, 13, NE
725344	AQ 1026	07/Sep/2017	Kateel River, 32N 19W, 13, NW
725345	AQ 1027	07/Sep/2017	Kateel River, 32N 19W, 14, NE
725346	AQ 1028	07/Sep/2017	Kateel River, 32N 19W, 14, NW
725350	AQ1032	07/Sep/2017	Kateel River, 32N 19W, 15, SE
725351	AQ 1033	07/Sep/2017	Kateel River, 32N 19W, 14, SW
725352	AQ 1034	07/Sep/2017	Kateel River, 32N 19W, 14, SE
725353	AQ 1035	07/Sep/2017	Kateel River, 32N 19W, 13, SW
725354	AQ 1036	07/Sep/2017	Kateel River, 32N 19W, 13, SE
725355	AQ 1037	07/Sep/2017	Kateel River, 32N 19W, 24, NE
725358	AQ 1040	07/Sep/2017	Kateel River, 32N 19W, 23, NW
725359	AQ 1041	07/Sep/2017	Kateel River, 32N 19W, 22, NE
725378	AQ 1060	07/Sep/2017	Kateel River, 32N 19W, 25, SE
725379	AQ 1061	07/Sep/2017	Kateel River, 32N 19W, 36, NE
725390	AQ 1072	07/Sep/2017	Kateel River, 32N 19W, 36, SE
725391	AQ 1073	07/Sep/2017	Kateel River, 31N 19W, 1, NE
725392	AQ 1074	07/Sep/2017	Kateel River, 31N 19W, 1, NW
725401	AQ 1083	07/Sep/2017	Kateel River, 31N 19W, 1, SW
725402	AQ 1084	07/Sep/2017	Kateel River, 31N 19W, 1, SE
725404	AQ 1086	07/Sep/2017	Kateel River, 31N 19W, 12, NW
725405	AQ 1087	07/Sep/2017	Kateel River, 31N 19W, 11, NE
725412	AQ 1094	07/Sep/2017	Kateel River, 31N 19W, 11, SE
725413	AQ 1095	07/Sep/2017	Kateel River, 31N 19W, 12, SW
725415	AQ 1097	07/Sep/2017	Kateel River, 31N 19W, 13, NE
725416	AQ 1098	07/Sep/2017	Kateel River, 31N 19W, 13, NW
725417	AQ 1099	07/Sep/2017	Kateel River, 31N 19W, 14, NE
725425	AQ 1107	07/Sep/2017	Kateel River, 31N 19W, 13, SW
725426	AQ 1108	07/Sep/2017	Kateel River, 31N 19W, 13, SE



REVISIONS		
REV.	DESCRIPTION	DATE

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DESIGN: EH/IJC | REVIEWED: IJC
DRAWN: ML | APPROVED: IJC

COORDINATE SYSTEM:
NAD 1983 StatePlane Alaska 7 FIPS 5007 Feet

IF THE ABOVE BAR DOES NOT MEASURE 1 INCH, THE DRAWING SCALE IS ALTERED

PREPARED BY: srk consulting

PREPARED FOR: Teck

AAEP RECLAMATION PLAN

DRAWING TITLE:
RECLAMATION PLAN
Overall Site Layout
Anarraaq and Aktigiruq Exploration Program

DATE: August 2025
REVISION: A
DRAWING NO.: FIGURE 1
SRK PROJECT NO.: USPR002151.0104

C:\Users\mlengiewicz\SRK Consulting\NA USPR002151 AAEP Teck American SRCE - Internal\!040_Drafting\Task_0104_SRCE\USPR002151_RCP_Figures.aprx

North Vent Raise Pad (4.9ac)
North Vent Service Road (6.4ac)
Main Vent Raise Pad (12.1ac)
Laydown Pad 1 (6.4ac)
Laydown Pad 2 (1.9ac)
South Vent Service Road (12.3ac)
AA-MS-4 Access Road (1.0ac)
Material Site AA-MS-4 (9.9ac)
South Vent Raise Pad (6.0ac)
South Camp Pad (17.1ac)
South Portal Connector Road (1.2ac)
South Portal Pad (6.6ac)
Material Site AA-MS-3 (4.5ac)
AA-MS-1 Access Road (12.5ac)
AA Exploration Access Road (77.3ac)
Material Site AA-MS-1 (16.0ac)
Red Dog Creek Laydown Pad (1.2ac)
Red Dog Mine
State of Alaska
NANA Regional Corp.
032N018W
032N019W
031N018W
031N019W
0 2000 4000
1in =4,000ft
Maxar

Legend

- Stream
- Culvert
- Bridge
- Laydown Yard
- Material Site
- Pad
- Road Distrubance
- Contact Water Collection
- Diversion Channel
- Pond
- Red Dog Mine Facility Disturbance
- NANA Regional Corp.

Mining Claims

- State Land - TAI - AQ Claim Block
- State Land - TAI - EW Claim Block

REVISIONS		
REV.	DESCRIPTION	DATE

FILE NAME: USPR002151_RCP_Figures.aprx

DESIGN: EH/IJC | REVIEWED: IJC
DRAWN: ML | APPROVED: IJC
COORDINATE SYSTEM: NAD 1983 StatePlane Alaska 7 FIPS 5007 Feet

IF THE ABOVE BAR DOES NOT MEASURE 1 INCH, THE DRAWING SCALE IS ALTERED

PREPARED BY: srk consulting
PREPARED FOR: Teck AAEP RECLAMATION PLAN

DRAWING TITLE:
RECLAMATION PLAN
Anarraaq and Aktigiruq Exploration Program
Mining Claims

DATE: August 2025 | REVISION: A | DRAWING NO.: FIGURE 2
SRK PROJECT NO.: USPR002151.0104

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3.2.1 General Environmental Information

The Project area is generally low mountainous terrain with taiga and tundra type biomass, interstitial to rocky outcroppings and talus slopes. Existing soils found within the project disturbance limit include alluvial, colluvial, organic rich (wetland soils), and rock outcroppings (Golder 2017). Vegetation generally consists of willow, dwarf birch, alder, and other lowland type grasses, lichens, and mosses. Growth media/topsoil is very limited in depth and occurrence and generally only found near the lower slopes. Ephemeral and perennial streams are present throughout the course of the road alignment and exploration project site.

The project is in a Sub-Arctic environment underlain by permafrost. Precipitation in the region is generally low, ranging from 12-15 inches per year including rain and snowfall (HDR 2017).

Major stream courses found within the project vicinity include Red Dog Creek, Ikalukrok Creek (main stem), East and West Fork of Ikalukrok Creek, and Grayling Jr. Creek. Ikalukrok Creek is a major tributary to the Wulik River, converging approximately 30 miles to the southwest.

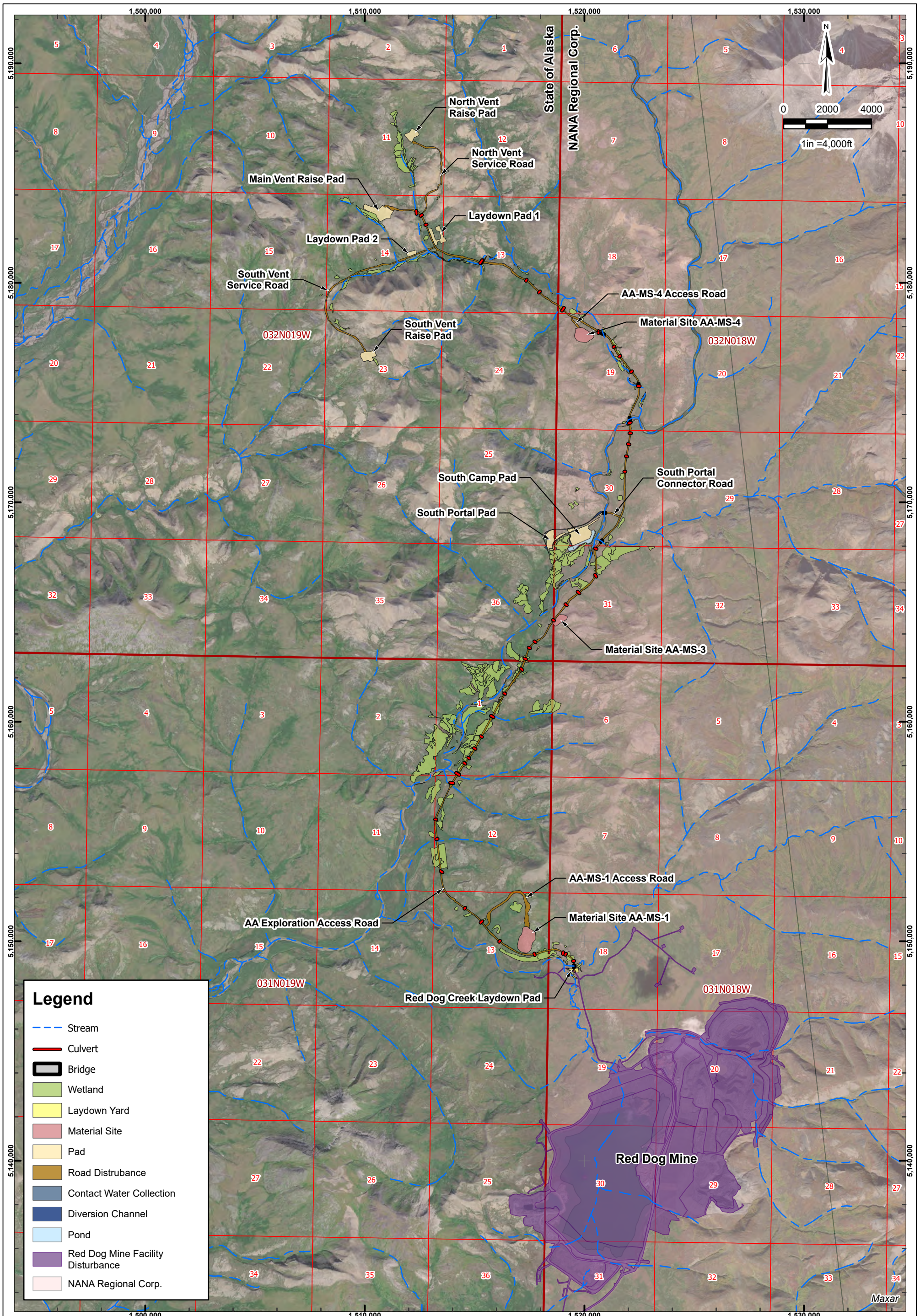
3.2.2 Wetlands

As confirmed by recent wetlands delineations conducted by Stantec in 2022 and 2023, the project area is dominated by wetlands, primarily consisting of shrub communities, particularly dwarf, low, and willow shrubs. Deciduous shrubs dominate the wetland vegetation, while herbaceous wetlands (like sedge and horsetail) make up a small portion—less than 2% of the area and 7.7% of the total wetlands. Ponds and streams cover 2.2% of the area.

Wetlands are classified as slope, riverine, and depressional types:

- **Slope wetlands**, the most common, are found on steep terrain and fed by groundwater, interflow, and precipitation.
- **Riverine wetlands** are found along active floodplains and riparian zones of local streams and creeks.
- **Depressional wetlands** are located in isolated basins with perched water above permafrost.

All streams eventually flow into the Wulik River and then the Chukchi Sea, making them jurisdictional under the Clean Water Act. Similarly, all wetlands are considered jurisdictional due to their surface hydrologic connections to stream systems. Wetlands within the Project vicinity are depicted on **Figure 3**.



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REV.	DESCRIPTION	DATE

FILE NAME: USPR002151_RCP_Figures.aprx

DESIGN: EH/IJC | REVIEWED: IJC

DRAWN: ML/GK | APPROVED: IJC

COORDINATE SYSTEM:
NAD 1983 StatePlane Alaska 7 FIPS 5007 Feet

IF THE ABOVE BAR DOES NOT MEASURE 1 INCH, THE DRAWING SCALE IS ALTERED

PREPARED BY: srk consulting

PREPARED FOR: Teck

AAEP RECLAMATION PLAN

DRAWING TITLE:
RECLAMATION PLAN
Project Area Wetlands

DATE: August 2025

REVISION: A

DRAWING NO.: FIGURE 3

SRK PROJECT NO.: USPR002151.0104

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4 Project Components and Construction

As described in TAI's Plan of Operations Modification (TAI 2025), the Project entails the following:

- Continued construction of approximately 9.3 miles of authorized exploration access road (AA-Exploration Access Road) starting from the Fish Weir Road at the Red Dog Mine and extending along Ikalukrok Creek to the proposed Main Vent Raise Pad (previously authorized as North Camp Pad).
- Constructing approximately 3.6 miles of secondary roads to connect the AA-Exploration Access Road to previously permitted surface pads and Material Sites described below. Constructing approximately 0.2 miles of road to connect the AA-Exploration Access Road to the newly proposed South Portal Pad, located approximately 4 miles from the terminus of the access road described below,
- Constructing eight surface pads (including the South Portal Pad, the South Camp Pad, three ventilation raise (vent raise) pads, and three laydown pads),
- Development of an underground access portal, twin declines, and a single ventilation opening,
- Developing two material sites (AA-MS-3 and AA-MS-4), including blasting and crushing, on NANA land and one (0.1 acres of AA-MS-3 crosses onto State land) and one (AA-MS-1) on TAI owned and operated State mining claims to provide sufficient material for road and surface pad construction, and
- Reclamation, including a reclamation cost estimate for the reclamation of the AA-Exploration Access Road, secondary roads, surface pads, Material Sites, and underground access and ventilation openings on State mining claims and NANA land.

For simplicity, Project components are broken into five major categories in this Reclamation Plan:

1. Access and secondary roads,
2. Surface pads for laydown pads, the South Portal Pad, the South Camp Pad, and a single ventilation raise,
3. Water management structures (ponds and channels),
4. Underground workings and support infrastructure, and
5. Material Sites.

These components are discussed in more detail in the following subsections. The surface disturbance acreages associated with each component of the proposed project and the surface disturbance by land ownership are summarized in **Table 2**.

Best Management Practices (BMPs) will be implemented to reduce erosion and sedimentation of disturbed areas during construction, operation, and reclamation activities.

Table 2. Project Surface Disturbance Summary

Facility Type	Disturbance Area (Acres)**	NANA Land (Acres)**	State Land (Acres)**
Access and Secondary Roads	110.8	31.7	79.0
Material Sites	30.4	14.3	16.1
Surface Pads	56.2	18.3	38.0
Water Management Structures	9.1	8.4	0.7
Total Disturbance	**206.5**	**72.7**	**133.8**

**Values are derived from areas calculated from Kuna, Ausenco, Stantec, and SRK design drawings specific areas are illustrated in figures of the Basis of Estimate (Appendix A). Allow minor variations for rounding.

4.1.1 Exploration Access Road and Secondary Roads

An approximately 9.3-mile access road is required to connect RDM to the proposed Anarraaq and Aktigiruq exploration area. The access road for the Project begins near the terminus of an existing ancillary road for Red Dog Mine (RDM) near the bank of Red Dog Creek, see **Figure 1**. The road continues in a northerly direction crossing both State lands and NANA lands before arriving at the Anarraaq and Aktigiruq deposit location to the north. In addition to the exploration access road, secondary roads are required to access various surface pads and designated material sites. All roads are intended to be temporary. The design parameters will support construction traffic and anticipated daily exploration traffic. The design anticipates subsidence of underlying soils along the roadway, requiring maintenance throughout the summer season as the active layer thaws.

Much of the roadway will be constructed as a fill embankment; however, some areas are designed with cut-to-fill or full cut sections (Kuna 2022). Depth of fill is contingent upon underlying soil stability and grade requirements. Depths of fill range between one (1) foot minimum to ten or more (10+) feet near stream crossings. Depths of cuts range from one (1) to more than twenty (20+) feet in areas of cut along the roadway and borrow areas. Growth media may be found in limited usable quantities and where practical it may be separated and stockpiled for future reuse during reclamation, although vegetation and root mass in this alpine environment is quite minimal.

Construction of the access and secondary roads require snow be cleared and minimal removal prior to installation of fill. Shrubs and small diameter woody vegetation will be rolled flat prior to installation of geotextile fabric or cut at the ground surface, with careful consideration to not disturb underlying soils (Golder 2017). A shallow lift of fill material may be required to protect the geotextile fabric from punctures prior to placement of the structural fill in areas of thick woody vegetation. Geotextile will be provided under the embankment, either as separation of fill on exiting grade or fill on cut (Kuna 2022).

Six major stream crossings are included in the proposed access road design. To avoid or minimize detrimental effects on fish and fish habitat, TAI will install six steel span, truss-supported, bridges where the exploration access road crosses large streams, including Red Dog Creek, Grayling Jr. Creek, Ikalukrok Creek (three crossings), and East Fork Ikalukrok Creek where the streams are known to support Arctic Grayling and Arctic Char. The West Fork Ikalukrok Creek crossing near the northern exploration facilities will be constructed using fill and large diameter culverts. In addition to the bridges, drainage is conveyed in strategically placed corrugated metal pipe (CMP) culverts installed at minor stream crossings and in areas where drainage will otherwise be impeded by the road. This reclamation plan incorporates reclamation for the main access road and all secondary roads.

4.1.2 Surface Pads

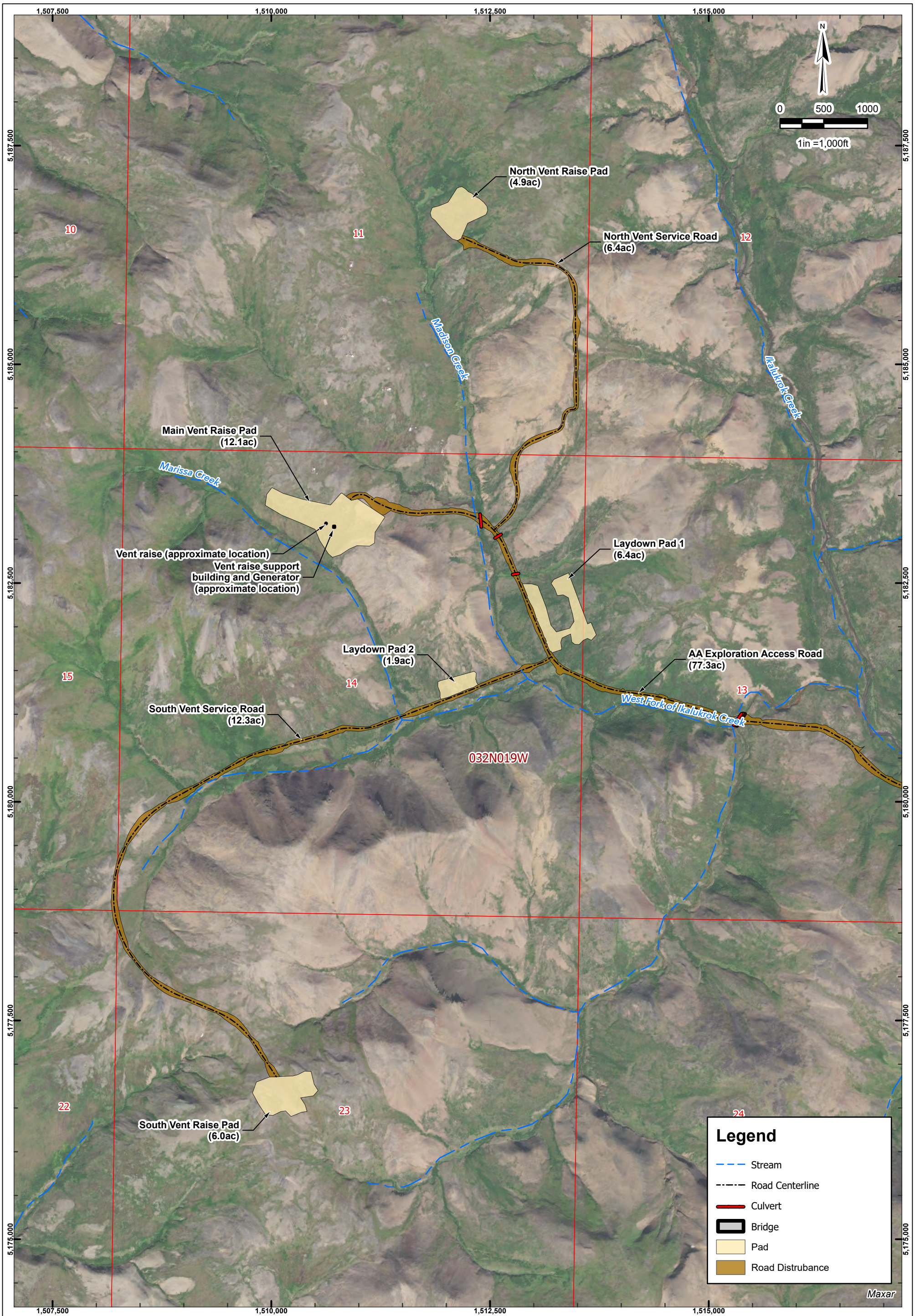
Construction of surface facilities requires the development of seven surface pads which include five laydown areas (Red Dog Creek Laydown Pad, Laydown Pad 1, Laydown Pad 2, North Vent Raise Pad, and South Vent Raise Pad), a portal pad (South Portal Pad), and camp pad (Camp Pad), and a single ventilation raise pad (Main Vent Raise Pad). This Plan addresses reclamation of these pads. **Figure 4** illustrates the general arrangement of the proposed Main Vent Raise Pad and laydown areas at the north end of the access road. **Figure 5** illustrates the South Portal and South Camp Pad. Cut and fill construction methods will be employed to construct these pads, or as required, using material sourced from one of the material sites. All surface pads are connected to the exploration access road by secondary roads. The portal pad, camp pad, vent raise pad, and laydown pads will consist of at least 3 feet of general embankment fill from the material sites, capped with material suitable to create a driving surface. These pads will be constructed on uplands, where settling and thermal instability is not a concern. This Plan incorporates reclamation of the surface pads.

4.1.3 Material Sites

Three material sites will be developed to supply material for construction of the access road, secondary roads, and surface pads. In addition, fill material may be sourced from cut areas at the pads and along the roads. The material sites are all on uplands and the material consists of variably weathered shale, chert, quartzite, limestone, and/or limey sandstone. Material will be blasted, excavated, and some will be passed through a stationary grizzly before being hauled for use in road and pad construction. Some material will also be processed through a crusher. Any potentially acid generating (PAG) material that is excavated will be managed in accordance with TAI's approved Construction Rock Handling Plan (Handling Plan). Material Site AA-MS-1 is on State land while material sites AA-MS-3 and AA-MS-4 are on NANA land (**Figure 1**). This Reclamation Plan incorporates reclamation of all three material sites.

The material sites were selected on the basis of geochemical data that indicate they are likely comprised of non-PAG material. However, at the initial development of each of the material sites, and at any time when mineralized material is identified in a site, TAI will characterize the material as PAG or non-PAG in accordance with the Handling Plan approved by ADEC. If significant PAG is identified the site will likely be abandoned and eventually reclaimed. There is no scenario where TAI will develop a site that results in a PAG highwall. Any small volumes of PAG that are

excavated to access non-PAG material will be removed to temporary storage at AA-MS-1 in accordance with the approved Handling Plan.



REVISIONS		
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DESIGN: EH/IJC | REVIEWED: IJC
DRAWN: ML | APPROVED: IJC
COORDINATE SYSTEM:
NAD 1983 StatePlane Alaska 7 FIPS 5007 Feet

IF THE ABOVE BAR
DOES NOT MEASURE 1 INCH,
THE DRAWING SCALE IS ALTERED

PREPARED BY:
srk consulting

PREPARED FOR:
Teck
AAEP RECLAMATION PLAN

DRAWING TITLE:
RECLAMATION PLAN
General Layout
Main Vent Raise Pad and Laydown Pads

DATE: August 2025
REVISION: A
DRAWING NO.: FIGURE 4
SRK PROJECT NO.: USPR002151.0104

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Legend

- Stream
- Road Centerline
- Culvert
- Bridge
- Pad
- Road Distrubance
- Contact Water Collection
- Diversion Channel
- Pond
- NANA Regional Corp.

N

0 125 250

1in =250ft

1,518,000 1,518,500 1,519,000 1,519,500 1,520,000 1,520,500 1,521,000 1,521,500

5,169,500 5,169,000 5,168,500 5,168,000 5,167,500

Regraded Box Cut and Portal Area Borrow Material Sourced from Water Management Pond and Port Pad Fill Embankments

Diversion Channel (NANA Lands) (1.7ac)

Diversion Channel (State Lands) (0.6ac)

25

032N019W

Portal Plug

South Portal Pad (6.6ac)

Contact Water Collection Ditch-Lined (State Lands) (0.1ac)

36

Contact Water Collection Ditch-Lined (NANA Lands) (0.6ac)

South Camp Pad (17.1ac)

Contact Water Collection Area (1.6ac)

Sediment Pond (0.9ac)

Water Treatment Pond (Lined) (0.9ac)

30

032N018W

31

Secondary Containment Pond (Lined) (2.7ac)

Ikalukrok Creek

Bridge (100ft)

South Portal Connector Road (1.2ac)

AA Exploration Access Road (77.3ac)

Bridge (100ft)

Grayling Junior Creek

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

NOTE:
*** SEE AUSENCO PORTAL PAD DRAWING (FIGURE 5) FOR DETAILS***

REVISIONS		
REV.	DESCRIPTION	DATE

FILE NAME: USPR002151_RCP_Figures.aprx

DESIGN: EH/IJC | REVIEWED: IJC
DRAWN: ML | APPROVED: IJC
COORDINATE SYSTEM: NAD 1983 StatePlane Alaska 7 FIPS 5007 Feet

IF THE ABOVE BAR DOES NOT MEASURE 1 INCH, THE DRAWING SCALE IS ALTERED

PREPARED BY: srk consulting

PREPARED FOR: Teck

AAEP RECLAMATION PLAN

DRAWING TITLE:
RECLAMATION PLAN
General Layout
South Portal and South Camp Pad

DATE: August 2025
REVISION: A
DRAWING NO.: FIGURE 5
SRK PROJECT NO.: USPR002151.0104

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4.1.4 Underground Access Portal and Ventilation Opening

Due to the depth of the Anarraaq and Aktigiruq deposits, an underground twin decline is necessary to further advance resource definition drilling. The underground declines will allow TAI to drill closer to the mineralized zones. Access to underground development will be through a portal located approximately three miles from the start of the access road. The portal will be approximately 18 feet (ft) high by 19 ft wide. The declines will be advanced into the Aktigiruq deposit located northwest of the proposed portal. The two declines will allow for dedicated traffic in each direction with minimal disruption to exploration activities.

Construction of the twin decline is expected to begin in Q1 of 2028 and will take approximately three years to complete. In total, construction of the twin decline is expected to produce approximately 1.5 million metric tonnes (Mt) of waste rock. Approximately 416,000Mt of waste rock will be generated annually between 2028 and 2030. Waste rock will be stored on a temporary waste rock stockpile near the portal before being transported to and disposed of at an approved disposal facility at Red Dog Mine.

A ventilation shaft is necessary to support the underground exploration program due to the air requirements for diesel equipment, service bays, shaft heaters, and other equipment. Ventilation will initially be provided through a single ventilation raise, which connects to the surface at the Main Vent Raise Pad, located north of the South Portal Pad (**Figure 4**).

After the initial access drifts into the deposit are completed, a permanent ventilation shaft will be bored near the center of the deposit. This shaft will serve as the primary exhaust vent for the rest of the underground exploration activities. Shotcrete may be applied to the box cut and underground workings for geotechnical stability and left in place for closure. Shotcrete would be sourced from a temporary concrete batch plant that will be decommissioned and removed at closure.

4.1.5 Surface Buildings and Infrastructure

Temporary structures will be located on the portal pad as well as the ventilation raise pad. The majority of the infrastructure will be located on the South Portal and South Camp Pads. Buildings on the South Portal Pad will include a portal pad area with dual portals, a powder magazine, a detonator magazine, a concrete batch plant, diesel fuel storage, and a diesel generator and compressor. Other surface infrastructure on the South Portal Pad will include a temporary waste rock stockpile, a truck waste, and diesel fuel storage. Buildings on the South Camp Pad will include an exploration camp, dry/cold food storage, contractor offices, a first aid facility, a maintenance shop, covered/heated storage, a core shack, a sewage treatment plant, and a water treatment plant. Other surface infrastructure on the South Camp Pad will include parking, a truck wash, a helicopter pad, diesel generators and compressors, and bulk storage (Ausenco 2025). Water management on the site includes a sediment pond, a lined water treatment pond, a lined secondary containment pond, lined contact water collection ditches, and a diversion channel. The Main Vent Raise Pad will have one building to house the fan and other necessary equipment (**Figure 4**). Detailed descriptions of the buildings and infrastructure to be located on the South

Camp Pad and Main Vent Raise Pad can be found in the Plan of Operations Modification (TAI 2025) and a detailed layout of the facilities on the Portal Pad are included in **Figure 6**.

The structures will consist of modular construction camp and office facilities, as well as steel truss tent frame structures for equipment storage and maintenance. Permanent foundations are not expected at this time. Buildings will be constructed using pre-cast foundation supports, small diameter piles or small concrete anchor pads as needed. Interior floors for tent structures will consist of crushed gravel or compacted soils. Select buildings will have cast concrete slabs to provide a hard, durable surface for housekeeping and maintenance activities. Various modular support structures may be constructed on site as needed to support activities. Shaft heaters and ventilation fans will be placed near the portal and/or the ventilation raise as needed to support underground operations.

Fuel will be supplied to the portal area via tanker truck and stored in one of the temporary storage tanks located near the portal. A fueling station will be constructed using best management practices (BMPs) including a lined collection sump or some other technology to contain fuel spills. Minor concrete pads may be constructed as to support fueling activities.

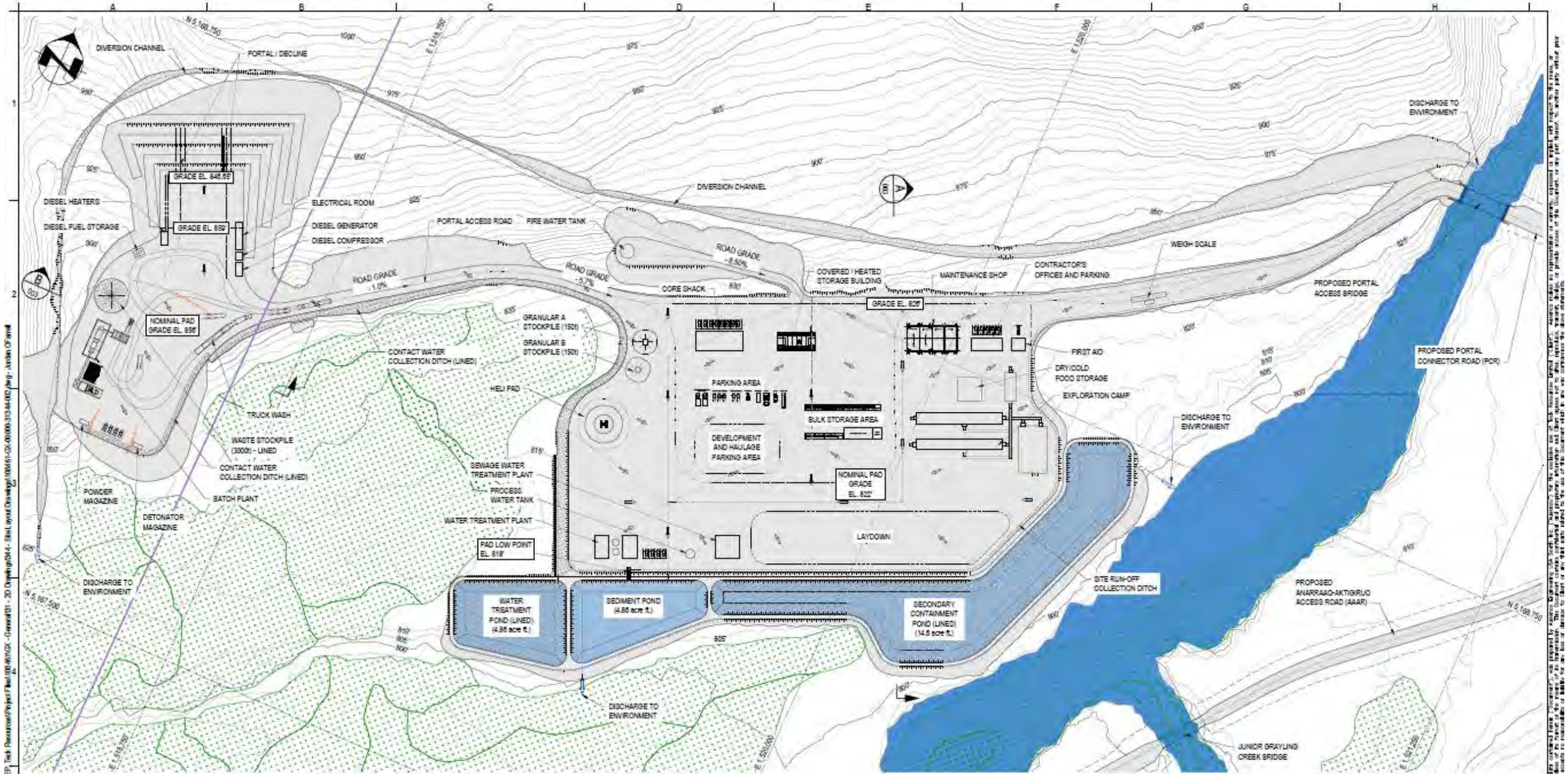
4.1.6 Stormwater Management

Surface runoff from the portal and camp pad areas will be conveyed to a small stormwater management pond located southeast of the camp pad. The pond will be designed to attenuate runoff and settle suspended solids prior to release to the environment. Any impacted water not meeting water quality requirements will be treated appropriately using BMPs prior to discharge.

Diversion channels and berms will be placed around the facility to divert run-on from entering developed areas as needed. Discharge of diverted runoff will be stabilized using BMPs.

4.1.7 Water Treatment and Collection

Water treatment will be necessary during underground exploration and the first year of reclamation. A reverse osmosis (RO) water treatment plant, located on the south camp pad, will be used to treat contact water, consisting of water collected from underground and surface facilities. Treated water will be discharged to the environment, while the brine byproduct from the RO process will be transported by tanker or dump trucks to Red Dog for disposal within a permitted facility. A scoping-level water management strategy has been developed for the project, which includes plans for the on-site treatment plant (Stantec 2023a). Detailed water management and treatment procedures are outlined in the Project's Water Management Plan.



LEGEND:

- WETLANDS
- 1000 YEAR FLOOD EXTENTS
- NANA MINING LEASE BOUNDARY
- SURFACE DRAINAGE FLOW DIRECTION
- DRAINAGE TO ENVIRONMENT

NOTES:

1. PLANT DATUM COORDINATES ARE IN ALASKA STATE PLANE - US SURVEY FT, NAD83 (AK83-7F).
2. LAYOUT WITHIN THE PROPOSED MODIFIED PERMIT BOUNDARY MAY CHANGE.

PORTAL LOCATION - EXPLORATION LAYOUT

1" = 1000'

SCALE: 1"=100'

PERMITTING

RESERVED FOR ENGINEER SEAL

REV	DRAWING No.	REFERENCE DRAWING TITLE	No	BY	DATE	REVISION DETAILS	CHKD	ENG	APPR
D			D	JDF	02APR2025	ISSUED FOR PERMITTING	AS	SL	SL
C			C	JDF	13MAR2025	ISSUED FOR PERMITTING	AS	SL	SL
B			B	JDF	14FEB2025	ISSUED FOR CLIENT REVIEW	AS	SL	SL
A			A	JDF	10FEB2025	PRELIMINARY REVISION		SL	

DRAWN	J. O'FARRELL	18DEC2024
CHECKED	A. SMITH	10MAR2025
DESIGNED	J. O'FARRELL	18DEC2024
DES. APPR	B. LARSON	10MAR2025
PROJ APPR		

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CLIENT: TECK RESOURCES LIMITED

TITLE: AAEP PFS
PORTAL - PAD LAYOUT
EXPLORATION PHASE

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SCALE AS SHOWN | SHEET 1 OF 1
CLIENT DRAWING No: RDM004-1000-CE-GAD-40002 | REV D
DRAWING No: 108461-GX-00000-31344-002

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DESIGN: EH/IJC | REVIEWED: IJC
DRAWN: GK/ML | APPROVED: IJC
COORDINATE SYSTEM: -

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PREPARED BY: srk consulting

PREPARED FOR: Teck

AAEP RECLAMATION PLAN

DRAWING TITLE:
RECLAMATION PLAN
Detailed South Portal and South Camp Pad Layout

DATE: August 2025 | REVISION: A | DRAWING NO.: FIGURE 6

SRK PROJECT NO.: USPR002151.0104

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5 Alaska Reclamation Requirements

5.1 General

Alaska Statute (AS) 27.19, the Reclamation Act, applies to State, federal, municipal, and private land and water subject to mining operations. This statute is administered by ADNR. The Reclamation Act states that "a mining operation shall be conducted in a manner that prevents unnecessary and undue degradation of land and water resources, and the mining operation shall be reclaimed as contemporaneously as practicable with the mining operation to leave the site in a stable condition" that allows for the reestablishment of renewable resources on the site within a reasonable period by natural processes. Alaska Administrative Code 11 AAC 97.240 further states "a miner shall reclaim a mined area that has potential to generate acid rock drainage (acid mine drainage) in a manner that prevents the generation of acid rock drainage or prevents the offsite discharge of acid rock drainage."

An approved reclamation plan is required by the State mining regulations 11 AAC 97.300 – 97.350. Pursuant to 11 AAC 97.310(a), miners must submit a proposed reclamation plan that is correct and complete to the best of the miner's knowledge and has been signed and dated by the miner or the miner's designee prior to starting mining operations. The reclamation plan does not become effective until a performance (reclamation) bond is in place. The performance bond amount shall be set at a level not more than an amount reasonably necessary to ensure the faithful performance of the requirements of the reclamation plan. 11 AAC 97 applies to the approval of reclamation plans, reclamation bonding, and the enforcement of reclamation requirements under AS 27.19 for locatable mineral, leasable mineral, and material mining operations on State, federal, municipal, and private land.

Reclamation performance standards are regulated under 11 AAC 97.200-250. The performance standards that are relevant to this project (because of the limited project scope) and addressed in this Reclamation Plan include 11 AAC 97.200, 97.210, 97.220, 97.240, and 97.250. These regulations address land reclamation performance standards, disposal of buildings structures and debris on State, federal, and private land, acid rock generation, and reclamation of material sites. The reclamation activities described in this Plan will meet the requirements of these regulations.

5.2 Reclamation Performance Standards

Reclamation performance standards are regulated under 11 AAC 97.200-250. The performance standards that are relevant to this project (because of the limited project scope) and addressed in this reclamation plan include 11 AAC 97.200, 97.210, and 97.250. These regulations address land reclamation performance standards, disposal of buildings structures and debris on state, federal, and private land, and reclamation of material sites. The reclamation activities described in this Plan will meet the requirements of these regulations.

5.3 Temporary Closure

Temporary closure means the planned or unplanned cessation of operations for a period of not more than three years. If conditions require temporary closure to extend beyond three years, final

reclamation will begin, unless an extension is requested by TAI and approved by ADNR and ADEC. Temporary closure scenarios that require modifications to the Plan of Operations, Reclamation Plan, or 404 Permit will be coordinated with the appropriate Federal and State agencies for approval.

Planned temporary closures typically have specific conditions defining their beginning and end, and include, but are not limited to, the following:

- Interruptions in the active beneficiation processes to provide planned periods of quiescence for metallurgical or operating reasons.
- Any other planned condition, which would interrupt the active beneficiation process including modification to process components or suppressed metal market conditions.
- Change in ownership requiring the temporary cessation of operations while operating permits are transferred to the new owner/operator.

Unplanned temporary closures may include, but are not limited to, the following:

- Closure because of unforeseen weather events
- A failure in a major system component or a process failure, which causes the fluid management system, or a portion thereof, to shut down.
- The cessation of operations because of litigation.
- Bankruptcy of the mine operator

TAI shall notify the Authorized Officer (ADNR, the Director of the Division of Mining, Land and Water or a designee) in writing at least 30 days prior to any planned temporary closure of 90 days or longer. TAI shall notify the Authorized Officer of any unanticipated temporary closure expected to last 90 days or more within 10 days of the first day of the temporary closure. The notice shall state the nature and reason for the temporary closure, the anticipated duration of the temporary closure, what actions will be taken to maintain compliance with project permits and plan approvals, and any event which would reasonably be anticipated to result in the resumption of mining or the permanent cessation of mining. Mining operations must resume for not less than 90 consecutive days in order to terminate the temporary closure status.

6 Reclamation Schedule and Procedures

TAI is committed to protecting the environment and the people living near the Anarraaq and Aktigiruq Exploration Program area. TAI's reclamation goals in relation to the Project are to recontour, revegetate, or otherwise stabilize all areas impacted by exploration activities so lands are left in a stable condition that supports the reestablishment of renewable resources within a reasonable period. This would allow the lands to be returned to much the same use they are now. This section describes the reclamation activities that will be completed for the access road, secondary roads, surface pads, material sites, and underground access portal and ventilation raise described in **Section 4** of this Plan.

This Plan describes reclamation activities that would be implemented in the event that the Project does not advance beyond underground exploration. It is not possible to discuss a schedule (absolute date) for reclamation of the Project; however, it is possible to discuss the duration and sequencing of reclamation activities if the Project were not to proceed beyond underground exploration. In this Plan and the accompanying Standardized Reclamation Cost Estimator (SRCE) cost estimate, TAI assumes that all reclamation activities will begin in 2031 and be performed in two construction seasons with complete mobilization of equipment taking place in early summer and demobilization taking place in the late fall.

6.1 Reclamation Schedule

Construction of the access road began in December 2024 and will continue through the summer of 2026 when the final compacted crown of the road will be completed. Construction of secondary roads will be initiated as soon as the access road allows, and the construction of surface pads will follow. Construction of secondary roads and surface pads will likely extend through 2026, following a construction break during the spring freshet. Winter construction will limit environmental impacts including reducing thermal impacts to permafrost, degradation of wetlands, and disturbance to fish habitat. Following completion of the pads, surface buildings will be constructed to support the remaining construction and exploration program. Lastly, the ventilation raise pad will be constructed and surface buildings will be located in anticipation of the completion of the ventilation raise.

Construction of the underground access portals will begin in early 2028 and conclude in late 2030, at which point TAI will determine if the Project will advance beyond underground exploration. If it is determined that the Project is not economically or technically feasible and will not move forward, reclamation will begin immediately upon completion of underground exploration.

The anticipated reclamation schedule is summarized in **Table 3** below.

Table 3. AAEP Project Construction and Reclamation Schedule

	Exploration Ends in 2030 -->									
Project - AAEP	**Project Development and Exploration Period**						**Reclamation Period**		**Post-Closure Period**	
Calendar Year	2025	2026	2027	2028	2029	2030	2031	2032	2033	2040
Closure Year	-6	-5	-4	-3	-2	-1	1	2	3	10
AAEP Access Road Construction										
Surface Pad Development and Infrastructure										
Underground Exploration and Decline Development										
Remove Underground Utilities and Equipment										
Install Portal Plugs										
Water Treatment (UG Management Until Closure)										
Reclaimation - WTP and Surf. Water Mgt. Structures										
Reclamation - Yard and Misc. Surface Facilities										
Remove All Surface Structures (Buildings)										
Reclamation - Roads and Material/Borrow Sites										
BMPs and Revegetation Maintenance										
Water Monitoring										
Well Abandonment										

6.2 General Reclamation Procedures

Key components of reclamation typically include earthwork, placement of suitable growth media, preparation of the soil surface, application of soil amendments if needed, revegetation, and ongoing monitoring. These activities are managed with the overarching goal of establishing a stable post-disturbance landscape capable of supporting long-term, self-sustaining vegetation—preferably dominated by native plant species.

6.2.1 Earthwork

Roads, pads and material sites will require regrading, contouring, and revegetation. Other disturbed areas will be revegetated; some may require regrading to promote drainage and/or reduce potential erosion. Growth media stockpiled during construction will be reapplied to reclaimed surfaces to promote revegetation efforts, otherwise native soils will be revegetated. Generally, slopes will be graded to 2.5H:1V (horizontal:vertical), or flatter. For the purposes of the Financial Assurance (FA) calculations, a slope of 3H:1V are considered resulting in a more conservative estimate of earthwork volumes, and long-term stability.

Reclamation earthwork activity will utilize similar heavy equipment used for mining operations. The equipment list will likely include dozers, rubber-tired scrapers, water trucks, motor graders, front-end loaders, track and tire mounted backhoes, compactors, and haul trucks. Equipment needed for reclamation and operations will remain dynamic, as specific conditions require different equipment during implementation of the plan.

6.2.2 Control of Sedimentation

Implementation of BMPs to control erosion during active mining will be designed to minimize re-disturbance during reclamation. The BMPs will be consistent with those measures and practices identified in Alaska Department of Environmental Conservation, Alaska Storm Water Guide, December 2011 (ADEC 2011).

Temporary sediment and erosion control devices will be maintained until site-specific potential for erosion has been minimized through earthwork or revegetation. Removal of devices will be determined by field conditions. Costs assume price per acre using total revegetation surface area as calculated in the *Recl. Maint* worksheet column ‘D’. Full-time observation and management of Storm Water Pollution Prevention (SWPP) permit will be provided during construction activities.

6.2.3 Hazardous Materials

All containers and materials will be salvaged or disposed of properly. All controlled and hazardous chemicals, fuels, and regulated materials will be removed from the site for recycling and/or disposal in an approved manner. Decommissioning will include pumping to remove any remaining hazardous materials in pipes, tanks, and other potential storage units. Tanks will be cleaned and purged following all applicable and relevant regulations. All surplus fuel, hazardous materials, above-ground tanks, and piping will be removed and disposed of in an approved facility in Anchorage, Alaska.

Fuel tanks and steel infrastructures will be disposed of in designated solid waste facility at the RDM or salvaged for use at RDM. Hydrocarbon contaminated soils or gravels will be treated in a manner approved by ADEC. Any synthetic liners used for containment will be removed and salvaged or transferred to an approved disposal facility off-site. The estimate assumes contaminated soils will be hauled off site for disposal in an approved facility in Anchorage, Alaska.

A plan will be developed to comprehensively test for fuel contamination near the storage areas. If found, contaminated soil will be removed and treated in accordance with ADEC guidelines before the area is recontoured and revegetated.

6.2.4 Concrete Foundations and Slabs

All concrete will be broken using hydraulic hammers and buried within the building footprint. All foundation walls, footings and concrete slabs will be broken below grade and/or buried in place with a minimum 36 inches of cover. Elevated slabs, walls, and footings will be broken to grade level and buried as fill material.

6.2.5 Piping

Surface piping will be flushed, if necessary, and hauled to an approved solid waste disposal facility or barged to Anchorage or another location during the ice-free season.

Buried pipe will be excavated and hauled to an approved solid waste disposal facility or barged to Anchorage or another location during the ice-free season. Buried pipes will be kept to a minimum but will mainly consist of water and sewage transfer pipes on site. Buried water and sewer lines will be flushed before in situ disposal and filled with a slurry of sand or some other approved method. Buried lines (other than water or sewer lines) will be blown free of liquids using compressed air to remove any residual fuel, antifreeze or hazardous chemicals unless otherwise approved by ADNR. Pipes shall be removed and disposed of or abandoned in place using approved methods such as filling with grout or sand slurry.

6.2.6 Septic and Leach Fields

Surface components of the sewage treatment system will be removed and hauled to an approved solid waste disposal facility or barged to Anchorage or another location during the ice-free season. The remaining below-ground portions will be abandoned in accordance with ADEC regulations.

6.2.7 Wells

Water supply and monitoring wells will be abandoned by removing all projecting casing a minimum of 36” below grade and piping and plugging from the surface to the water table with concrete or bentonite. Concrete will not be used as a surface plug due to its susceptibility to frost jacking in ice-rich environments. All wells will be abandoned in accordance with ADEC regulations.

6.2.8 Revegetation

Disturbed ground will be seeded to encourage an initial vegetative cover to provide stability while native recruitment eventually establishes a longer-term stable cover of native vegetation. For the initial revegetation, the seed mixture recommended for use in the Red Dog Mine Reclamation and Closure Plan (Teck Alaska Incorporated 2021), will be used for the Project reclamation work. The Alaska Plant Materials Center provides guidance on plant species and seeding rates. Field trials at RDM have identified plant species for reclamation of specific disturbance-types as outlined in **Table 4**. The table outlines the native grass cultivars and native forbs appropriate for the reclamation of roads, pads, and quarries and the shrub cuttings and seedlings appropriate for the reclamation of stream banks and other wet areas. Recommended native grass cultivars and forbs including seed rates are described in **Table 5**.

Table 4. Revegetation Recommendations for Infrastructure Areas

Area	Plant Species	Planting Specifications
Reclaim roads, laydown areas, pads, and material sites	Native grass cultivars Native forbs	(See Table 5) (See Table 5)
Banks of streams and other wet areas	Shrub cuttings and seedlings Diamond leaf willow Felt leaf willow Richardson willows Shrub/dwarf birch	 Cuttings on one-foot centers Cuttings on one-foot centers Cuttings on one-foot centers 80 seeds/yd^2

Table 5. Proposed Revegetation Species

Plant Species		Planting Specifications
<u>Native-grass cultivars</u>		Apply seed at 40 lb/acre (final mixture). Ratio of species will depend on availability but may include predominantly P. alpina for drier areas and D. caespitosa, E. trachycaulus, and C. canadensius for mesic sites.
Boreal red fescue	*Festuca rubra*	
Glaucous tundra bluegrass	*Poa glauca*	
Nortran tufted hairgrass	*Poa alpina*	
Reed bluejoint	*Deschampsia caespitosa*	
Wainwright (“slender”) wheatgrass	*Elymus trachycaulus*	
<u>Native forbs</u>		Apply forb seed at 5% of total seed rate in equal parts per species or as available. E.g., if grass seed rate is 20 lb/acre, apply grass at 19 lb/acres and forbs at 1 lb/acre. Mix may include A. alpinus, A. arcticus, E. sibirica, L. arctica, and O. campestris in drier/apline areas, and A. millefolium, Chamerion spp, and H. alpinum in mesic areas.
Alpine sweetvetch (masu)	*Hedysarum alpinum*	
Dwarf fireweed	*Chasmerion latifolium*	
Indian milkvetch	*Astragalus aboriginum*	
Low-lying stinkweed	*Artemisia arctica*	
<u>Other potential forb species</u>		
Alpine milkvetch	*Astragalus alpinus*	
Arctic bladderpod	*Lesquerella artctica*	
Boreal yarrow	*Achillea millefolium*	
Field oxytrope	*borealis*	
Siberian aster	*Oxytropis campestris*	
Tall fireweed	*Eurybia sibirica*	
	Chamerion angustifolium	

As with any seed mix, a degree of flexibility is necessary depending on seed availability and site-specific conditions; and the mix may be modified. The seed mix may change over time depending on factors such as internal and external research, technologic advancements, changes in land management approach, and commercial availability. The seed mixtures described in **Tables 4 and 5** will be purchased commercially and augmented with some local forbs.

The timing of seeding considers the germination of the seed and its establishment. The preferred seeding time is in the spring, immediately following snowmelt and runoff when the soil surface is moist, and temperatures are warming. However, fall seeding will be practiced when necessary. If seed is applied during the winter, the snow surface will be roughed to provide microsites for trapping the seed. Proposed seeding data cut-offs are presented in **Table 6** below.

Seed will be broadcast by hydro-seeder, depending on the size and accessibility of areas to be treated. Alternatively, helicopter-seeding may be used to revegetate the whole site, but the cost estimate in **Section 7** assumes seed is applied with a hydro-seeder. During revegetation, weed control practices would be implemented to limit the growth and spread of weeds and invasive species and promote the successful re-establishment of native plant species.

Table 6. Seed Timing

	Germinate & Establish Seedlings for Overwintering	**Lie Dormant until Spring Freshet**
Uplands	Spring freshet through July 30	October 15 through spring freshet

6.2.9 Topsoil

11 AAC 97.310(b)(6) includes a requirement for measures for topsoil removal, storage, protection, and replacement. The environment in the Anarraaq and Aktigiruq Exploration Program area is sub-arctic. The entire area is understood to be underlain by permafrost to depths as great as 600 feet. Little soil development is possible under these conditions and most fine-grained soils are high in moisture and generally frozen. During construction of the access and secondary roads and surface pads TAI anticipates that very little salvageable topsoil will be encountered, salvaged and stockpiled. Where thicker soils may exist, it is typically along stream valley bottoms where the soils are frozen with a high moisture content. Construction practice in these permafrost-rich environments is to disturb this soil as little as possible to maintain the existing soil insulating qualities and avoid destabilizing the underlying permafrost. Topsoil that TAI does salvage will be stored opportunistically in select areas, close to where it was removed, and saved for reclamation use.

6.3 Specific Reclamation Procedures

Reclamation for the Project will include a goal of returning the disturbed areas to near pre-disturbance condition. This will include reshaping surface pads, material sites, and road prisms to provide positive drainage, and recontour landforms in a way that blend with the surrounding landscape. Reclamation activities for the Project are divided into two stages, physical reclamation

and post closure monitoring activities. The following sections detail specific reclamation activities for each facility.

6.3.1 Underground Equipment

All salvageable equipment, pumps, utilities, piping, and ventilation, as well as all fuel and any other potentially hazardous materials will be removed from underground prior to closure and backfill of the portal and ventilation raise. Pipes supplying fuel and hazardous materials will be flushed before disposal. All air, electrical, water and ventilation lines will be removed from the portal area in anticipation of backfilling.

6.3.2 Underground Access Portal, Shafts, and Ventilation Raise

Closure of underground openings (portals, shafts and raises) requires detailed engineering design and analysis. The final design will depend on the final configuration of the underground workings and hydraulic conditions expected at closure. At this time neither final ground conditions nor rebounded ground water elevation are known. The Nevada Department of Environmental Protection (NDEP) provides guidance for closing underground openings (NDEP 2022). The concept below and reclamation costs are based on that guidance, and a summary of the probable sequence of closure is noted below.

Upon completion of underground exploration, all underground openings will be permanently stabilized and sealed using a combination of non-reactive waste rock backfill and concrete slurry to prevent access and drainage. Ground support structures located near the surface opening will be removed if protrusion is more than two feet below finished grade, otherwise all supports will be buried in place.

Hydraulic plugs will be placed in competent bedrock below the permafrost line (approximately 1,500ft from the portal opening). The plugs will resist the pressure head developed between natural groundwater and plug elevation. The concrete used to construct the plug will likely be Type II Portland cement mixed with Type F fly ash to ensure low shrinkage and good sulfate resistance. A grout curtain will minimize seepage across the plugs.

The final plug design will be prepared and stamped by a licensed professional engineer, then submitted to the appropriate State agency for comprehensive review and approval. Each set of plans will be informed by a thorough site investigation that evaluates geotechnical, geochemical, and hydrogeological conditions specific to each location. The design process will address potential failure modes—both static and dynamic—as well as estimate seepage rates for each plug. Additionally, the feasibility of implementing a long-term monitoring program will be assessed. The final design package will also include a detailed description of the proposed construction methods, a quality assurance and quality control (QA/QC) plan to ensure construction meets design specifications, and an itemized estimate of construction costs.

Backfill will be placed in the portal and blended with the surrounding topography, slightly mounded in fill areas to allow for consolidation, scarification, and seeding. The highwall cut faces near the box cut will be backfilled to a final slope of 3:1 using material borrowed from the portal pad and stormwater pond embankments. Fill embankments will be reclaimed by pulling the outer

crest of the fill over the pad to the highwall, grading to control surface water runoff, and blending with the local topography as much as possible. The recontoured surfaces will be ripped where compacted, covered with growth media if necessary, and seeded.

The ventilation raise will be reclaimed by either backfilling with non-reactive waste rock, or by capping with a concrete slab. Both options are suitable for long term closure; however, there are disadvantages. Backfill material will consolidate over time; additional material should be heaped on the surface to account for consolidation. Further, concrete caps have a finite life expectancy and may need to be replaced at some point far into the future. Construction costs for both activities are similar and minor in comparison to the total cost. The estimate assumes backfilling the shafts to the surface.

6.3.3 Water Treatment and Management

Water management and treatment will occur as needed throughout the duration of the exploration project. This includes collecting contact water from underground workings and surface areas. Water will be collected in underground sumps and surface-lined channels, conveyed to lined ponds, then treated and discharged to the environment in accordance with an approved water management plan.

Underground closure activities are expected to be completed within the first year of reclamation. During this period, water levels will be controlled to ensure safe working conditions. Water collection and treatment will continue until underground closure activities are complete or conditions allow water management to cease.

Once underground closure is finalized, pumps will be shut off, allowing the underground workings to flood naturally. Surface water management structures such as ponds and collection channels will be decommissioned. Liners will be removed, and embankments will be regraded, seeded, and stabilized. Water wells will be abandoned by removing all projecting casing and piping and plugged from the surface to the water table with concrete or bentonite.

The downward sloping aspect of the portal allows water to infiltrate underground workings verses discharge. The portal is located near the minimum height of surrounding terrain, while the vent raise collar is located near the maximum heigh of surrounding terrain. The static water elevation is expected to be about 850 feet ± 5 feet amsl, no water is expected to seep into the environment from the underground workings at closure.

6.3.4 Temporary Surface Facilities, Fuel, Equipment, and Refuse

Operation activities require a camp and admin facility, service shops, generators, fuel storage, and other ancillary support structures. All structures will be temporary with limited foundation and slab construction. Buildings consist of steal truss/frame facilities with vinyl covering, or modular construction similar to ATCO type facilities. All facilities will either be demolished, deconstructed, salvaged and removed from the site.

During construction, one or more contractors may place modular offices, Conex containers, fuel storage tanks, or other equipment on the site or along the access road to support construction

activities. During the initial stage of reclamation, the pads will be cleared of these facilities, equipment, tanks, refuse, etc., to allow the initiation of reclamation of these pads. It may be necessary to leave some facilities and equipment in place to support reclamation, but all will be removed prior to that site being regraded and reseeded.

Fuel and all controlled and hazardous materials/chemicals stored on site will consist of fuel and material used during construction activities and underground exploration. All hazardous materials, surplus fuel, fuel storage containers and fueling equipment will be removed from the exploration area and disposed of properly. Contaminated gravels will be treated in a manner approved by the ADEC. Any liners used for fuel containment will be removed and salvaged or transferred to an approved disposal facility.

6.3.5 Access Road, Secondary Roads, Surface Pads, and Material Sites

In this subsection the reclamation activities associated with road, bridge and pad removal are discussed. Reclamation earthwork activity will utilize similar heavy equipment used for mining operations at Red Dog Mine. The equipment list will likely include dozers, rubber-tired scrapers, water trucks, motor graders, front-end loaders, track and tire mounted backhoes, compactors, and haul trucks. Equipment needed for reclamation and operations will remain dynamic, as specific conditions require. The cost estimate assumes that all equipment will have to be mobilized to the site in advance of performing the reclamation work described here.

Figures 6 and 7 illustrate typical details proposed for reclamation of the access road, bridges, and culverts.

6.3.6 Access Road

The access road surface will be ripped or scarified, as necessary, to eliminate the effects of compaction, and recontoured to blend with the original topography and provide for positive drainage and promote natural revegetation. The recontoured road surface will be covered with growth media (if available) and re-seeded using the species listed in **Tables 4 and 5**. In areas where road fill may impound water, the berms and embankment may be removed to facilitate drainage. The reclaimed road will be stabilized to ensure the area will retain sufficient moisture for natural revegetation. In addition, any disturbance caused by thawing permafrost adjacent to the road embankment will be filled to prevent further degradation of underlying soils to the extent practicable for stabilization. Efforts will be made to identify any areas of thermal instability as they develop during construction so they can be mitigated as soon as practical in advance of reclamation activities.

Pull-outs along the entire road alignment and other cleared areas will be reclaimed in a manner like the access road and be ripped or scarified and recontoured as needed for drainage, covered with growth media (if available), and seeded following final equipment removal.

Bridges and abutments will be removed and salvaged. Abutment construction materials such as concrete and exposed geotextile fabric will be removed and disposed of properly. Culverts will be removed and salvaged or disposed of properly off site. Any stream channels that were diverted

will be re-established in a stable location. Disturbed areas will be ripped or scarified, recontoured, and seeded as necessary following removal off all appurtenances.

Any geotextile fabric exposed during reclamation grading will be excavated back two feet from the surface, cut and disposed of at an approved landfill location.

Figure 7 illustrates proposed reclamation details for the access road while **Figure 8** illustrates the proposed details for bridge and culvert reclamation.

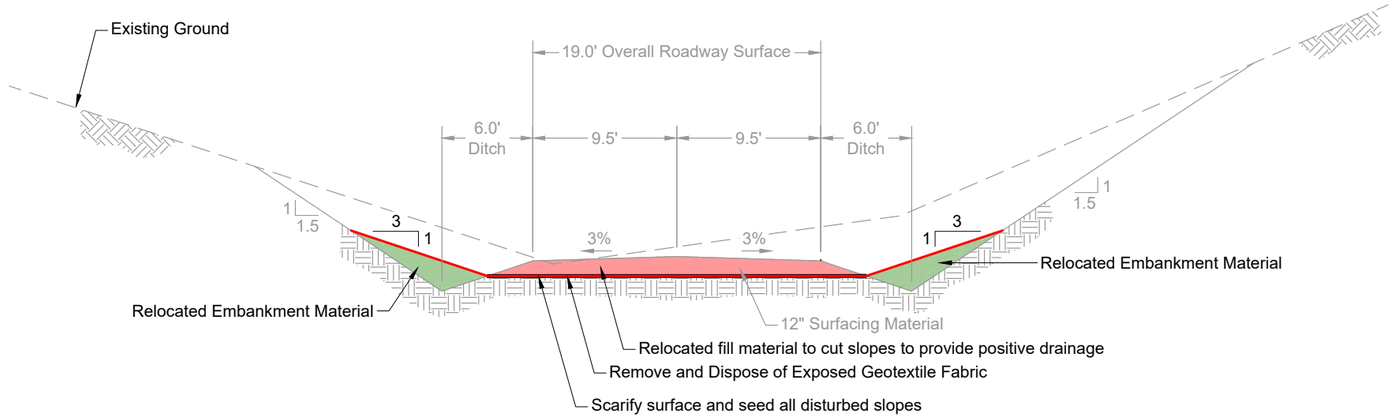
6.3.7 Secondary Roads

Secondary roads leading to or from reclaimed pads will be ripped or scarified, as necessary, to eliminate the effects of compaction, and recontoured as needed to blend with the original topography and provide for positive drainage and promote natural revegetation. Fill material used for construction of the roads will be removed and placed on the uphill side filling in drainage ditches. The embankments will be graded to prevent ponding of water and re-establish drainage patterns. The recontoured road surface will be covered with growth media (if available) and re-seeded using the species listed in **Tables 4 and 5**. The reclaimed roads will be stabilized to ensure the area will retain sufficient moisture for natural revegetation. BMPs will be maintained and installed as necessary to control erosion and runoff, removal of all culverts and ripping or scarifying the surface prior to reseeding.

Any geotextile fabric exposed during reclamation grading will be excavated back two feet from the surface, cut, and disposed of at an approved landfill location.

NOTES

1. All dimension shown are in feet unless otherwise stated.



Typical Road Section Reclamation - Cut

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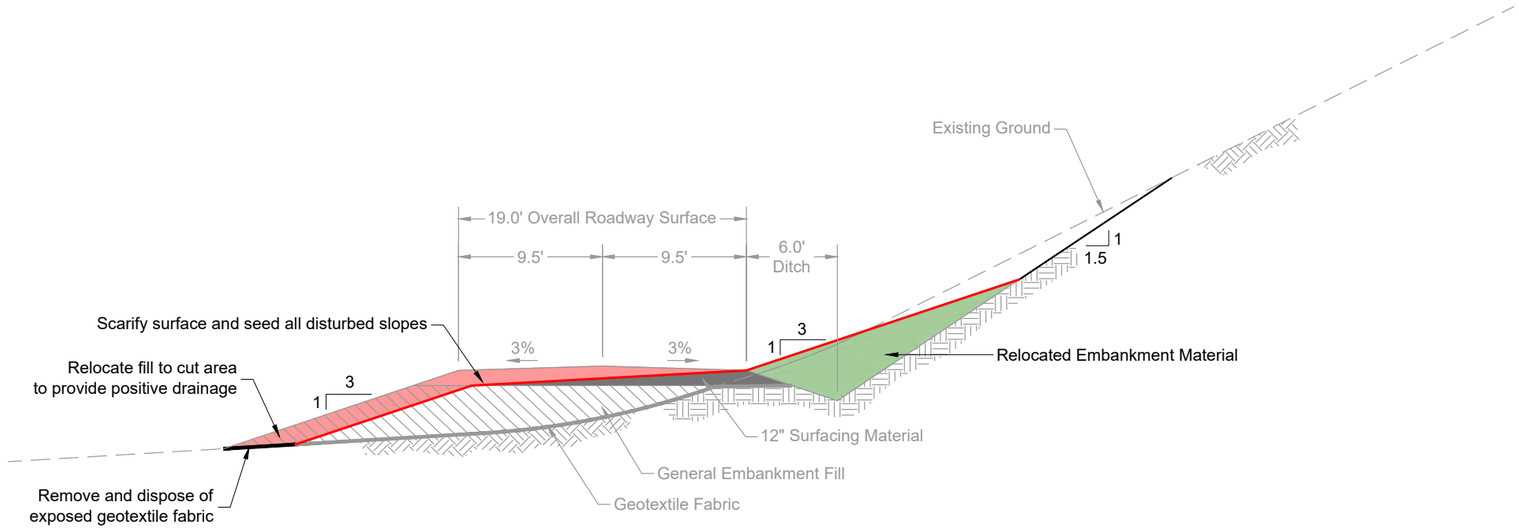

Typical Road Section Reclamation - Cut to Fill

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Conceptual Design
Not For Construction

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DRAWN: ML | APPROVED: IJC
COORDINATE SYSTEM: -

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PREPARED BY: srk consulting

PREPARED FOR: Teck AAEP RECLAMATION PLAN

DRAWING TITLE: RECLAMATION PLAN
Typical Road Reclamation Sections

DATE: August 2025 | REVISION: A | DRAWING NO.: FIGURE 7

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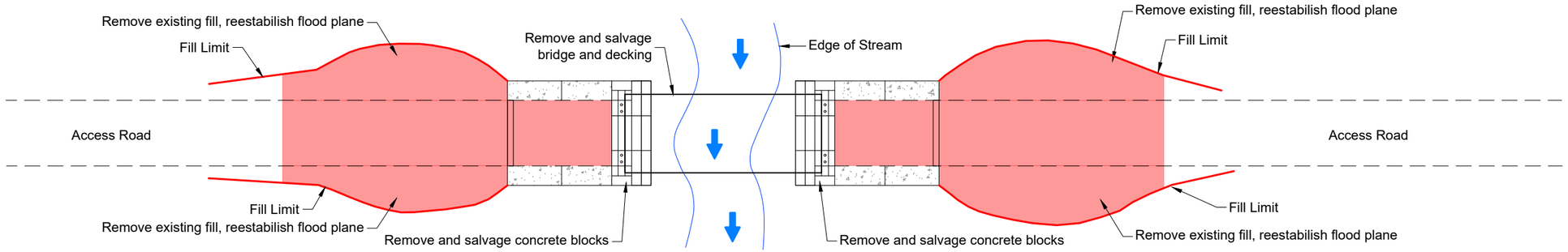

Bridge Abutment Reclamation Details - Plan View

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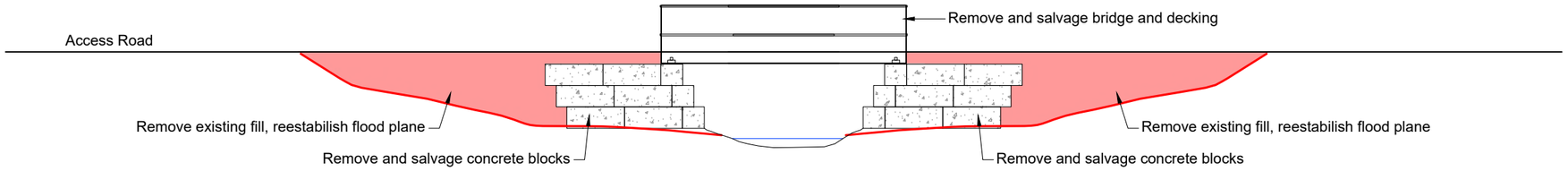

Bridge Abutment Reclamation Detail - Profile View

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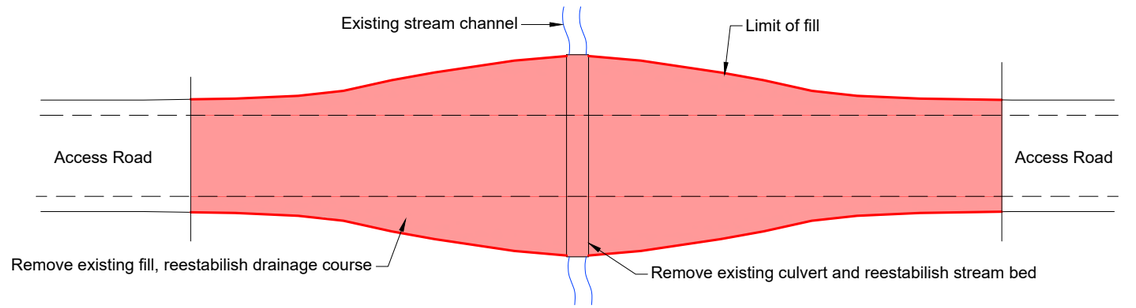

Culvert Reclamation - Plan View

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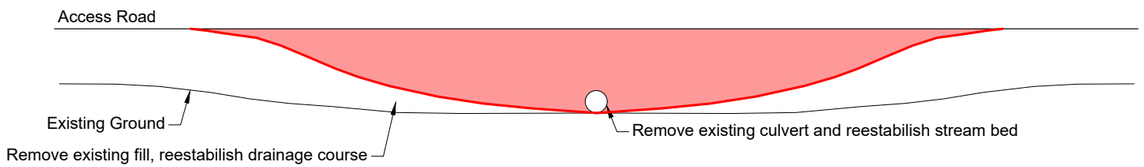

Culvert Reclamation - Profile View

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1. All dimension shown are in feet unless otherwise stated.

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PREPARED BY: srk consulting

PREPARED FOR: Teck AAEP RECLAMATION PLAN

DRAWING TITLE: RECLAMATION PLAN
Typical Bridge and Culvert Reclamation Sections

DATE: August 2025 | REVISION: A | DRAWING NO.: FIGURE 8

SRK PROJECT NO.: USPR002151.0104

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6.3.8 Surface Pads

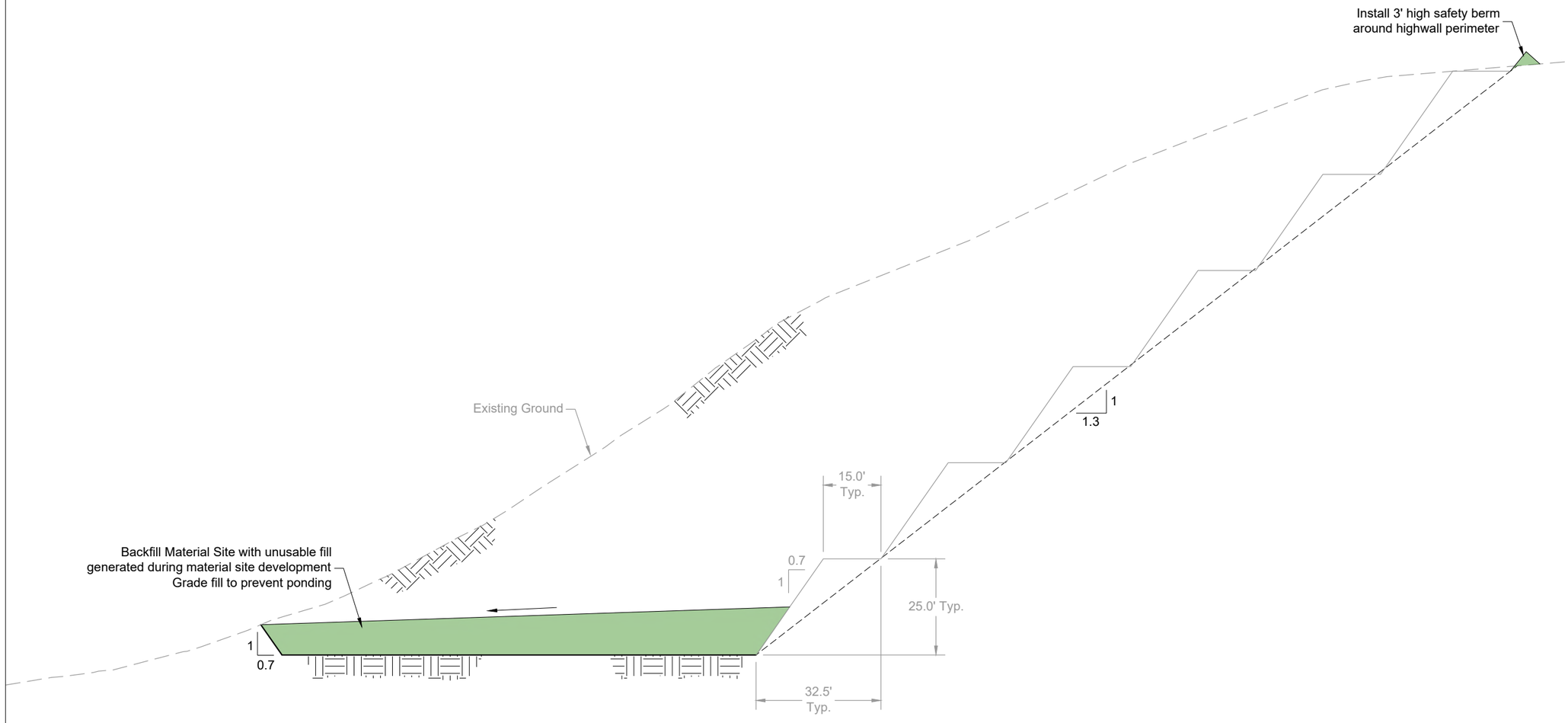
The surface pads for the ventilation raises, portal pad, camp pad, and laydown areas will be graded to discourage ponding of surface water. Any highwall cut faces will be stabilized and left in place. Fill embankments will be reclaimed by pulling the outer crest of the fill over the pad to the highwall, grading to control surface water, and blending with the local topography as much as possible. The recontoured surfaces will be ripped or scarified where compacted, covered with stockpiled growth media (if available), and seeded.

6.3.9 Material Sites

Three material sites are located along the access road alignment, see **Figure 1** for general location. All material sites will be reclaimed when no longer needed for closure materials. The highwall cut faces will be stabilized and remain at developed cut slope angles and left in place. A safety berm consisting of large boulders, or an earthen embankment will be placed along the crest of the highwalls for public safety. Fill embankments will be reclaimed by pulling the outer crest of the fill over the pad to the highwall, grading to control surface water runoff to free drain out of the pits will be established, blending with the local topography as much as practical. The recontoured surfaces will be ripped where compacted, bedrock will be covered with suitable soils conducive to plant recolonization, covered with stockpiled growth media (if available), and seeded. **Figure 9** illustrates the proposed details for material site reclamation.

NOTES

1. All dimension shown are in feet unless otherwise stated.



Typical Material Site Reclamation

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PREPARED FOR: Teck AAEP RECLAMATION PLAN

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RECLAMATION PLAN
Typical Material Site Reclamation

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6.4 Post-Closure Monitoring

Once all physical reclamation is complete, all surface disturbances will be stabilized, and acceptable stormwater quality is anticipated. Once reclamation activities are completed and in the absence of any surface instability in reclaimed areas, TAI will file a Notice of Termination (NOT) of the Stormwater Multi-Sector General Permit. Stormwater permit monitoring requirements will cease with the NOT. However, TAI will perform annual flyovers of all reclaimed areas to identify any reclaimed areas that appear to be exhibiting evidence of significant erosion or failure of the initial revegetation effort TAI will be prepared to reseed or hand-dress these areas to stabilize them. TAI anticipates performing the flyovers for the first five years following final reclamation and has included these costs and a contingency cost for addressing areas that require dressing or reseeding.

Closure monitoring will include range monitoring, water quality sampling, water level measurements, and observations of the success of revegetation. The frequency of sampling events will be adjusted as appropriate between the reclamation and post-closure periods. See Table 8 for the conceptual monitoring schedule. An approved monitoring plan will be developed which may change the frequency and type of monitoring required.

Table 7. Conceptual Monitoring Schedule

Exploration Ends in 2030 -->

Environmental Monitoring	Reclamation Period		Post-Closure Period							
Calendar Year	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Closure Year	1	2	3	4	5	6	7	8	9	10
Range Monitoring			B	B	B	B	A	A	A	A
Water Monitoring	M	M	Q	Q	Q	Q	A	A	A	A
Reclamation Maintenance			Yes			Yes				Yes

M = Monthly, B = Bi-annually Q =Quarterly, A = Annually

6.4.1 Water Monitoring

Surface water monitoring is assumed to be conducted at four sites near and downstream from the portal site. Monitoring will occur on a monthly basis during the two-year reclamation period, and then biannually for the first four years post closure, and finally annually for the remaining four years.

Two groundwater monitoring wells with piezometers will be constructed downstream of the portal location to assess groundwater chemistry and water elevations and confirm groundwater model predictions. These wells will be monitored on a monthly basis during the two-year reclamation period, and then biannually for the first four years post closure, and finally annually for the remaining four years. All wells will be abandoned within ten years of closure. Monitoring wells will be accessible by helicopter once the access road has been fully reclaimed. Additional groundwater monitoring points may be installed at compliance points determined by TAI and ADEC in a water management plan.

A detailed Water Monitoring Plan will be developed by TAI in collaboration with ADEC.

6.4.2 Control of Sedimentation

Throughout the post-closure monitoring period, all diversion ditches and erosion control structures will be regularly inspected to evaluate their performance, integrity, and long-term stability. Any signs of deterioration, inefficiency, or failure will be documented and addressed promptly. Maintenance activities and design modifications will be implemented as necessary to maintain the effectiveness of these features and to support the overall long-term success of the site closure.

6.4.3 Post Reclamation Maintenance

Once physical reclamation activities are underway, TAI personnel will conduct routine inspections of all temporary diversion structures and sedimentation control systems to ensure they are functioning as intended. These systems will be cleaned, repaired, or modified as needed to maintain their effectiveness. Long-term or permanent diversion structures, along with any associated signage, will continue to be monitored and maintained until the reclamation bond is formally released.

Post-reclamation monitoring will also include periodic aerial reseeding, conducted by helicopter, to support vegetation establishment until final site release. The overall success of reclamation efforts will be assessed through regular visual inspections aimed at identifying signs of erosion or other forms of surface instability. If significant erosion or loss of growth media is observed, corrective actions will be implemented as soon as practicable.

Revegetation success will be evaluated qualitatively through ongoing visual assessments conducted by both TAI and ADNR personnel. When conditions warrant, quantitative vegetation data will also be collected to supplement these evaluations. All quantitative monitoring will be performed during the peak growing season, typically in July and August, to ensure accurate assessment of vegetation performance. The reclamation estimate assumes revegetation maintenance will be conducted based on the reclamation schedule in **Table 7**.

7 Reclamation Cost Estimate and Financial Assurance

Under AS 27.19 and 11 AAC 97, mining operators in Alaska are required to provide financial assurance, commonly referred to as a bond, to cover the full cost of reclamation and closure activities. According to AS 27.19.040(a), the ADNR Commissioner must require individual financial assurance in an amount that reflects the reasonable and probable costs of implementing the approved reclamation plan. This financial assurance ensures the operator’s faithful performance of all reclamation obligations.

The required bond amount is based on the Reclamation Plan and calculated using the Standard Reclamation Cost Estimator (SRCE). These calculations include both direct and indirect costs of reclamation, in accordance with state regulations and financial assurance policy. The State and TAI will negotiate a final bond amount prior to the approval of the Plan of Operations describing the development and reclamation activities included in this Plan.

The SRCE model includes costs for reclamation of the access road, secondary roads, surface pads, material sites, support infrastructure, underground exploration activity, and post-reclamation monitoring. Reclamation is assumed to be completed within two construction seasons following a decision to end exploration activities and reclaim the disturbed areas.

The SRCE model assumes third party implementation of this Reclamation Plan, no recycle or salvage costs recovery credits are included, and it assumes on-site disposal or complete removal of all equipment and facilities. Hazardous waste is expected to minimal and will be shipped off-site to an appropriate hazardous waste disposal facility.

A Basis of Estimate (BOE) report is included in Appendix A. The BOE summarizes the sources, assumptions, and basis for the unit costs, construction quantities, equipment fleet, and crew productivities and other costs. Drawings which support the material take-off quantities used to develop costs for the SRCE model are included in in the BOE.

Table 8 summarizes the estimated reclamation costs for all major reclamation activities.

Table 8. Reclamation Cost Summary – SRCE Output

Activity		Total Cost ($)
Direct Costs		
Access and Secondary Roads		900,865
Stormwater Management		442,727
Reclamation Monitoring		1,700,913
Material Sites		121,660
Waste Disposal		229,346
Underground Facilities		3,550,127
Surface Pads		360,247
Material Hauling		357,288
Foundations and Buildings		1,626,268
Water Management		3,775,913
Well Decommissioning		95,636
Reclamation Maintenance		117,704
G&A		1,839,433
Camp Cost		6,549,126
Human Resources		10,090,683
Misc. Equipment		312,297
Mob/Demob		828,898
Direct Costs Subtotal		**32,899,131**
Indirect Costs		
Engineering, Design, and Construction Plan (4%)		1,315,965
Contingency (15%)		4,934,870
Contractor OH and Profit (also includes Liability and Bonding) (15%)		4,934,870
Contract Administration (5%)		1,644,957
Indirect Costs Subtotal		**12,830,662**
TOTAL RECLAMATION COST		**45,729,793**

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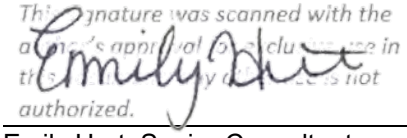
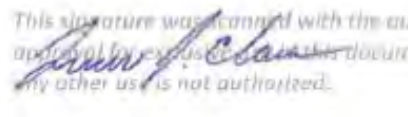
This report, Anarraaq and Aktigiruq Exploration Program Reclamation Plan, was prepared by



Emily Hart, Senior Consultant

and reviewed by



Ivan Clark, P.E., Principal Engineer

All data used as source material plus the text, tables, figures, and attachments of this document have been reviewed and prepared in accordance with generally accepted professional engineering and environmental practices.

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APPENDIX D WILDLIFE INTERACTION AND AVOIDANCE PLAN

Anarraaq and Aktigiruq Exploration Program

Wildlife Interaction and Avoidance Plan

Exploration Access Road Construction and Future Facilities

Prepared for:
Alaska Department of Natural Resources
Alaska Department of Environmental Conservation
Northwest Arctic Borough
U.S Army Corps of Engineers

Prepared by:
Teck American Incorporated
501 N Riverpoint Blvd., Suite 300
Spokane, WA 99202

May 2025

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APPENDICES

1. INTRODUCTION

Teck American Incorporated (TAI) u nderstands the ecological and aesthetic significance of subsistence and its cultural importance and value to local Alaska Native communities. As the conservator of the lands where it operates in the Northwest Arctic of Alaska, TAI is committed to protecting the environment, Native Alaskans and their subsistence lifestyle, and wildlife species by monitoring environmental conditions and seeking ways to reduce the impacts of its operations. To ensure the safety of caribou and other wildlife species within the AAEP Project area, this Wildlife Plan describes procedures Anarraaq and Aktigiruq Exploration Program
(AAEP) employees and contractors will follow to protect both personnel, wildlife, and subsistence users.

2. STAFF ROLES AND RESPONSIBILITIES

2.1 General Policies and Procedures

- On-site staff will attend safety training and follow procedures to minimize negative effects to wildlife
- Intentionally or unintentionally feed wildlife is prohibited.
- Food waste will be placed in appropriate wildlife-proof waste receptacles to= avoid attracting wildlife.
- Personnel are prohibited from hunting, trapping, or fishing in the AAEP area.
- On-site staff and contractors have stop work authority if non-compliance with this=Plan is observed.
- Staff will document wildlife interactions in SiteLine, including hazing activities,= vehicle strikes, identification of potentially rabid animal, or injury or death of an= animal.
- Hazing animals to protect worker safety will be conducted by staff trained and= permitted by AAEP's Public Safety Permit.
- Qualified staff will actively monitor for the presence of caribou in visible range= of activities and evaluate behavioral indicators. TAI shall cease activities that= adversely affects traditional migration patterns or timing, normal grazing= patterns, or other natural caribou behaviors, particularly during the fall= migration.
- Oncoming traffic will stop when moose and other big game species are within= 300 feet of the road, immediately notify the Radio Controller of your location.

2.2 Training Requirements

AAEP employees and contractors working onsite for the AAEP project will receive an environmental orientation before beginning work tasks along the exploration access road or at the exploration site. AAEP employees and contractors are required to complete environmental training as part of the Mine Safety and Health Administration (MSHA) new miner or annual refresher training. AAEP employees permitted by the Public Safety Permit to haze animals must complete approved wildlife training every two years.

Additional environmental awareness training will be given to onsite employees and contractions using environmental alerts/update, safety bulletins, safety meetings, daily safety briefings, and other methods as appropriate. Daily safety meetings will be held at the beginning of each construction shift to share pertinent information about recent wildlife sightings or interactions and update other personnel about wildlife-related challenges or concerns.

2.3 Waste Management

AAEP employees and contractors are required to ensure that the site is managed to prevent attracting wildlife to the facility. To reduce wildlife attraction, waste will be stored in suitable covered/closed containers prior to incineration, open burning, or placement in the disposal cell, trench. To prevent attracting wildlife, putrescible wastes are to be incinerated and are not permitted in the landfill.

2.4 Incident Reporting

During construction, wildlife interactions will be immediately reported to the Environmental Monitor, who will record the necessary information into SiteLine. These incidental observations are extremely helpful in improving TAI's understanding wildlife, which TAI can use to improve operational practices.

2.5 Emergency Traffic

It is critical that AAEP exploration activities avoid disturbance of Dall sheep and caribou, particularly during caribou fall and spring migration periods. If an emergency occurs while the exploration access road is closed for wildlife, emergency response personnel may still proceed along the access road to address an ongoing designated emergency. During construction, the Construction General Manager or their designee, must be notified of these emergency trips during wildlife road closures. An incident report will be completed by emergency personnel and reviewed by management after each designation of an emergency trip.

3. ROAD PROCEDURES

When an animal is encountered during construction, construction personnel will immediately notify the Environmental Monitor. The location of the animal will be communicated to the Radio Controller on the AAEP radio channel. The following rules may be revised when updated information and research is obtained (including local traditional ecological knowledge).

3.1 General

- Drivers on the AAEP exploration access road must have a valid OrbComm driver's license.
- Emergency Response Vehicles, Fuel Tanker and Concentrate Haul Trucks have the right of way on roads. Yield to these vehicles and equipment at all times.

3.2 Speed Limits

- To avoid collisions with wildlife and to promote road safety, drivers must obey speed limits and should reduce speeds during periods of darkness, limited

visibility, or poor weather conditions.

- The speed limit on the primary exploration access road is 30 mph. During periods of darkness when headlights are needed and during periods of limited visibility due to weather conditions, the speed limit is reduced to 25 miles per hour.
- Speed limit on secondary roads is 15 mph.
- Speed limits are applicable to all vehicles.

3.3 Driving at Night or During Periods of Limited Visibility

- Based on Red Dog data, most wildlife collisions with vehicles occur when it is dark or during poor weather conditions.
- Vehicle headlights are to be on at all times.
- High beams may be used to improve visibility on and adjacent to the road, but low beams should be used if there is oncoming traffic.
- When caribou or other wildlife are known to be present in the Project Area, vehicles will reduce speeds to account for darkness and limited visibility to avoid collisions with animals.

3.4 Action Distances

CARIBOU:

At all times of the year, qualified individuals, such as community reporters and professional wildlife biologists, shall use reasonable visual aids, such as binoculars, spotting scopes, or infrared optics, to actively monitor for the presence of caribou in visible range of activities and evaluate behavioral indicators. The Permittee shall cease activities that adversely affects traditional migration patterns or timing, normal grazing patterns, or other natural caribou behaviors. The Permittee shall take extra precautions to avoid activities that interfere with the fall caribou migration (August - December), winter grazing, and spring migration (April - May). Because caribou in the fall migration may be in breeding season and facing hunting pressure from humans and predators, caribou may be more reactive to stimulus. Consequently, the Permittee shall avoid disrupting caribou movements during fall migration, with an emphasis on allowing the undisturbed passage of the first caribou ("lead caribou") moving through an area, as these individuals set preferred pathways for subsequent caribou movements through the area. Recognizing that caribou behavior is evolving with warming Arctic temperatures, the Permittee shall evaluate these procedures, seek input from local communities, and adapt procedures over time.

404 Special Condition (Dec 2024): Teck and/or any project contractors shall cease any activity that may interfere with the seasonal caribou migration, such as ground and airborne transports, ground and airborne surveys or movement of equipment, until such time as the migration movements have cleared from visibility nearby or at the location where project work will be occurring. As a general guideline, caribou migration means an area where caribou are traveling or congregating. However, during the fall/winter season, Teck shall take extra precautions to avoid deflecting any of the first caribou moving through the area as these individuals/groups set trails as "lead caribou" that subsequent caribou later follow during the migration (note: one individual can be considered a lead). At all times of the year, all traffic shall cease on

project roads when an individual caribou is within the visible range. Community reporters from Kivalina and Noatak shall be present to determine presence of caribou within a visible range using binoculars of differing types, for example, infrared.

OTHER BIG GAME

When other big game species (e.g., moose, muskox) are on or approaching a road, all vehicles must come to a complete stop when the crossing location is visible. Traffic shall not proceed through the area until 1) the animal(s) has crossed and have continued beyond the road by at least 300 feet or 2) the animal(s) have withdrawn from the road and are located more than 300 feet away from the road and are showing no signs of trying to cross

MIGRATORY BIRDS

It is illegal to harm, harass, injury or kill migratory birds, including active nests. To avoid disturbing nesting birds, construction crews will only conduct surface disturbing activities (e.g., vegetation clearing, excavation, gravel fill) outside of the nesting window (May 1 to July 31) identified by USFWS for the AAEP area. If new surface disturbance will occur between May 1 – July 31, a nesting bird survey is conducted, following the AAEP Nesting Bird Survey SOP. If active nests are found at any time of year, a protective buffer will be established around the nest.[1]

RAPTORS

Raptors, including golden eagles, hawks, falcons, and owls, are protected by federal laws. If surface construction disturbances, including blasting, jackhammering, or pile-driving, will occur during the raptor nesting season (March 1 – August 31), a raptor nest survey within a 0.5-miles of the Project will be conducted. If an active nest is identified, the AAEP Environmental Lead will coordinate with the USFWS.

4. AIRCRAFT

CARIBOU AND BIG GAME

While aircraft (fixed wing and helicopters) must prioritize safety and compliance with Federal Aviation regulations, pilots will also attempt to minimize disturbing caribou and other wildlife by maintaining an adequate distance (based on altitude and lateral distance) from known animal locations; limiting the number of trips or flights per day during fall when caribou are present, as practical; avoiding landing in proximity to caribou during migration; or temporarily suspending transport operations. Except when intentionally hazing animals, such as bears for personnel safety concerns, pilots will attempt to increase the distance from wildlife if the animals appear to be altering their behavior due to the presence of the aircraft. In the AAEP area, takeoff, landing. and transport drop offs will avoid migrating caribou herds, particularly the first (“lead”) caribou during the fall migration as these individuals are thought to establish the safe migration pathway for subsequent caribou migrating through the

[1] AAEP Environmental Lead coordinated with USFWS regarding the use of buffers. The USFWS indicates they have no pre-determined buffer distances that are appropriate for northwest Alaska. Therefore, the protective buffer distance should be established based on site-specific conditions and then confirmed by monitoring of the nest to confirm the birds are not disturbed by activities. If disturbance occurs, the buffer distance should be immediately increased.

area. When wildlife is spotted, pilots are requested to maintain a wide berth and maneuver so as not to interfere with wildlife migration or movement.

- Pilots must report to Red Dog Environmental any instance where caribou or other wildlife appear to be injured while fleeing aircraft.

RAPTOR NESTS

Helicopters are commonly used to conduct surveys for active raptor nests. Helicopters may approach the nest while biologists inspect the area to determine if a nest is active and determine what species is nesting. The location of the raptor nest will be recorded, and the area will be avoided for the remainder of the nesting season. The helicopter must immediately increase the distance from an active nest if the raptor shows signs of distress (e.g., hunkering down over eggs, flying away from nest).

5. WILDLIFE INTERACTIONS

There are many different types of wildlife interactions that could potentially occur along the exploration access road during construction. The procedures below describe actions to be taken based on specific circumstances. Contact information is provided in Appendix 3, which lists contact information for appropriately trained personnel that can advise in the event of a wildlife sighting, interaction, or other wildlife related situation.

5.1 Wildlife is Accidentally Killed

A. The Environmental Monitor will notify the Red Dog Environmental Department and initiate an incident report if caribou, muskox, moose, bear, wolf, sheep, bird, or fish are accidentally killed by construction activities.
B. In accordance with the RDO Wildlife Incident Standard Operating Procedure (SOP) [SOP-2211-5], the Red Dog Environmental Department will immediately notify the following agencies:
    i. ADF&G in Kotzebue at 907-442-3420 for accidental wildlife deaths.
    ii. ADF&G Habitat in Fairbanks at 907-459-7282
    iii. The Alaska Wildlife Trooper – Kotzebue Office at 907-442-3241 for accidental moose, caribou, muskox, Dall sheep, brown and black bear, and wolf deaths. Troopers may be notified of other animal deaths at the discretion of the Red Dog Environmental Department. See Section 3.3 for canids (wolf/fox).
    iv. The US Fish and Wildlife Service (USFWS) will be notified of accidental deaths of a caribou or migratory bird.
    v. Notification is not required for small mammal species, such as ground squirrels or rabbits.
C. If an animal is killed, but the carcass may be salvageable, the Environmental Monitor will contact the AAEP Community Relations staff to determine if nearby villages want the carcass.
D. To avoid attracting predators to facilities or roads, non-salvageable carcass parts should be removed from the exploration road by moving the carcass out onto upland areas well away from the Project area and left for consumption by scavengers. Note

that carcass parts should not be moved to any area within 200 feet of ponds, streams, or rivers, including frozen waterbodies. If it is not practical to relocate the carcass parts to the tundra, it is acceptable to incinerate some or all of the carcass.

E. To avoid the transmission of diseases, staff will use disposable gloves when handling carcasses.

5.2 Wildlife is Injured or in Poor Health

A. Teck staff trained in USDA wildlife emergency animal control may use appropriate techniques to capture an injured animal, when necessary.

B. AAEP employees that have not received animal control training are not authorized to act unless they have contacted ADF&G in Kotzebue at 907-442-3420 and received specific instructions.

5.3 Foxes and Rabies

A. Rabies is present in Arctic and red foxes of the region. In some years, it is more prevalent than others. In the past, rabid foxes have been found at the Red Dog and AAEP areas. Since foxes are opportunistic foragers, feeding of foxes is not allowed anywhere in the Project Area as it increases the risk that people will be bitten and exposed to rabies.

B. Unusual fox behavior includes any of the following:
   i. Demonstrating no fear of humans
   ii. Staggering, tremors, or uncoordinated movements
   iii. Nipping or biting at themselves or random objects
   iv. Acting seemingly unaware or blind
   v. Acting lethargic or reluctant to move

C. If a fox is behaving sick/abnormal but has not bitten anyone, inform the AAEP Construction Manager and contact ADF&G.

D. Under the Alaska Public Health Regulations, reports of foxes that have bitten or potentially exposed a person to rabies must be made immediately to the Department of Health and Social Services (DHSS) Section of Epidemiology (907) 269-8000, 1-800-418- 0054 in Anchorage, AK.
   i. On the direction from the DHSS, carcasses of canids (foxes, wolves, coyotes) that have bitten a person may be shipped to the Alaska State Virology Lab with the forms found under Appendix C at: http://dhss.alaska.gov/dph/Epi/id/Pages/rabies/default.aspx or to ADF&G.
   ii. Canids that have bitten someone should not be shot in the head since a negative confirmation will be impossible. When canids that are found dead or were killed after exhibiting signs of illness or strange behavior but no human exposure to saliva/brain tissues, contact Dr. Kimberlee Beckmen at ADF&G (907-328-8354; email: dfg.dwc.vet@alaska.gov). Carcass submission forms for found dead wildlife are found at: www.adfg.alaska.gov/index.cfm?adfg=disease.main. Please do not freeze carcasses; keep them chilled until directed on shipping or disposal.

5.4 Hazing of Wildlife

A. AAEP was issued a Public Safety Permit in April 2024 by ADF&G outlining the conditions under which AAEP is allowed to haze wildlife.[1] The primary permittee will designate sub-permittees to conduct activities authorized by this permit. The primary permittee is responsible for the actions of sub-permittees and for ensuring their compliance with the conditions of this permit. Sub-permittees must receive training in the use of beanbag, bear spray, and pyrotechnic devices for wildlife control prior to conducting activities authorized by this permit. A training record will be maintained for persons conducting hazing activities and must be available if requested by ADF&G or Alaska Wildlife Troopers. The permittee and sub-permittees must complete bear hazing training offered by United States Department of Agriculture (USDA) APHIS Wildlife Services or a training course agreed upon with ADF&G, prior to conducting activities authorized by this permit. Only personnel who have completed the training and are authorized by Teck are allowed to participate in wildlife hazing authorized by the Public Safety Permit. Persons conducting activities authorized by this permit are exempt from Alaska Department of Fish & Game licensing requirements of AS 16.05.330.
    i. The justifications for hazing are:
        a. To assure safe aircraft landings and takeoffs are not compromised by wildlife on or near the airfield.
        b. To protect wildlife from harm that may occur by their contact with the exploration access road or exploration activities.
        c. To protect people from being harmed by altercation with wildlife.
        d. To protect property from wildlife damage.

5.5 Endangered Species

Federally listed threatened and endangered species are afforded legal protections under the Endangered Species Act (ESA). To address issues and concerns of Project-related activities to these species, TAI routinely coordinates with the USFWS.

A. If a federally threatened or endangered species is injured or killed, the USFWS Enforcement must be notified for further instructions. The AAEP Senior Environmental Lead (970-837-6704) or Red Dog Environmental Department will call 907-456-2335 or -0255.
B. As of October 2024, no federal or State of Alaska listed threatened or endangered species are expected to occur within the AAEP Project Area.
C. Information about the laws pertaining to golden eagles and endangered species can be found at the USFWS website: http://alaska.fws.gov/law/.

6. DEPARTURE FROM PROCEDURE/PLAN

The Wildlife Plan reflects the importance that TAI places on environmental conservation and its commitment to being a responsible conservator of the land, protect the environment, the wildlife, and the people and communities, and reduce the impacts of its operations. Failure to follow wildlife procedures could result in failure to meet our commitments to agencies, communities, and to our business partner, the NANA Corporation. Departure from procedures

may increase risk of harm to people as well as animals. In some cases, could lead to criminal or civil penalties for individuals and Teck.

7. GENERAL REQUIREMENTS

ISO 14001 – 4.4.6 Operational Control
Teck EHSC Standards – Standard 20 Documents and Records

8. KEY DOCUMENTS AND TOOLS

Alaska Public Safety Permit – Hazing Permit (DOC ID 22-168)
Red Dog Operations Firearms Policy (Doc ID 1464)
RDO Firearms Policy (Doc ID 5163)
Alaska Regional Response Team Wildlife Protection Guidelines for Alaska (Doc ID 1339)
AAEP Nesting Bird SOP
Red Dog Operations Wildlife Incident SOP (Doc ID 2211)
Health, Safety, Environment and Community Management Standards (Doc ID 2483)
Environmental & Community Relations Emergency Reporting Contact List (Doc ID 971)
Guidance Document to EHSC Management Standards (Doc ID 2483)

Appendix 1

AAEP Caribou Card
For Exploration Road Construction

AAEP Caribou Card

Name: _____ **Location During Observation:** _____

Date: _____ **Start End Time of Observation:** _____

End time of Observation: _____

Caribou Location (check all that apply)
- _____ In the construction area (road, pads)
- _____ On the hillside (Kivalina side)
- _____ On the hillside (Noatak side)
- _____ On hillside on both sides

Estimated Distance to Caribou from Road
- _____ In the costruction area (0 feet)
- _____ 100 feet
- _____ 300 feet (football field)
- _____ 600 feet (2 football fields)
- _____ More than 600 feet
- _____ Distance by rangefinder (feet):_____

Estimated Number of Caribou
- _____ 1 - 2
- _____ 3 - 10
- _____ 11 - 25
- _____ 26 - 50
- _____ 51 - 100
- _____ 100 - 500
- _____ 500 - 1,000
- _____ More than 1,000

Direction of Herd Movment
- _____ Stationary
- _____ No apparent direction
- _____ Generally moving towards Kivalina
- _____ Generally moving towards Noatak
- _____ Generally moving towards Red Dog
- _____ Generally moving upstream

Caribou Behavior (check all that apply)
- _____ Resting -- laying down
- _____ Grazing
- _____ Head down
- _____ Not watching construction
- _____ Alert and watching contruction
- _____ Moving slow (walking)
- _____ Moving quickly (trotting)
- _____ Moving fast (running)
- _____ Other (describe below)

Construction status
- _____ Construction unintterupted
- _____ Construction stopped in the area
- _____ AAEP Radio Controller notified

During Shutdown, Visible Construction Activities
- _____ All construction activites stopped
- _____ Some activity continued
- _____ No construction activities stopped

Did Construction Activities Influence Herd Movement?
- _____ Yes
- _____ No
- _____ Comment:_____

If Hunters Observed, Where Were They
- _____ No hunters present
- _____ Kivalina side of road
- _____ Noatak side of road
- _____ Number of ATVs: _____
- _____ Number of hunters:_____

Hunter Activity (check all that apply)
- _____ Hunters traversing the construction area
- _____ Hunters actively hunting
- _____ Hunters field dressing carcass
- _____ Hunters actively shooting
- _____ Hunters not moving, observing caribou
- _____ Hunters not moving, resting
- _____ Comments:_____

Predators Visible (check all that apply)
- _____ Wolf
- _____ Bear
- _____ Other predator: _____
- _____ Reported on Radio (species, location)

Low Flying Aircraft Presnt Overhead?
- _____ Helicopter
- _____ Fixed wing - propeller
- _____ Fixed wing - jet

Loud Noises Heard from Obsertation Location
- _____ Blasting
- _____ Construction equipment operating
- _____ ATVs
- _____ Gunshots
- _____ Human voices

Comments: _____

APPENDIX 2

EXTERNAL CONTACT INFORMATION

The following table includes the contact information for various wildlife related incidents along the AAEP exploration access road.

CONTACT	TELEPHONE	EMAIL	ADDRESS	HOURS OF OPERATION
Alaska Wildlife Troopers – Kotzebue Office	(907) 442-3241	https://dps.alaska.gov/awt/contact		9am to 5pm Monday-Friday
US Fish and Wildlife Service (Sarah Conn)	(907) 456-0203 (907) 456-0499	sarah_conn@fws.gov	101 12th Ave, Room 110, Fairbanks, Alaska 99701	9am to 5pm Monday-Friday
Bird TLC	(907) 562-4852	office@birdtlc.org	15510 Old Seward Hwy, Anchorage, Alaska 99516	9am to 5pm Monday-Friday
Alaska Wild Bird Rehabilitation Center	(907) 892-2927	email@akwildbird.org	12235 Bird Rd, Houston, Alaska 99694	10am to 2pm Monday-Friday
Alaska Department of Fish and Game Habitat Office	(907) 4597282	dfg.hab.infofai@alaska.gov	1300 College Rd Fairbanks, AK 99701	8am to 5pm Monday-Friday
Alaska Department Fish & Game	(907) 328-8354	dfg.dwc.vet@alaska.gov	240 5th Avenue P.O. Box 689 Kotzebue, AK 99752-0689	9am to 5pm Monday-Friday
Alaska State Virology Laboratory	(907) 269-8000	Nisha.Fowler@alaska.gov		8am to 5pm Monday-Friday