HARDROCK EXPLORATION/RECLAMATION PERMIT RENEWAL
2022-2026 EXPLORATION PROGRAM DETAIL
APMA 9339 MULTI-YEAR STATE LAND USE PERMIT
USACE NW6 PERMIT
AND
NAB PERMIT MULTI-YEAR TITLE 9 PERMIT APPLICATION

PROJECT

DeLong Mountains (formerly Noatak District) Exploration – Alaska State Mining Claims Exploration located in the Lisburne (Red Dog) Mining District, Noatak 2 Degree USGS Map Sheet

FIELD REPRESENTATIVES ON SITE

Robert Burke, Michael Buschette, Perry Hohn and Ryan Campbell
Red Dog Mine
Field Site Number: 907-754-5275
Number of Workers on Project – varies from between 10 to 70

LEGAL DESCRIPTION OF MINERAL PROPERTIES TO BE WORKED

Kateel River Meridian Townships 30-33 North, Ranges 17-21 West (State Mining Claims) and Townships 30-32 North, Ranges 17-19 West (NANA Regional Corporation Lands)

CONTACT

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Spokane, WA 99202
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TYPE OF PROJECT

Hardrock Mineral Exploration – Diamond Drilling, Geotechnical Drilling, Geophysical Surveys, Mapping, Soil/Stream Sediment Sampling, and Baseline Data Collection

MINERAL PROPERTIES LIST

A list of mining claims potentially affected by work described within this permit are attached as Appendix A. The legal descriptions are included. None of the claims attached are in either an Upland Lease or an Offshore Mining Lease.

INVENTORY OF EQUIPMENT

List of mechanized equipment to be used on site:

Make, Model, Type, Size, Purpose of Equipment/Pump	Quantity	Located On Claim Block	Transporting to Claim Block
1. Drill Rig (LF-70, LF-90, Hydracore 5000, or similar drill rig)	4		x
2. Generator (1/drill rig, 2 for emergency shelters): Kubota 7000 or 11,000	6		x
3. Frost Fighter (Forced Air Heater):	4		x
4. Stream Pump:25HP Kubota 4speed D1005 attached to a L122D 435 bean pump	4		x
5. Water Bladder Pump: same as above	2		x
6. Trash Pump (rig side pump): Tsurami electric pump 120v, 1/2-1HP	4		x
7. Solid Recovery Units: make and model to be determined	4		x
8. CME-45 Auger Drill and or Sonic Drill (tracked or truck mounted)	1		x

ACCESS

Proposed activities will be helicopter supported, utilizing a contract helicopter service stationed at the Red Dog mine for transporting personnel and drill equipment. We anticipate using one A-Star 350B3 helicopter and an A-Star B2, both supplied by independent contractors. The tail numbers will be provided to Northwest Arctic Borough (NAB) per their request prior to placing the units in service on site.

If used, the CME-45 auger or sonic drill are truck mounted rigs that will drive overland. This work will occur in winter months that will allow for overland travel within our permitted claim block. However, the timing, duration, and detail of these types of activities are not yet finalized. This work will not require the use of water.

A completed regional base map is included in Appendix B as Map 1.

PETROLEUM PRODUCT USED AT PROJECT SITE

As established in 2017, a fuel cache was established on claim AQ 1022, ADL 725340 to minimize helicopter trips and conserve fuel usage. All fuel will be managed according to the Terms of the Permit – Section 11 of the MLUP.

All the fuel related equipment, the fuel tank, and secondary containment will be sited on constructed, elevated wooden pads, arranged in a way that allows the helicopter to land

and the pilot to refuel as needed. The fuel will only remain on-site during planned drilling operations. Fuel is replenished by swapping full 110-gallon fly tanks that are flown from the Red Dog Mine. All fly tanks are double walled and are refilled at Red Dog Mine. We plan to re-use the fuel cache during future drill campaigns when helicopter support is required.

Drill Pads

Large equipment fuel transfers do not occur in the field. Fly tanks are swapped on site; this decreases the potential for spills.

Drillers will complete routine oil changes during operations. Absorbent material for potential spills will be kept on site and all oily waste generated is disposed of at Red Dog Mine using their procedure for such material.

Fuel Cache

Located on state claim AQ1022 in the SW1/4. The fuel cache is specifically at 5184055.905N, 1512018.286E AKSP Zone 7 NAD 83 (2011).

Items at site consist of:

- one, 110-gal double walled tank to contain Jet A Fuel,
- one secondary standard above ground fuel containment (130 gal),
- one 2kW electric generator,
- one 150V/1.5A pump,
- one, 25-foot-long hose with a nozzle, and
- one spill kit

Spill Prevention and Response Plan

The project does not store fuel in quantities above 1,321 gallons and therefore does not require Spill Prevention Control and Countermeasure (SPCC) plan. However, TAI is committed to minimizing our effects on the environment. TAI Exploration attends spill prevention training and works in collaboration with Red Dog mine personnel to understand concerns and improve overall knowledge regarding fuel handling and spill prevention.

The current fuel cache is located 300 feet from any flowing waters. No waste oil is stored at the fuel cache. No fuel containment berms are located around the cache, as only a small portion of fuel is located at the cache and secondary containment is in use. A spill kit is kept at the fuel cache. Any future fuel caches will follow the conditions previously stated.

SCOPE OF WORK PROPOSED

TAI will be conducting mineral exploration, including drilling, geophysical surveys, soil/stream sediment sampling, continued surface exploration and baseline data collection.

Activity Schedule

2022 Mineral Exploration
- Start date: On or about April 1, 2022
- End Date: On or about November 1, 2022

2023 Mineral Exploration
- Start date: On or about April 1, 2023
- End Date: On or about November 1, 2023

2024 Mineral Exploration
- Start date: On or about April 1, 2024
- End Date: On or about November 1, 2024

2025 Mineral Exploration
- Start date: On or about April 1, 2025
- End Date: On or about November 1, 2025

2026 Mineral Exploration
- Start date: On or about April 1, 2026
- End Date: On or about November 1, 2026

EXPLORATION METHOD

The primary activities proposed under this renewal application will be diamond drilling exploration holes to complete a drill hole spacing study, regional exploration holes to determine other areas of mineralization, and geotechnical drill holes to provide TAI with necessary rock characterization information. TAI will be utilizing either RD6000, LF-70, LF-90, or similar model/size drill rigs for core drilling to complete the planned exploration drill holes. A small track or truck-mounted auger or sonic rig may be used to test surficial geotechnical conditions. This drill rig does not require water for drilling activities. Therefore, no stream reaches are proposed as water withdrawal points for these hole locations. However, some geotechnical holes may require core drilling and will utilize a smaller core drilling rig (e.g., LF-70). Water withdrawal for drill water at those locations have already been approved. To decrease surface impacts in some of the exploration areas, mother holes will be drilled with a series of daughter holes drilled from the same collar, and thus, the same drill pad.

SITE PREPARATION AND RECLAMATION MEASURES

Drill sites are located initially using hand-held GPS in the field before pad construction. Decks for drill rigs and support equipment, such as water bladders and pump stations are constructed to elevate equipment off the ground to minimize disturbance. While digging drill pad foundations, disturbed topsoil and vegetation is placed nearby and returned to its original location during reclamation. At the conclusion of drilling, differential GPS is used to accurately survey the drill hole collars. The final reclamation for a given location includes the following:

- Removal of all drill equipment, support equipment and consumables
- Deconstruction of the supporting deck and platforms
- Casing removal and removal of cement/bentonite chips

- Re-contouring of surface to blend with natural surroundings using previously disturbed topsoil and replacing the displaced vegetation to promote natural plant growth.
- Final trash removal and final inspection

PAD CONSTRUCTION AND DIMENSIONS

The pads are constructed from approved drawings from a pad building contractor and usually measure 30 feet x 70 feet. They commonly involve placing vertical support posts about 5 feet apart around the drill collar, with diagonal and horizontal cribbing providing stability to the frame. The frame is then topped with flat planks on which the drill and support equipment is placed. The pad constructions are tailored to the site and orientation of the hole, as needed.

DRILLING ACTIVITIES

The drilling activity will take place on drill stations within TAI claims. Drilling is scheduled to begin in mid-May, each season, after crews have completed safety orientations, and continue into early October, weather permitting. Core holes will range from 200 to 3,400 feet deep depending on site location and purpose. TAI is planning to drill between 28,000 to 35,000 feet per season over the length of the renewed MLUP permit (2022-2026). This will depend on results and drill capacity. Drill crews operate 24 hours per day, using two 12-hour shifts. Surface disturbance will be minimal and confined to anchor areas of drill platforms and collar areas of drillholes. Drill hole tables are noted in Appendix C.

Drilling – Aktigiruq

Aktigiruq area drillholes are planned to confirm and evaluate the previously identified mineralized body. Map 2 – Aktigiruq Drill Locations depicts the Aktigiruq area in detail and is in Appendix B. During the proposed drill hole spacing study, TAI may have up to four drills in the Aktigiruq area each season over the length of the renewed MLUP permit (2022-2026).

Drilling – Regional

Regional exploration drillholes are planned to test new areas for mineralization at defined target areas. In Appendix B, Maps 3, 4 and 5 show these regional exploration drillhole locations in detail. Although several holes are noted, many of these are only being considered if drilling can be completed in addition to annual drill plans at Aktigiruq. It is anticipated that one to three of these regional holes will be completed annually.

Drilling – Geotechnical Holes

Geotechnical drillholes are planned in several areas on an iterative basis. For instance, TAI will need to drill geotechnical holes at proposed material sites to establish rock characterization. This drilling may require one hole or five holes. The number of holes drilled in any one area will be determined by the

geotechnical information TAI is able to gather. TAI may use some combination of drill core (e.g., LF-70), auger (e.g., CME-45), or sonic drill rig for geotechnical holes, depending on geotechnical data requirements. The drill core rig will utilize previously applied for stream reaches, as well as some newly proposed stream reaches. The auger/sonic rig will drill shallow holes with no need for water. In Appendix B, Maps 6 and 7 show potential geotechnical hole locations.

DRILL WASTE AND DRILL WATER MANAGEMENT

The ground-up rock (cuttings) from the drill holes is brought to surface in the drilling fluids (water and drilling additives). To re-use the drilling fluid, it is necessary to separate the cuttings, and this is done using settling tanks and a solids recovery unit (SRU).

Drilling fluids and cuttings will be pumped from the collar into settling tanks or directly to the SRU. The settling tanks allow particles suspended in the water to settle to the bottom of the settling tank by gravity, allowing cleaner water out of the final tank to be used again for drilling or routed through the SRU if needed. The SRU is a centrifuge that spins water through it to separate out the particles, capturing most of the cuttings as a paste that is collected in sacks to be transported to the Red Dog Mine for disposal, and allowing for much cleaner water, recirculated to be used again for drilling. Separated water that is not used during the final drilling is utilized in hole plugging and cementing.

Water is pumped from the stream takeout points at a maximum rate of 10 gallons/minute or less. The water used for drilling is recirculated to reduce overall consumption and reduce the amount of additive required during the drilling process. Water gauges are being used to monitor withdrawals of water at the takeout points to ensure the rate at which water is withdrawn is known. Periodic stream flow measurements are taken at the pump sites and reported to the Division of Water Resources at the conclusion of the drill season.

Mud fences will be installed to contain any excess drill fluids or cuttings not pumped from the collar to prevent them from dispersing around the drill site. All drill sites will be assessed and arranged to ensure no drilling fluids or cuttings can reach natural flowing or standing water. All pumping will be set up according to Alaska Department of Fish and Game (ADF&G) stipulations.

DRILL FLUIDS AND DISPOSAL METHODS

Drilling fluids are a mixture of water and additives used to improve drilling performance, as previously described. Additives used are tracked daily by the drill crews and consist of polymers and natural earth clay products (bentonite) that are not hazardous or toxic when used for their intended purpose and in compliance with the product safety data sheets. At no time will drilling fluids be allowed to enter open water ways.

The SRUs capture drill particles as a paste that is collected in sacks and transported to the Red Dog Mine for disposal. Remaining drilling fluids are recirculated into the hole during hole plugging with any excess being dispersed on upland areas. All foreign material is removed from the site, including the wooden pad, drill parts, water hoses, and any refuse.

SDS FOR ALL SUBSTANCES

SDS information is included as Appendix E.

WATER USE AUTHORIZATION

Water sources are currently permitted under TWUA F2019-079, TWUA-F2019-080 and TWUA F2019-081. TAI is submitting requests for six additional stream reaches in two areas within this renewal. Maps for those additional reaches are included in Appendix B as Maps 8 and 9.

Estimate of Daily Water Use

Water is pumped from the stream takeout points at a maximum rate of 10 gallons/minute or less. More details regarding water use estimates are included in Appendix D.

The water used for drilling is recirculated to reduce overall consumption required during the drilling process. Water gauges are utilized to monitor withdrawals of water at the takeout points. Periodic stream flow measurements are taken at the pump sites and reported to the Division of Water Resources at the conclusion of the drill season.

Water for all drill set-ups will be pumped from tributaries of Wulik River and Ikalukrok Creeks. At the Aktigiruq drill locations, water will be pumped from the creek into a temporary bladder and shared by the drills. This allows for more efficient water management and reduction in overall water consumption. Regional exploration holes will pump water directly from the permitted creek to the drill site.

AVOIDANCE AND MITIGATION OF POTENTIAL IMPACTS

Protection of Surface Water Bodies

Surface waters are protected from impacts by placing controls for runoff of drill fluid from drill equipment, providing containment for hazardous materials such as fuel, and locating drill sites away from surface water bodies.

Drill fluids are recycled by circulating through settling tanks at the drill sites, and silt fences put in place downslope from the tank locations to intercept stormwater that may wash down from the settling tank area. The silt fence is also a

protective measure to keep cuttings material contained if there is a spill or overfill of drill mud at the settling tanks. Excavated mud pits will not be used.

Wetland specialists have conducted table-top reviews of air photographs for potential wetlands. If required, field reconnaissance will be conducted to confirm the desktop findings. Exploration drill sites and support activities will be located to avoid or minimize impacts to wetlands. Impacts to wetlands for this project are authorized under USACE Nationwide Permit No.6 which authorizes the construction of temporary pads, provided the discharge does not exceed 1/10-acre in waters of the U.S.

Surface Water Quality, Quantity, and Aquatic Life

Water quantity required for drilling is minimized by use of the SRUs at the drill sites. The SRUs maximize the amount of water that may be recovered from drill cuttings, thereby minimizing the amount of make-up water required from streams in the area.

The use of storage bladders allows peak water withdrawal rates from streams to be minimized, thereby reducing impact to the stream flow rate. The bladders can fill slowly from the creek over long periods of time, while the bladders can supply high rates of water over short periods to the drill equipment. Use of water gauges at pumps and drill rigs allows for good tracking of water consumption, ensuring we are within our permitted extraction allotment. Water withdrawal activity is coordinated with ADF&G and ADNR.

Surface water is protected from drill fluids, cuttings, or sediments from the drill equipment area using silt fence to filter fines if there is a spill at the drill rig, overfill of the mud tanks, or from stormwater from the drill rig area. Transfers of fuel to equipment tanks do not take place within 100 feet of water bodies.

Each water intake structure is screened to prevent entrapment of fish or other aquatic life. The effective screen openings may not exceed 1/4 inch as required by ADF&G. Water velocity at the screen/water interface may not exceed 0.5 feet per second when the pump is operating.

Protection of Wildlife

Helicopter operations include measures to avoid disrupting wildlife and bird migration or subsistence activities, as safety allows, flying around spotted herds or flocks, flying at altitudes high enough to reduce noise and disturbance, limiting the numbers of flights per day, or temporarily suspending operations. Helicopter operations avoid areas where species sensitive to noise or movement are concentrated. As appropriate, the operations use horizontal and/or vertical buffers as appropriate while ensuring human safety.

TAI will make note of any Golden eagle activity in the area during exploration activities and will take all practical steps to minimize disturbance of the birds. TAI will contact ADF&G if an active Golden eagle nest site is identified.

TAI also has a specific Caribou Policy and Guidelines, which includes the following points:

- Caribou have right of way;
- Work will stop if caribou approach closer than 300 feet to work areas, such as drill equipment;
- Caribou sighting card to be filled out when any caribou spotted and turned in to the Project Manager and Environmental department at Red Dog Mine;
- TAI has a no hazing policy of any wildlife by helicopters;
- Increased helicopter flight heights to minimize noise disturbance;
- When migrating caribou are near or approaching the drill sites or work areas, all work must come to a stop when they are within 300 feet; and
- Work should not proceed again until the animals have moved safely away beyond the 300-foot distance.

Subsistence Activities

TAI will conduct exploration activities in a manner to minimize impacts to subsistence activities, including fishing, trapping, waterfowl hunting, egg gathering, berry picking and caribou hunting. Subsistence hunting of caribou during migration is of particular importance in the Lisburne (Red Dog) Mining District. During the migration of caribou, operations will be conducted to avoid diversion of the migration of caribou. Activity that may interfere with the migration, such as helicopter operations and ground surveys, will stop when migrating caribou are in the immediate vicinity.

Avoidance of Cultural Sites

Archaeological surveys have been conducted for areas associated with potential future exploration at the Aktigiruq and Anarraaq project area within the Lisburne (Red Dog) Mining District, and planned site operations will avoid known cultural sites identified from this work. A qualified archaeologist under authorization of the Alaska Office of History and Archaeology will be brought to the other exploration drilling sites in the Lisburne (Red Dog) Mining District to examine the proposed drill site locations and other work areas (freshwater storage tank locations, material laydown areas, water pumping stations) prior to the start of field activities. Site workers receive training on protocols to follow if there is a chance find of a previously unknown cultural site, including stopping work immediately and notifying the Northwest Arctic Borough and the Alaska Office of History and Archaeology.

DRILL HOLE CLOSURE, PLUGGING METHODOLOGY, SURFACE RECLAMATION AND ABANDONEMENT

Surface reclamation of the drill pads and silt fences is conducted after the cessation of drilling at each hole. This involves taking photos of the drill site before the drill pad is built and the tundra is disturbed, when the drill rig is setup and drilling, and after the pad has been reclaimed. Reclaiming the site includes pulling down the wooden drill pads, filling in the foundation holes, removing refuse, and removing the silt fences. The site is also checked a few months after reclaiming to ensure the collar is not subsiding.

All drill hole casings shall be removed or cut off at, or below, ground level (unless there is an install left in the hole, such as a piezometer). All drill holes are plugged by the end of the exploration season during which they are drilled. In the event a drill hole needs to be left open, TAI will reach out to ADNR for specific approval. All drill holes are backfilled with remaining cuttings, plugged with bentonite holeplug and the top 50 feet are cemented.

BONDING

For purposes of the NAB permit, TAI continues to maintain a bond in the Department of Natural Resources Statewide Bond Pool for work in the project area.

APPENDIX A
Mineral Properties List

ADL	Claimant	Claim Name	Legal	Grant Date
ADL725324	Teck American Incorporated	AQ 1006	NW Sec 3 T32N R19W	9/7/2017
ADL725325	Teck American Incorporated	AQ 1007	SW Sec 3 T32N R19W	9/7/2017
ADL725326	Teck American Incorporated	AQ 1008	SE Sec 3 T32N R19W	9/7/2017
ADL725327	Teck American Incorporated	AQ 1009	SW Sec 2 T32N R19W	9/7/2017
ADL725333	Teck American Incorporated	AQ 1015	NE Sec 11 T32N R19W KRM	9/7/2017
ADL725334	Teck American Incorporated	AQ 1016	NW Sec 11 T32N R19W KRM	9/7/2017
ADL725338	Teck American Incorporated	AQ 1020	SE Sec 10 T32N R19W KRM	9/7/2017
ADL725339	Teck American Incorporated	AQ 1021	SW Sec 11 T32N R19W KRM	9/7/2017
ADL725340	Teck American Incorporated	AQ 1022	SE Sec 11 T32N R19W KRM	9/7/2017
ADL725341	Teck American Incorporated	AQ 1023	SW Sec 12 T32N R19W KRM	9/7/2017
ADL725343	Teck American Incorporated	AQ 1025	NE Sec 13 T32N R19W KRM	9/7/2017
ADL725344	Teck American Incorporated	AQ 1026	NW Sec 13 T32N R19W KRM	9/7/2017
ADL725345	Teck American Incorporated	AQ 1027	NE Sec 14 T32N R19W KRM	9/7/2017
ADL725346	Teck American Incorporated	AQ 1028	NW Sec 14 T32N R19W KRM	9/7/2017
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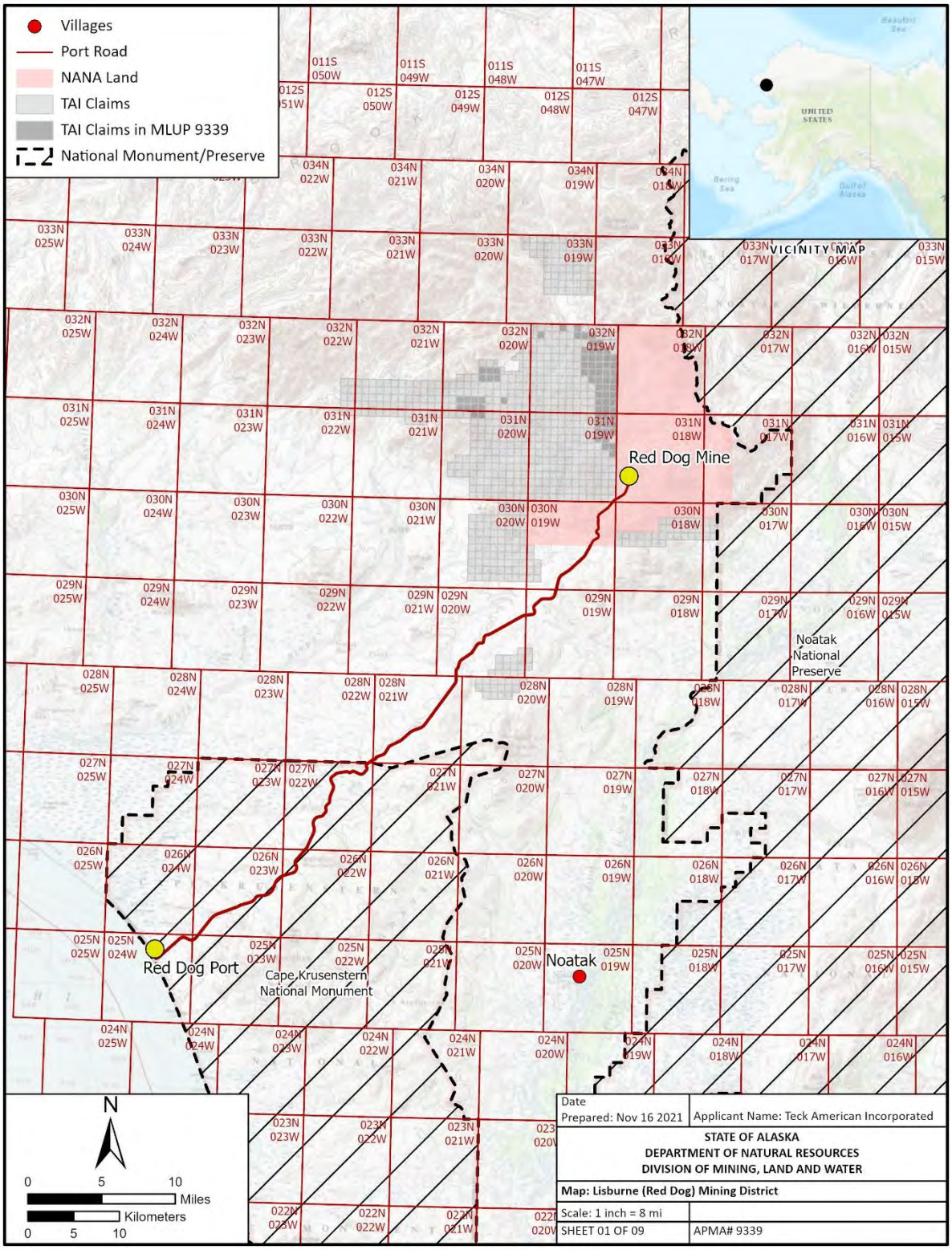
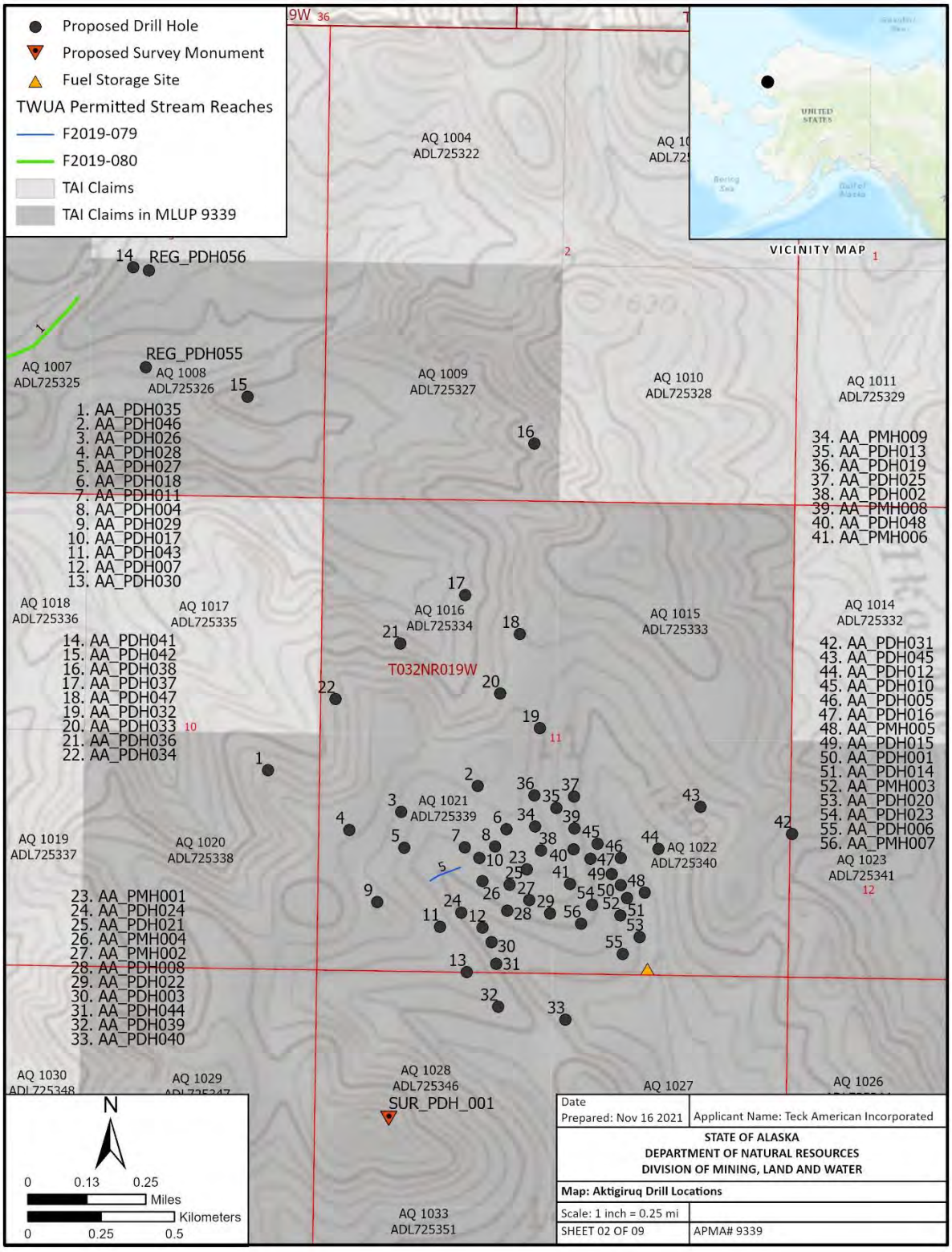
ADL725351	Teck American Incorporated	AQ 1033	SW Sec 14 T32N R19W KRM	9/7/2017
ADL725352	Teck American Incorporated	AQ 1034	SE Sec 14 T32N R19W KRM	9/7/2017
ADL725353	Teck American Incorporated	AQ 1035	SW Sec 13 T32N R19W KRM	9/7/2017
ADL725354	Teck American Incorporated	AQ 1036	SE Sec 13 T32N R19W KRM	9/7/2017
ADL725355	Teck American Incorporated	AQ 1037	NE Sec 24 T32N R19W KRM	9/7/2017
ADL725356	Teck American Incorporated	AQ 1038	NW Sec 24 T32N R19W KRM	9/7/2017
ADL725357	Teck American Incorporated	AQ 1039	NE Sec 23 T32N R19W KRM	9/7/2017
ADL725358	Teck American Incorporated	AQ 1040	NW Sec 23 T32N R19W KRM	9/7/2017
ADL725359	Teck American Incorporated	AQ 1041	NE Sec 22 T32N R19W KRM	9/7/2017
ADL725363	Teck American Incorporated	AQ 1045	SW Sec 23 T32N R19W KRM	9/7/2017

ADL	Claimant	Claim Name	Legal	Grant Date
ADL725364	Teck American Incorporated	AQ 1046	SE Sec 23 T32N R19W KRM	9/7/2017
ADL725365	Teck American Incorporated	AQ 1047	SW Sec 24 T32N R19W KRM	9/7/2017
ADL725366	Teck American Incorporated	AQ 1048	SE Sec 24 T32N R19W KRM	9/7/2017
ADL725367	Teck American Incorporated	AQ 1049	NE Sec 25 T32N R19W KRM	9/7/2017
ADL725368	Teck American Incorporated	AQ 1050	NW Sec 25 T32N R19W KRM	9/7/2017
ADL725369	Teck American Incorporated	AQ 1051	NE Sec 26 T32N R19W KRM	9/7/2017
ADL725376	Teck American Incorporated	AQ 1058	SE Sec 26 T32N R19W KRM	9/7/2017
ADL725377	Teck American Incorporated	AQ 1059	SW Sec 25 T32N R19W KRM	9/7/2017
ADL725378	Teck American Incorporated	AQ 1060	SE Sec 25 T32N R19W KRM	9/7/2017
ADL725379	Teck American Incorporated	AQ 1061	NE Sec 36 T32N R19W KRM	9/7/2017
ADL725380	Teck American Incorporated	AQ 1062	NW Sec 36 T32N R19W KRM	9/7/2017
ADL725381	Teck American Incorporated	AQ 1063	NE Sec 35 T32N R19W KRM	9/7/2017
ADL725388	Teck American Incorporated	AQ 1070	SE Sec 35 T32N R19W KRM	9/7/2017
ADL725389	Teck American Incorporated	AQ 1071	SW Sec 36 T32N R19W KRM	9/7/2017
ADL725390	Teck American Incorporated	AQ 1072	SE Sec 36 T32N R19W KRM	9/7/2017
ADL725391	Teck American Incorporated	AQ 1073	NE Sec 1 T31N R19W KRM	9/7/2017
ADL725392	Teck American Incorporated	AQ 1074	NW Sec 1 T31N R19W KRM	9/7/2017
ADL725393	Teck American Incorporated	AQ 1075	NE Sec 2 T31N R19W KRM	9/7/2017
ADL725400	Teck American Incorporated	AQ 1082	SE Sec 2 T31N R19W KRM	9/7/2017
ADL725401	Teck American Incorporated	AQ 1083	SW Sec 1 T31N R19W KRM	9/7/2017
ADL725402	Teck American Incorporated	AQ 1084	SE Sec 1 T31N R19W KRM	9/7/2017
ADL725403	Teck American Incorporated	AQ 1085	NE Sec 12 T31N R19W KRM	9/7/2017
ADL725404	Teck American Incorporated	AQ 1086	NW Sec 12 T31N R19W KRM	9/7/2017
ADL725405	Teck American Incorporated	AQ 1087	NE Sec 11 T31N R19W KRM	9/7/2017
ADL725412	Teck American Incorporated	AQ 1094	SE Sec 11 T31N R19W KRM	9/7/2017
ADL725413	Teck American Incorporated	AQ 1095	SW Sec 12 T31N R19W KRM	9/7/2017

ADL	Claimant	Claim Name	Legal	Grant Date
ADL725415	Teck American Incorporated	AQ 1097	NE Sec 13 T31N R19W KRM	9/7/2017
ADL725416	Teck American Incorporated	AQ 1098	NW Sec 13 T31N R19W KRM	9/7/2017
ADL725426	Teck American Incorporated	AQ 1108	SE Sec 13 T31N R19W KRM	9/7/2017
ADL725440	Teck American Incorporated	EW 2002	NW Sec 4 T32N R19W KRM	9/9/2017
ADL725448	Teck American Incorporated	EW 2010	SE Sec 6 T32N R19W KRM	9/9/2017
ADL725525	Teck American Incorporated	EW 2087	NE Sec 4 T31N R20W KRM	9/10/2017
ADL725526	Teck American Incorporated	EW 2088	NW Sec 4 T31N R20W KRM	9/10/2017
ADL725733	Teck American Incorporated	WW 3015	NE Sec 21 T32N R20W KRM	9/8/2017
ADL725734	Teck American Incorporated	WW 3016	NW Sec 22 T32N R20W KRM	9/8/2017
ADL725735	Teck American Incorporated	WW 3017	NE Sec 22 T32N R20W KRM	9/8/2017
ADL725749	Teck American Incorporated	WW 3031	SE Sec 22 T32N R20W KRM	9/8/2017
ADL725750	Teck American Incorporated	WW 3032	SW Sec 22 T32N R20W KRM	9/8/2017
ADL725751	Teck American Incorporated	WW 3033	SE Sec 21 T32N R20W KRM	9/8/2017
ADL725790	Teck American Incorporated	WW 3072	NW Sec 32 T32N R20W KRM	9/8/2017
ADL725791	Teck American Incorporated	WW 3073	NE Sec 32 T32N R20W KRM	9/8/2017
ADL725792	Teck American Incorporated	WW 3074	NW Sec 33 T32N R20W KRM	9/8/2017
ADL725793	Teck American Incorporated	WW 3075	NE Sec 33 T32N R20W KRM	9/8/2017
ADL725796	Teck American Incorporated	WW 3078	NW Sec 35 T32N R20W KRM	9/8/2017
ADL725806	Teck American Incorporated	WW 3088	SE Sec 33 T32N R20W KRM	9/8/2017
ADL725807	Teck American Incorporated	WW 3089	SW Sec 33 T32N R20W KRM	9/8/2017
ADL725808	Teck American Incorporated	WW 3090	SE Sec 32 T32N R20W KRM	9/8/2017
ADL725809	Teck American Incorporated	WW 3091	SW Sec 32 T32N R20W KRM	9/8/2017

APPENDIX B
Project Maps


Villages
Port Road
NANA Land
TAI Claims
TAI Claims in MLUP 9339
National Monument/Preserve
VICINITY MAP
UNITED STATES
Red Dog Mine
Noatak National Preserve
Red Dog Port
Cape Krusenstern National Monument
Noatak
N
0 5 10
Miles
Kilometers
0 5 10
Date Prepared: Nov 16 2021
Applicant Name: Teck American Incorporated
STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND AND WATER
Map: Lisburne (Red Dog) Mining District
Scale: 1 inch = 8 mi
SHEET 01 OF 09
APMA# 9339


Proposed Drill Hole
Proposed Survey Monument
Fuel Storage Site
TWUA Permitted Stream Reaches
F2019-079
F2019-080
TAI Claims
TAI Claims in MLUP 9339
VICINITY MAP
UNITED STATES
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Gulf of Alaska
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7. AA_PDH011
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9. AA_PDH029
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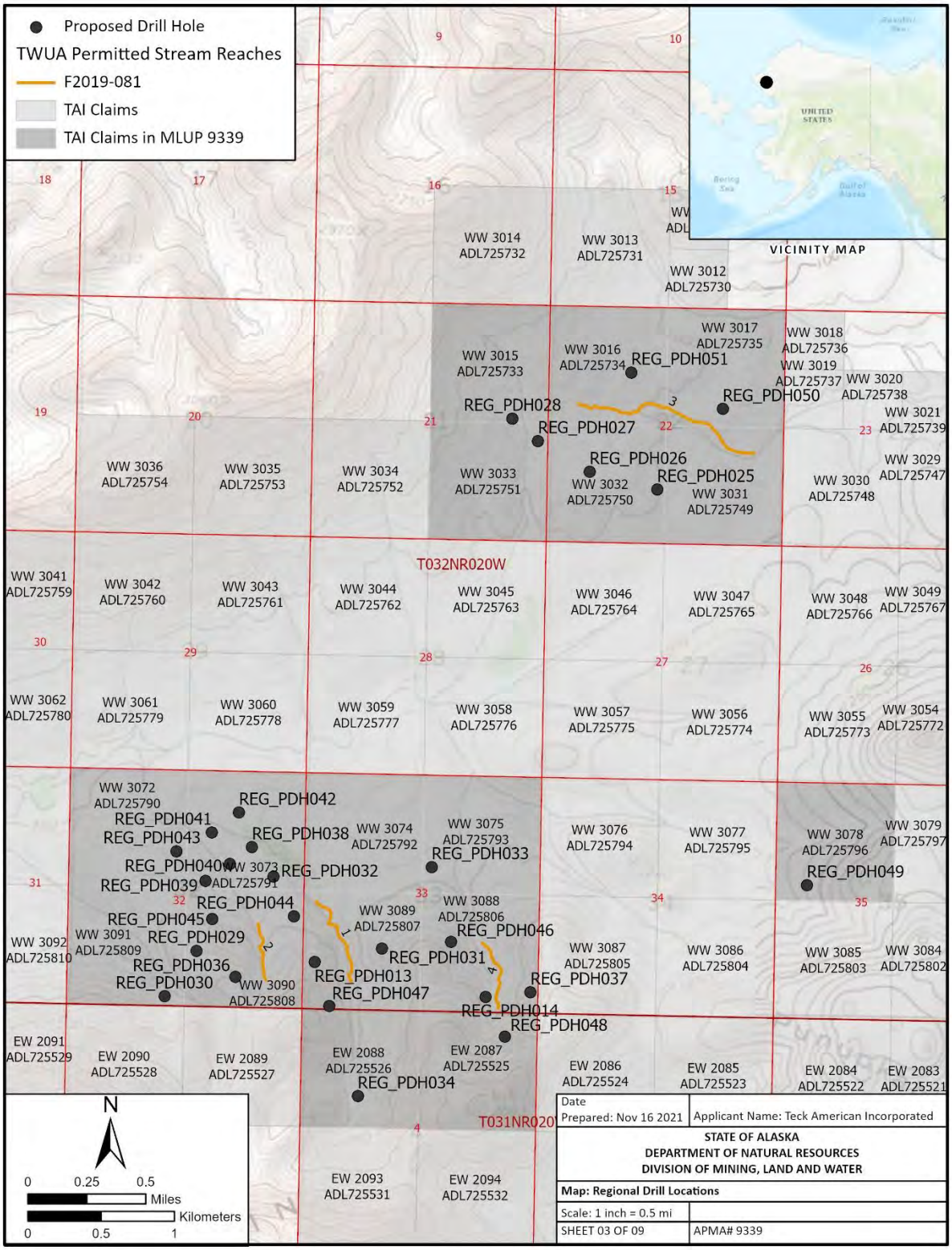
Date Prepared: Nov 16 2021
Applicant Name: Teck American Incorporated
STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND AND WATER
Map: Aktigiruq Drill Locations
Scale: 1 inch = 0.25 mi
SHEET 02 OF 09
APMA# 9339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F2019-081
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Gulf of Alaska
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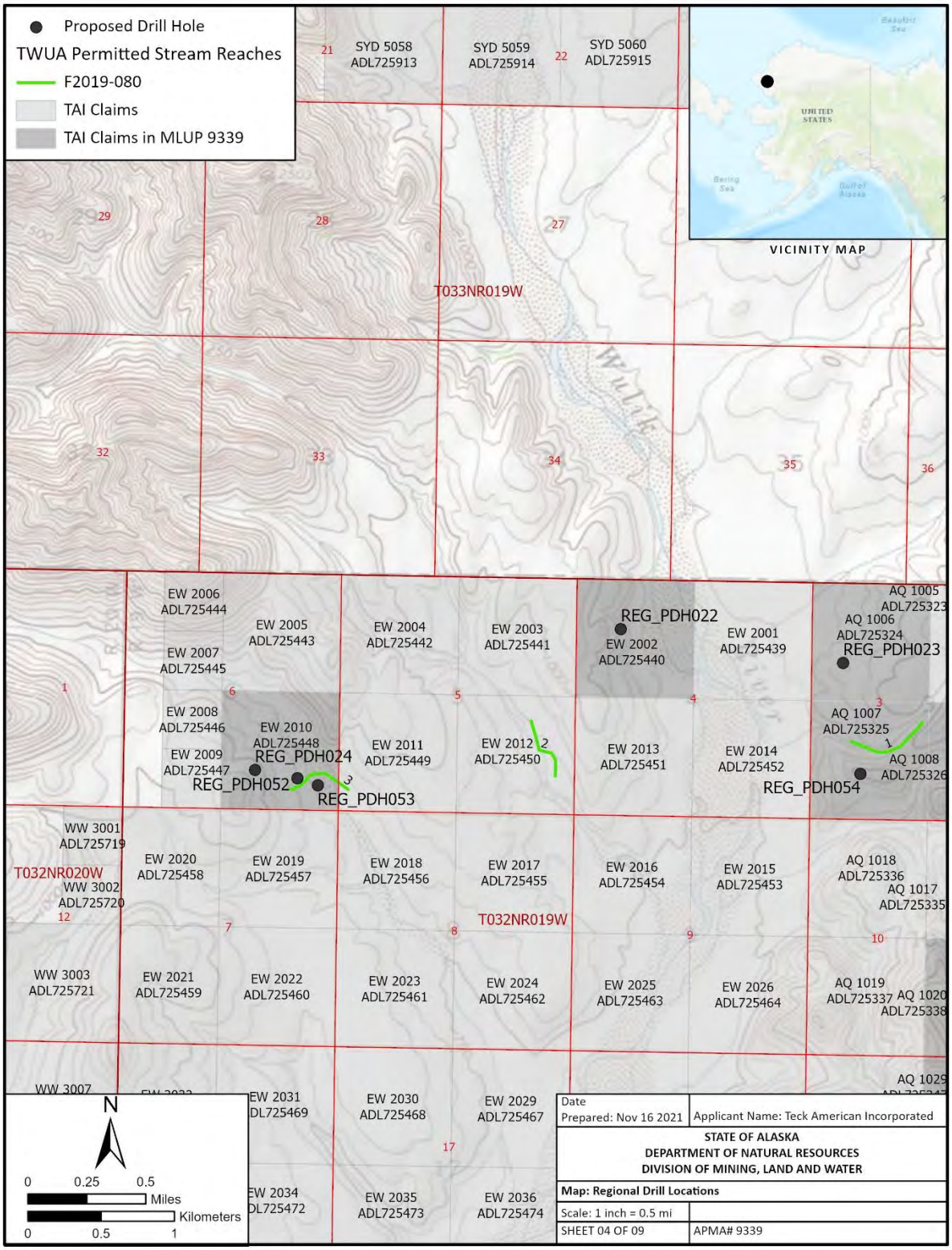
Date Prepared: Nov 16 2021
Applicant Name: Teck American Incorporated
STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND AND WATER
Map: Regional Drill Locations
Scale: 1 inch = 0.5 mi
SHEET 03 OF 09
APMA# 9339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TWUA Permitted Stream Reaches
F2019-080
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TAI Claims in MLUP 9339
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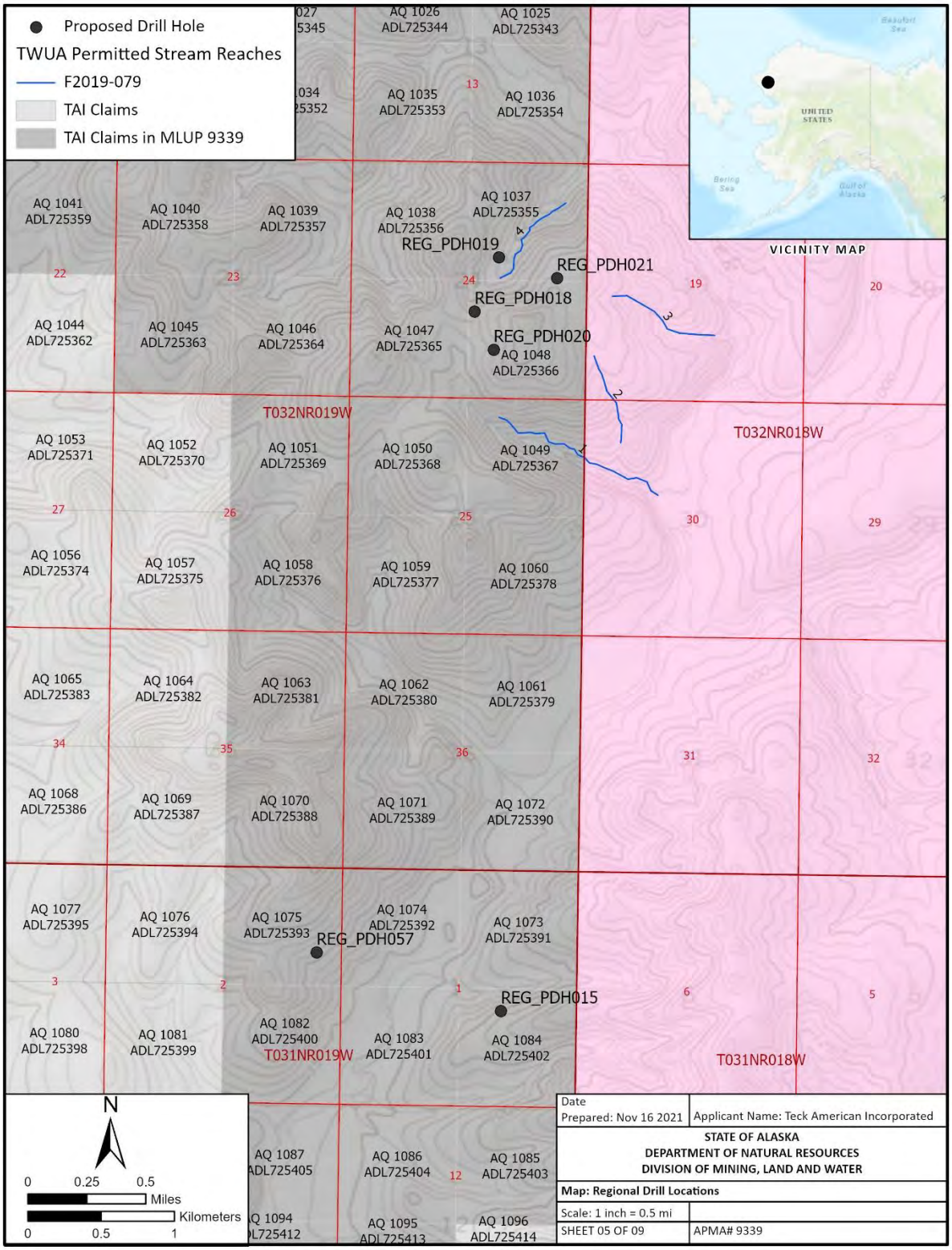
Date Prepared: Nov 16 2021
Applicant Name: Teck American Incorporated
STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND AND WATER
Map: Regional Drill Locations
Scale: 1 inch = 0.5 mi
SHEET 04 OF 09
APMA# 9339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F2019-079
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Bering Sea
Gulf of Alaska
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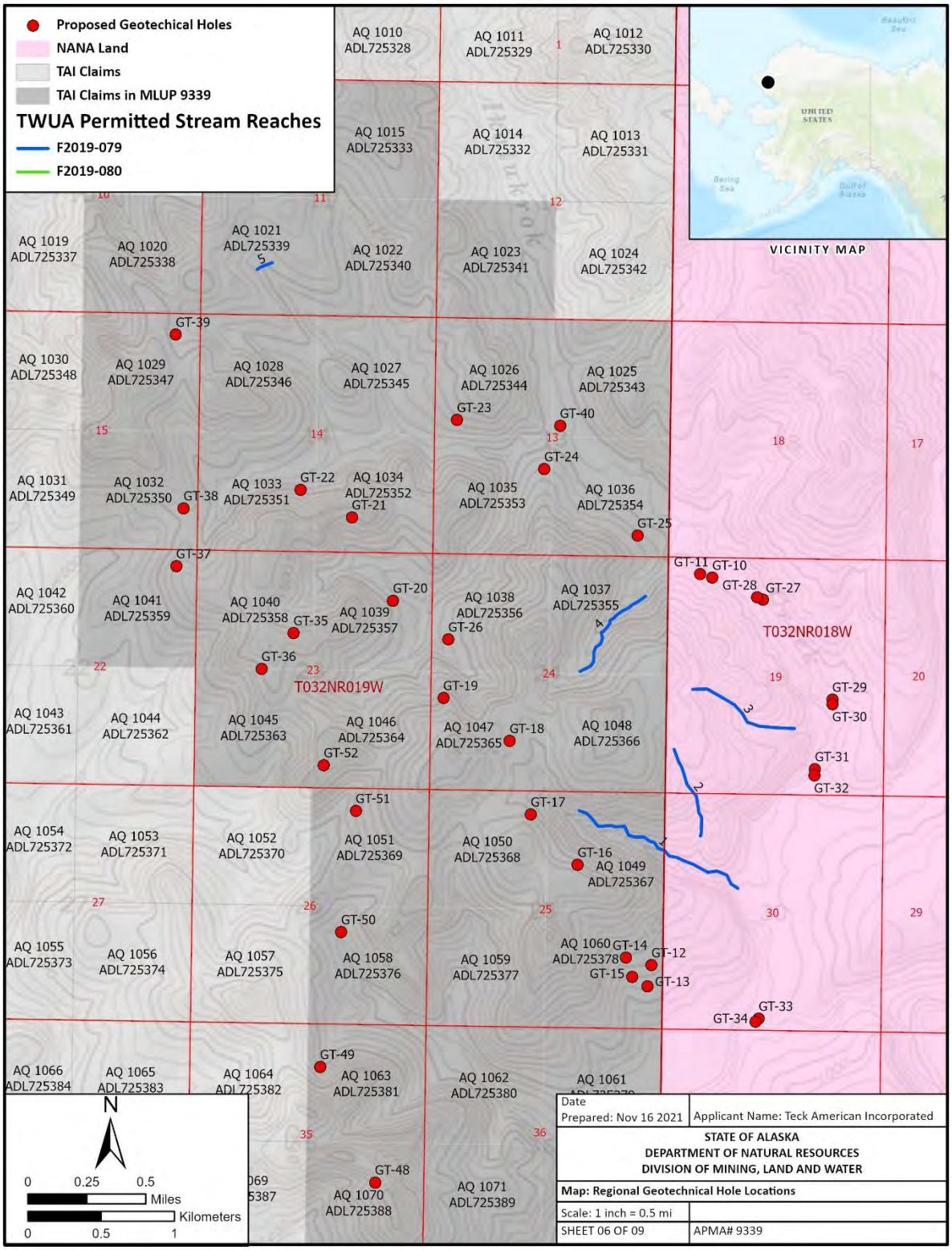
Kilometers
Date Prepared: Nov 16 2021
Applicant Name: Teck American Incorporated
STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND AND WATER
Map: Regional Drill Locations
Scale: 1 inch = 0.5 mi
SHEET 05 OF 09
APMA# 9339


Proposed Geotechical Holes
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TAI Claims
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TWUA Permitted Stream Reaches
F2019-079
F2019-080
VICINITY MAP
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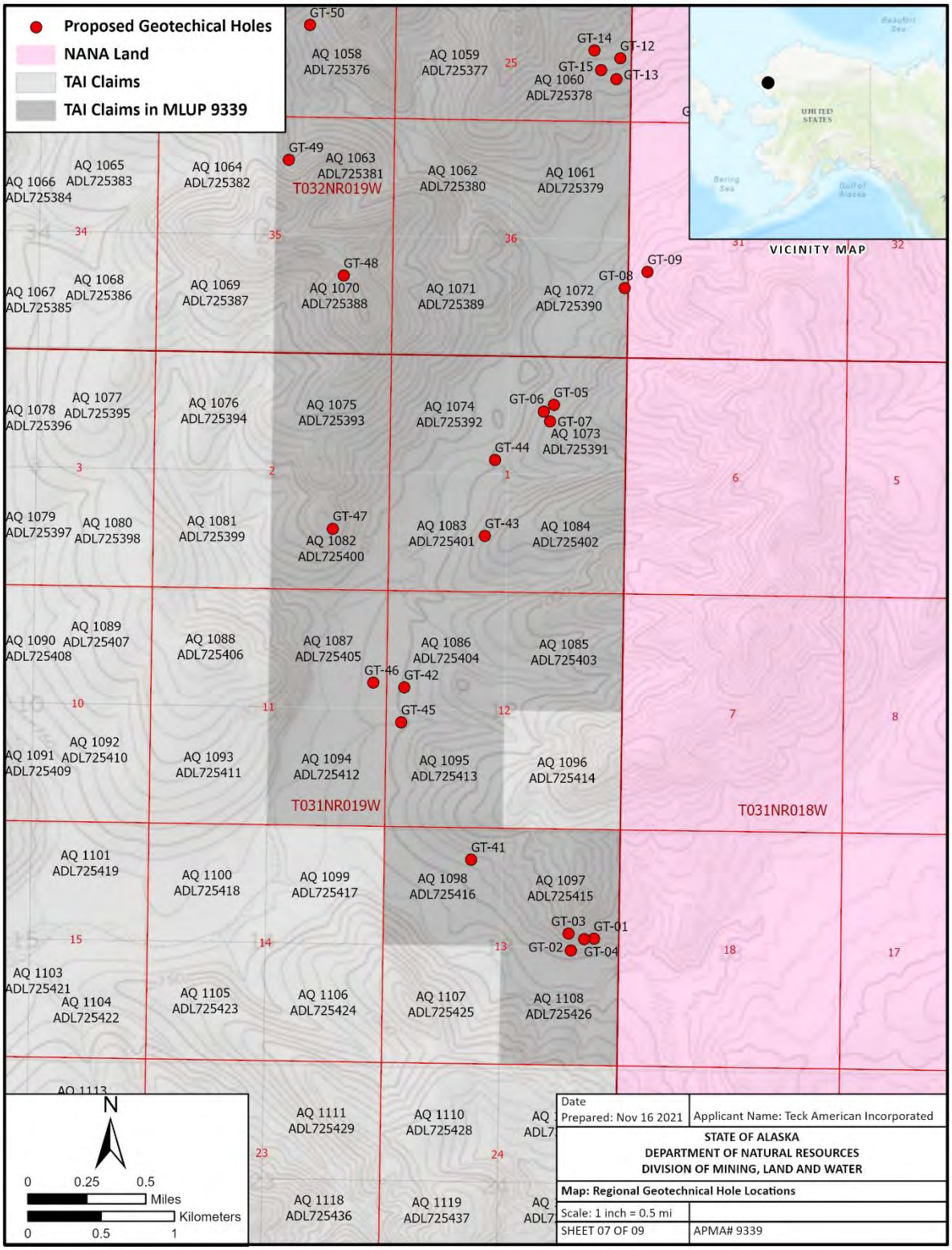
0 0.5 1 Kilometers
Date Prepared: Nov 16 2021
Applicant Name: Teck American Incorporated
STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND AND WATER
Map: Regional Geotechnical Hole Locations
Scale: 1 inch = 0.5 mi
SHEET 06 OF 09
APMA# 9339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UNITED STATES
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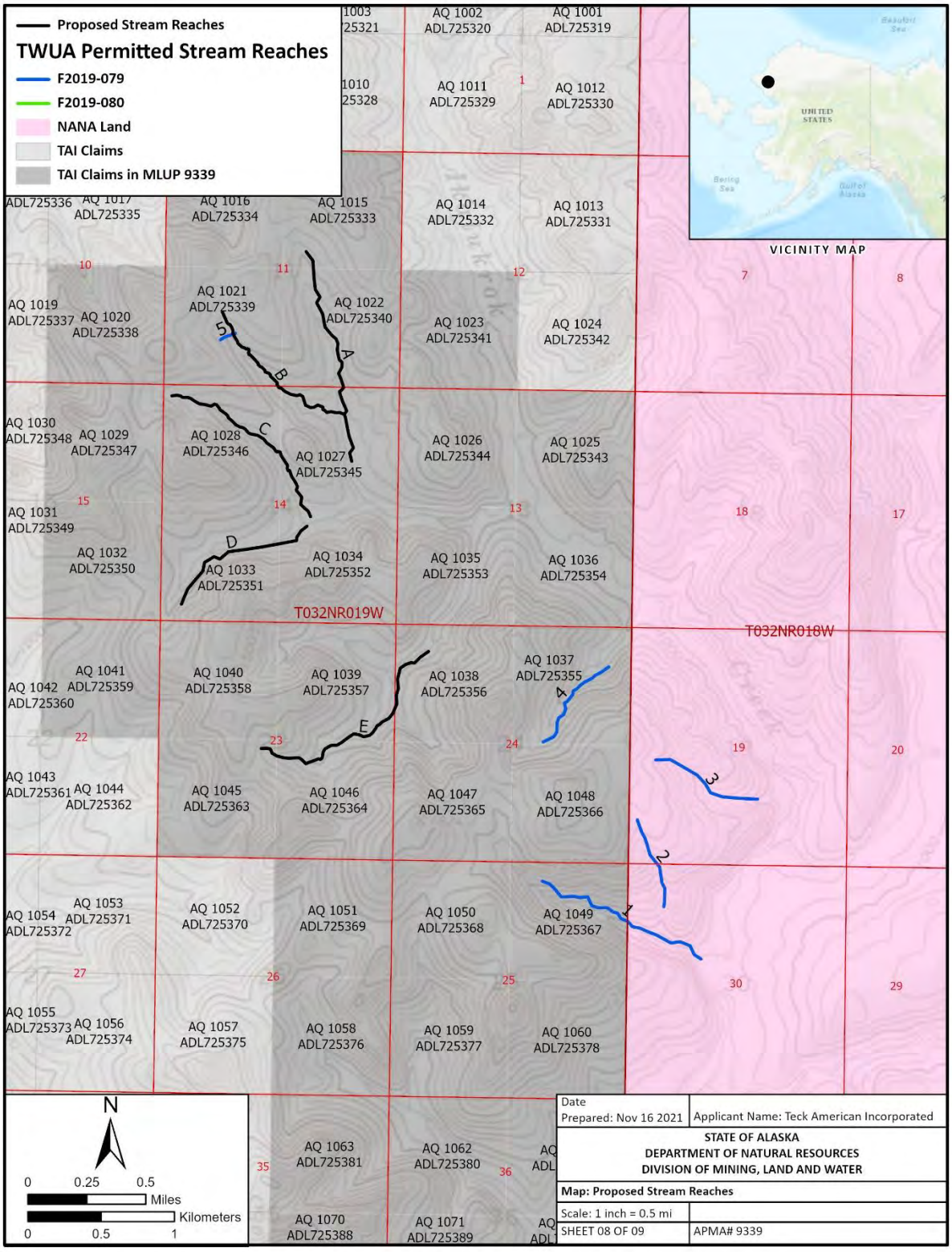
Date Prepared: Nov 16 2021
Applicant Name: Teck American Incorporated
STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND AND WATER
Map: Regional Geotechnical Hole Locations
Scale: 1 inch = 0.5 mi
SHEET 07 OF 09
APMA# 9339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TWUA Permitted Stream Reaches
F2019-079
F2019-080
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TAI Claims
TAI Claims in MLUP 9339
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Bering Sea
Gulf of Alaska
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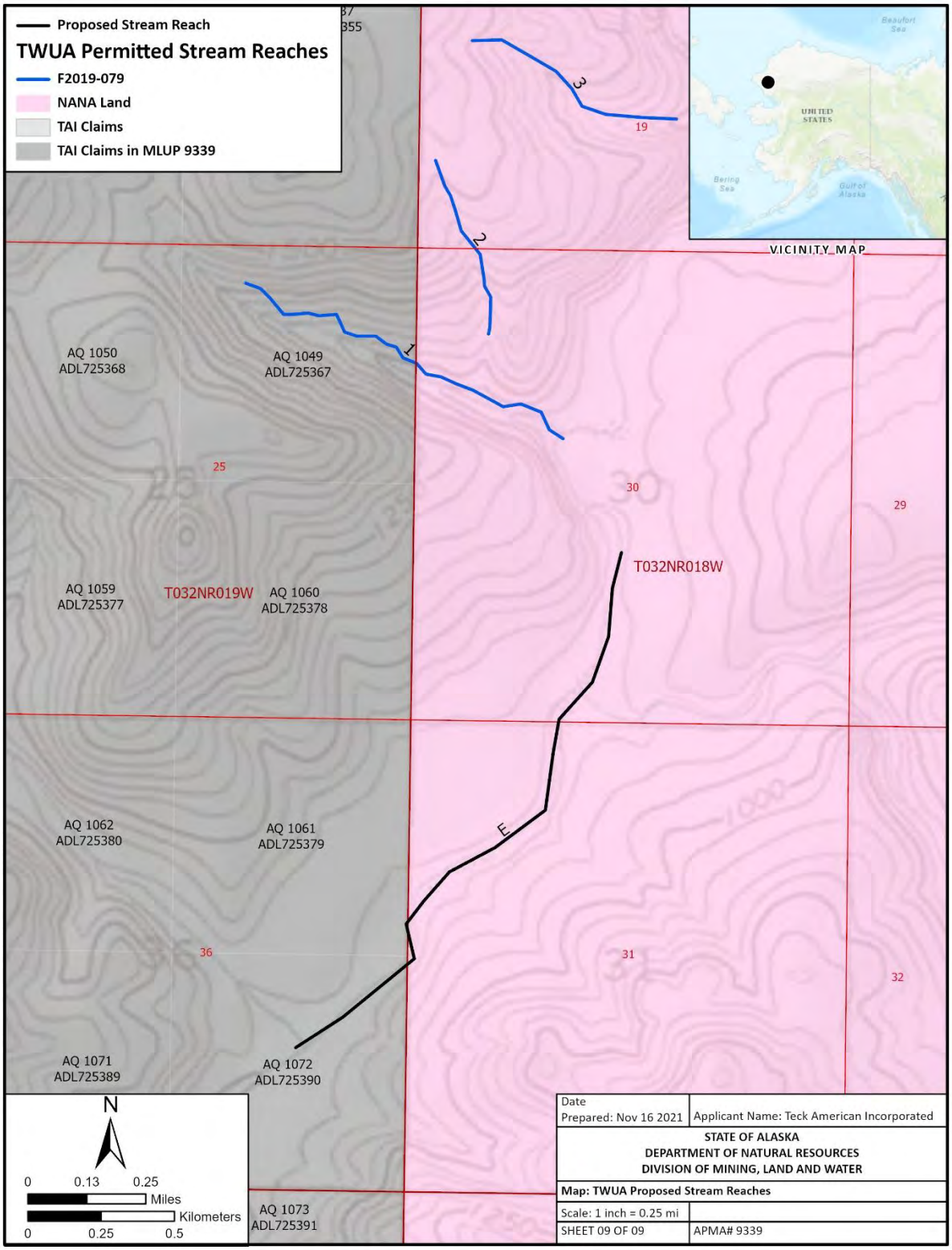
Date Prepared: Nov 16 2021
Applicant Name: Teck American Incorporated
STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND AND WATER
Map: Proposed Stream Reaches
Scale: 1 inch = 0.5 mi
SHEET 08 OF 09
APMA# 9339


Proposed Stream Reach
TWUA Permitted Stream Reaches
F2019-079
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TAI Claims
TAI Claims in MLUP 9339
VICINITY MAP
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Bering Sea
Gulf of Alaska
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Kilometers
Date Prepared: Nov 16 2021
Applicant Name: Teck American Incorporated
STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND AND WATER
Map: TWUA Proposed Stream Reaches
Scale: 1 inch = 0.25 mi
SHEET 09 OF 09
APMA# 9339

APPENDIX C
Drill Hole Locations

Aktigiruq Area Drill Hole Locations

Drillhole Name	Claim Name	ADL	Easting AKSP 7	Northing AKSP 7	Elevation	Target Depth	Target Drill Year
AA_PMH001	AQ 1021	ADL 725339	1510668	5185163	1341	3400	2022
	AQ 1021	ADL 725339			-600	1200	2022
	AQ 1021	ADL 725339			-550	1150	2022
	AQ 1021	ADL 725339			-400	1200	2022
	AQ 1021	ADL 725339			-650	1050	2022
	AQ 1021	ADL 725339			-600	1200	2022
	AQ 1021	ADL 725339			-670	1100	2022
AA_PMH002	AQ 1021	ADL 725339	1510693	5184817	1281	3100	2022
	AQ 1021	ADL 725339			-700	1200	2022
	AQ 1021	ADL 725339			-400	1200	2022
	AQ 1021	ADL 725339			-500	1200	2022
	AQ 1021	ADL 725339			-550	1200	2022
	AQ 1021	ADL 725339			-725	1200	2022
AA_PMH003	AQ 1022	ADL 725340	1511715	5184647	1200	2300	2022
	AQ 1022	ADL 725340			0	1100	2022
	AQ 1022	ADL 725340			0	1000	2022
	AQ 1022	ADL 725340			0	1000	2022
	AQ 1022	ADL 725340			-50	1050	2022
	AQ 1022	ADL 725340			50	1200	2022
	AQ 1022	ADL 725340			-100	1050	2022
AA_PMH004	AQ 1021	ADL 725339	1510170	5185029	1252	3450	2023
	AQ 1021	ADL 725339			-700	1200	2023
	AQ 1021	ADL 725339			-750	1100	2023
	AQ 1021	ADL 725339			-650	1200	2023
	AQ 1021	ADL 725339			-650	1300	2023
	AQ 1021	ADL 725339			-750	1250	2023
	AQ 1021	ADL 725339			-750	1200	2023
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	AQ 1022	ADL 725340			75	950	2023
	AQ 1022	ADL 725340			250	1100	2023
	AQ 1022	ADL 725340			200	1200	2023
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	AQ 1022	ADL 725340			70	1100	2023
	AQ 1022	ADL 725340			50	1050	2023
AA_PMH006	AQ 1022	ADL 725340	1511153	5184999	1339	2900	2023
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	AQ 1022	ADL 725340			-350	1050	2023

Drillhole Name	Claim Name	ADL	Easting AKSP 7	Northing AKSP 7	Elevation	Target Depth	Target Drill Year
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	AQ 1022	ADL 725340			-200	1050	2023
	AQ 1022	ADL 725340			-350	900	2023
	AQ 1022	ADL 725340			-400	900	2023
	AQ 1022	ADL 725340			-400	1000	2023
AA_PMH008	AQ 1022	ADL 725340	1511200	5185620	1357	3150	2024
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	AQ 1022	ADL 725340			-550	1000	2024
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	AQ 1022	ADL 725340			-650	1000	2024
	AQ 1022	ADL 725340			-500	1200	2024
AA_PMH009	AQ 1021	ADL 725339	1510759	5185639	1394	3350	2024
	AQ 1021	ADL 725339			-600	1100	2024
	AQ 1021	ADL 725339			-500	1150	2024
	AQ 1021	ADL 725339			-700	950	2024
	AQ 1021	ADL 725339			-500	1200	2024
	AQ 1021	ADL 725339			-400	1350	2024
	AQ 1021	ADL 725339			-700	1000	2024
AA_PDH001	AQ 1022	ADL 725340	1511720	5184984	1194	2300	Undecided
AA_PDH002	AQ 1021	ADL 725339	1510827	5185373	1380	3200	Undecided
AA_PDH003	AQ 1021	ADL 725339	1510271	5184348	1199	3000	Undecided
AA_PDH004	AQ 1021	ADL 725339	1510314	5185415	1327	3450	Undecided
AA_PDH005	AQ 1022	ADL 725340	1511721	5185287	1192	2400	Undecided
AA_PDH006	AQ 1022	ADL 725340	1511744	5184215	1185	2200	Undecided
AA_PDH007	AQ 1021	ADL 725339	1510170	5184508	1302	3400	Undecided
AA_PDH008	AQ 1021	ADL 725339	1510450	5184699	1217	3250	Undecided
AA_PDH010	AQ 1022	ADL 725340	1511462	5185447	1228	2700	Undecided
AA_PDH011	AQ 1021	ADL 725339	1509974	5185407	1293	3500	Undecided
AA_PDH012	AQ 1022	ADL 725340	1512142	5185389	1155	2300	Undecided
AA_PDH013	AQ 1022	ADL 725340	1511001	5185848	1313	3150	Undecided
AA_PDH014	AQ 1022	ADL 725340	1511790	5184840	1178	2400	Undecided
AA_PDH015	AQ 1022	ADL 725340	1511619	5185110	889	2175	Optional
AA_PDH016	AQ 1022	ADL 725340	1511383	5185282	1329	2800	Optional
AA_PDH017	AQ 1021	ADL 725339	1510137	5185287	1337	3200	Optional
AA_PDH018	AQ 1021	ADL 725339	1510440	5185608	1409	3150	Optional
AA_PDH019	AQ 1021	ADL 725339	1510753	5185989	1398	3200	Optional
AA_PDH020	AQ 1022	ADL 725340	1511930	5184406	1206	2250	Optional

Drillhole Name	Claim Name	ADL	Easting AKSP 7	Northing AKSP 7	Elevation	Target Depth	Target Drill Year
AA_PDH021	AQ 1021	ADL 725339	1510473	5184990	1317	3150	Optional
AA_PDH022	AQ 1021	ADL 725339	1510929	5184670	1283	2800	Optional
AA_PDH023	AQ 1022	ADL 725340	1511401	5184765	1332	2650	Optional
AA_PDH024	AQ 1021	ADL 725339	1509934	5184677	1299	3350	Optional
AA_PDH025	AQ 1022	ADL 725340	1511196	5185974	1353	3000	Optional
AA_PDH026	AQ 1021	ADL 725339	1509260	5185805	1463	3700	Optional
AA_PDH027	AQ 1021	ADL 725339	1509297	5185404	1455	3600	Optional
AA_PDH028	AQ 1021	ADL 725339	1508679	5185602	1453	3750	Optional
AA_PDH029	AQ 1021	ADL 725339	1508994	5184794	1474	3600	Optional
AA_PDH030	AQ 1028	ADL 725346	1509993	5184011	1328	3300	Optional
AA_PDH031	AQ 1023	ADL 725341	1513639	5185557	1378	2000	Optional
AA_PDH032	AQ 1016	ADL 725334	1510813	5186741	1415	3200	Optional
AA_PDH033	AQ 1016	ADL 725334	1510367	5187129	1304	3150	Optional
AA_PDH034	AQ 1016	ADL 725334	1508527	5187065	1201	3350	Optional
AA_PDH035	AQ 1020	ADL 725338	1507770	5186272	1306	3500	Optional
AA_PDH036	AQ 1016	ADL 725334	1509251	5187685	1250	3400	Optional
AA_PDH037	AQ 1016	ADL 725334	1509976	5188230	1138	3000	Optional
AA_PDH038	AQ 1009	ADL 725327	1510753	5189923	1230	3200	Optional
AA_PDH039	AQ 1028	ADL 725346	1510348	5183626	1285	2700	Optional
AA_PDH040	AQ 1027	ADL 725345	1511098	5183481	1254	2500	Optional
AA_PDH041	AQ 1008	ADL 725326	1506261	5191893	937	3400	Optional
AA_PDH042	AQ 1008	ADL 725326	1507539	5190446	951	3000	Optional
AA_PDH043	AQ 1021	ADL 725339	1509694	5184518	1345	3500	Optional
AA_PDH044	AQ 1021	ADL 725339	1510328	5184104	1321	3200	Optional
AA_PDH045	AQ 1022	ADL 725340	1512612	5185859	1251	2500	Optional
AA_PDH046	AQ 1021	ADL 725339	1510118	5186094	1436	3300	Optional
AA_PDH047	AQ 1016	ADL 725334	1510589	5187792	1315	3300	Optional
AA_PDH048	AQ 1022	ADL 725340	1511191	5185386	1335	2950	Optional

Regional Area Drill Hole Locations

Drillhole Name	Claim Name	ADL	Easting AKSP 7	Northing AKSP 7	Elevation	Target Depth	Target Drill Year
REG_PDH015	AQ 1084	ADL725402	1516835	5159643	868	600	2026+
REG_PDH016	AQ 1084	ADL725402	1515989	5159468	809	600	2027+
REG_PDH017	AQ 1084	ADL725402	1517963	5159569	1051	600	2027+
REG_PDH018	AQ 1048	ADL725366	1516246	5175292	1635	2000	2025+
REG_PDH019	AQ 1037	ADL725366	1516790	5176501	1548	1500	2026+
REG_PDH020	AQ1048	ADL725366	1516673	5174440	1569	2000	2026+
REG_PDH021	AQ 1037	ADL725355	1518089	5176036	1586	1500	2026+

Drillhole Name	Claim Name	ADL	Easting AKSP 7	Northing AKSP 7	Elevation	Target Depth	Target Drill Year
REG_PDH022	EW 2002	ADL725440	1498888	5193640	904	3500	2025+
REG_PDH023	AQ 1006	ADL725324	1503868	5192880	831	3500	2025+
REG_PDH024	EW 2010	ADL725448	1490689	5190492	1070	1500	2025+
REG_PDH025	WW 3032	ADL725750	1474094	5175290	959	1500	2026+
REG_PDH026	WW 3032	ADL725750	1472580	5175689	1021	600	2026+
REG_PDH027	WW 3033	ADL725751	1471423	5176377	1026	600	2026+
REG_PDH028	WW 3015	ADL725733	1470849	5176880	1087	600	2026+
REG_PDH029	WW 3090	ADL725808	1463768	5164975	1113	1500	2026+
REG_PDH030	WW 3091	ADL725809	1463056	5163956	1035	1500	2026+
REG_PDH031	WW 3089	ADL725807	1467927	5165024	1049	1200	2023+
REG_PDH032	WW 3073	ADL725791	1465495	5166632	891	2000	2026+
REG_PDH033	WW 3075	ADL725793	1469043	5166848	930	750	2026+
REG_PDH034	EW 2088	ADL725526	1467386	5161720	1079	1500	2024
REG_PDH035	EW 2087	ADL725525	1471216	5162389	1874	1800	2027+
REG_PDH013	WW 3089	ADL725807	1466419	5164721	1148	1500	2022
REG_PDH014	WW 3088	ADL725806	1470249	5163941	1248	1000	2023
REG_PDH036	WW 3090	ADL725808	1464647	5164394	1239	2000	2024+
REG_PDH037	WW 3088	ADL725806	1471256	5164046	1210	1500	2024+
SUR_PDH_001	AQ 1028	ADL725346	1509122	5182366	1654	25	2025+
REG_PDH038	WW 3073	ADL725791	1465016	5167291	851	2000	2026+
REG_PDH039	WW 3073	ADL725791	1463971	5166535	901	2000	2026+
REG_PDH040	WW 3073	ADL725791	1464518	5166914	845	2000	2026+
REG_PDH041	WW 3073	ADL725791	1464116	5167621	814	2000	2026+
REG_PDH042	WW 3073	ADL725791	1464724	5168068	821	2000	2026+
REG_PDH043	WW 3072	ADL725790	1463321	5167201	867	2000	2026+
REG_PDH044	WW 3090	ADL725808	1465954	5165745	974	1500	2024+
REG_PDH045	WW 3090	ADL725808	1464128	5165681	1012	1500	2026+
REG_PDH046	WW 3088	ADL725806	1469479	5165176	1255	1500	2025+
REG_PDH047	WW 3089	ADL725807	1466744	5163735	1107	1500	2024+
REG_PDH048	EW 2087	ADL725525	1470682	5163056	1347	1500	2024+
REG_PDH049	WW 3078	ADL725796	1477447	5166443	1142	1500	2026+
REG_PDH050	WW 3017	ADL725735	1475562	5177094	923	1500	2025+
REG_PDH051	WW 3016	ADL725734	1473512	5177910	1044	1500	2025+
REG_PDH052	EW 2010	ADL725448	1491641	5190304	921	1000	2024
REG_PDH053	EW 2010	ADL725448	1492096	5190144	843	1000	2025+
REG_PDH054	AQ 1007	ADL725325	1504249	5190403	894	3500	2025+
REG_PDH055	AQ 1008	ADL725326	1506401	5190776	906	3500	2026+
REG_PDH056	AQ 1008	ADL725326	1506437	5191858	989	3500	2026+
REG_PDH057	AQ 1075	ADL725393	1512706	5160954	1142	1000	2026+

Potential Geotechnical Hole Locations

Drillhole Name	Claim Name	ADL	Easting AKSP 7	Northing AKSP 7	Elevation	Target Depth	Target Drill Year
GT-01	AQ 1097	ADL725415	5149769	1517825	902	100	
GT-02	AQ 1108	ADL725426	5149507	1517308	785	100	
GT-03	AQ 1097	ADL725415	5149883	1517257	965	100	
GT-04	AQ 1097	ADL725415	5149761	1517606	942	100	
GT-05	AQ 1073	ADL725391	5161714	1516928	842	100	
GT-06	AQ 1073	ADL725391	5161566	1516705	820	100	
GT-07	AQ 1073	ADL725391	5161341	1516838	865	100	
GT-08	AQ 1072	ADL725390	5164329	1518514	957	100	
GT-09			5164684	1519028	995	100	
GT-10			5178136	1519779	982	100	
GT-11			5178213	1519503	105	100	
GT-12	AQ 1060	ADL725378	5169468	1518417	1065	1000	
GT-13	AQ 1060	ADL725378	5168995	1518325	1020	1000	
GT-14	AQ 1060	ADL725378	5169638	1517839	1095	1000	
GT-15	AQ 1060	ADL725378	5169205	1517984	1044	1000	
GT-16	AQ 1049	ADL725367	5171713	1516763	1569	500	
GT-17	AQ 1050	ADL725368	5172842	1515712	1578	500	
GT-18	AQ 1047	ADL725365	5174484	1515239	1580	500	
GT-19	AQ 1047	ADL725365	5175442	1513755	1495	500	
GT-20	AQ 1039	ADL725357	5177622	1512626	1260	500	
GT-21	AQ 1034	ADL725352	5179487	1511707	1500	500	
GT-22	AQ 1033	ADL725351	5180104	1510551	1320	500	
GT-23	AQ 1026	ADL725344	5181667	1514057	1190	100	
GT-24	AQ 1035	ADL725353	5180564	1516014	1122	100	
GT-25	AQ 1036	ADL725354	5179080	1518102	1038	100	
GT-26	AQ 1038	ADL725356	5176754	1513865	1171	500	
GT-27			5177644	1520914	950	60	
GT-28			5177694	1520779	950	60	
GT-29			5175409	1522468	932	60	
GT-30			5175308	1522470	930	60	
GT-31			5173854	1522077	925	60	
GT-32			5173712	1522062	922	60	
GT-33			5168273	1520815	800	60	
GT-34			5168199	1520746	800	60	
GT-35	AQ 1040	ADL725358	5176898	1510398	1558	60	
GT-36	AQ 1045	ADL725363	5176098	1509683	1445	500	
GT-37	AQ 1041	ADL725359	5178395	1507772	1318	100	
GT-38	AQ 1032	ADL725350	5179688	1507936	1285	100	
GT-39	AQ 1029	ADL725347	5183574	1507759	1498	60	

Drillhole Name	Claim Name	ADL	Easting AKSP 7	Northing AKSP 7	Elevation	Target Depth	Target Drill Year
GT-40	AQ 1025	ADL725343	5181536	1516369	965	100	
GT-41	AQ 1098	ADL725416	5151537	1515076	818	100	
GT-42	AQ 1086	ADL725404	5155395	1513578	745	100	
GT-43	AQ 1083	ADL725401	5158780	1515384	871	100	
GT-44	AQ 1074	ADL725392	5160483	1515609	740	100	
GT-45	AQ 1095	ADL725413	5154612	1513508	758	100	
GT-46	AQ 1087	ADL725405	5155497	1512881	710	500	
GT-47	AQ 1082	ADL725400	5158944	1511978	1068	500	
GT-48	AQ 1070	ADL725388	5164607	1512224	1618	500	
GT-49	AQ 1063	ADL725381	5167193	1510993	1375	500	
GT-50	AQ 1058	ADL725376	5170209	1511465	1085	500	
GT-51	AQ 1051	ADL725369	5172917	1511793	1315	500	
GT-52	AQ 1046	ADL725364	5173943	1511075	1528	500	

APPENDIX D
Water Use Estimates and Authorization

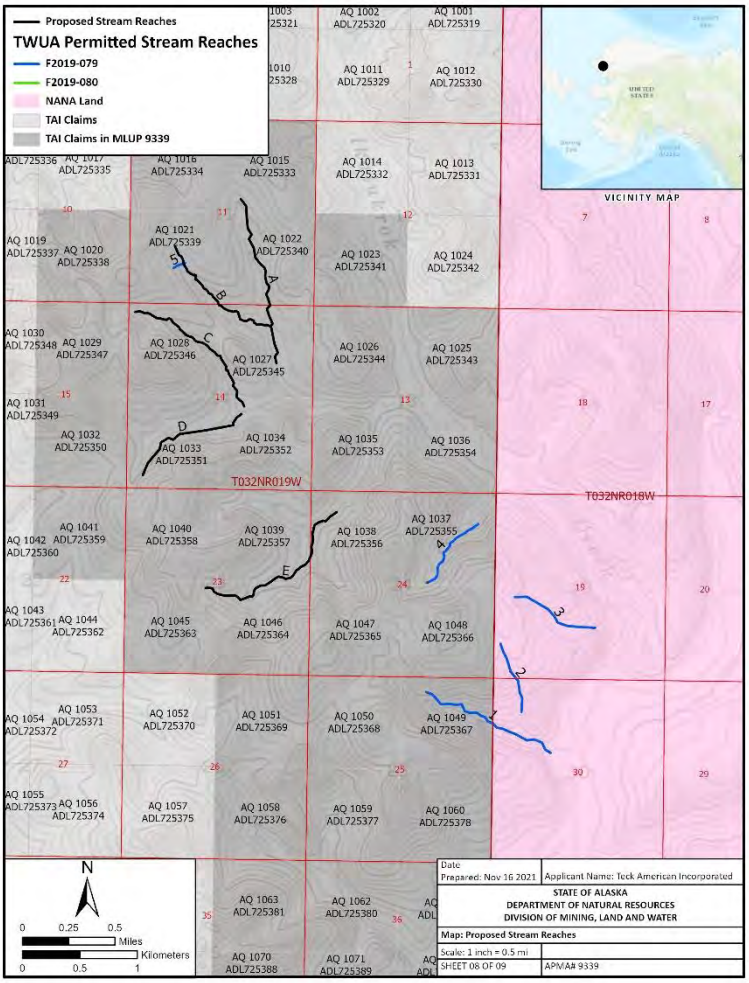
Proposed Stream Reaches for Aktigiruq Area

Table 1: Name & Location of Water Source(s) (No more than 5 water separate sources per application)

Geographic Name of Water Body or Well Depth *(if unnamed, put "Unnamed" ; e.g. unnamed lake.)*	Meridian	Township	Range	Section(s)	Quarter Sections (optional) QQ		Q	
1. Unnamed A	Kateel River	032N	019W	11,14	NE/11	1/4	NE/14	1/4
	Latitude: 5187005.843			Longitude: 1511503.456				
2. Unnamed B	Kateel River	032N	019W	11,14	SW/11	1/4	NE/14	1/4
	Latitude: 5185653.246			Longitude: 1509629.622				
3. Unnamed C	Kateel River	032N	019W	14		1/4	NW	1/4
	Latitude: 5183780.518			Longitude: 1508495.885				
4. Unnamed D	Kateel River	032N	019W	14		1/4	SW	1/4
	Latitude: 5179122.162			Longitude: 1508709.5				
5. Unnamed E	Kateel River	032N	019W	23		1/4	NE	1/4
	Latitude: 5175893.71			Longitude: 1510498.477				

Datum Used: Geographic Coordinate System for Lat/Long (e.g. NAD83): NAD83 AKSP

Map also included in Appendix B – Map 8



Identify the project area(s) where water is to be used and the geographic locations using MTRS. Include Lat/Long coordinates if available. If linear, such as a road construction project, include a start and end Lat/Long and/or milepost.

Table 2: Location of Water Use Area(s)

Project Area (e.g. milepost range, place name, survey, etc.)	Meridian	Township	Range	Section(s)	Quarter Sections (optional) QQ		Q	
1. See Attached Map 8						1/4		1/4
	Start Latitude:			Start Longitude:				
	End Latitude:			End Longitude:				
2.						1/4		1/4
	Start Latitude:			Start Longitude:				
	End Latitude:			End Longitude:				
3.						1/4		1/4
	Start Latitude:			Start Longitude:				
	End Latitude:			End Longitude:				

Datum Used: Geographic Coordinate System for Lat/Long (e.g. NAD83): _____
(Attach additional sheets if needed)

Identify the location(s) where water is to be discharged or returned to the source and the geographic locations using MTRS. Include Lat/Long coordinates if available.

Table 3: Location of Water Discharge or Return Flow (if applicable)

Describe the area where the water will be discharged or returned to the source (Example: ground surface, name of river, lake, well, etc.)	Meridian	Township	Range	Section(s)	Quarter Sections (optional) QQ		Q	
Water will be discharged down hole/at collar at drill sites (map) in the S1/2 Sec 11, N1/2 Sec 14	Kateel Riv	032N	019W	11,14		1/4		1/4
	Latitude:			Longitude:				
Water will be discharged at collar location in Sec 14, W1/2	Kateel Riv	032N	019W	14		1/4		1/4
	Latitude:			Longitude:				
Water will be discharged at collar location in Sec 23, E1/2	Kateel Riv	032N	019W	23		1/4		1/4
	Latitude:			Longitude:				
						1/4		1/4
	Latitude:			Longitude:				

Datum Used: Geographic Coordinate System for Lat/Long (e.g. NAD83): _____
(Attach additional sheets if needed)

Source 1 (as identified in Section V, Table 1)

■ **Surface Source Name (*Example: Chena River*):** Unnamed A

Source Depth (ft):	Source Width (ft) *(river, stream or creek only)*	Surface Area (acres): *(lake or pond. only)*	Source Volume (gallons):
unk	5ft		unk

Data Source(s): (i.e. bathymetry, etc.) Air Photo, in field measurement

Are fish present? ☐ Yes ☐ No ■ Unknown

If Yes, what fish type(s) are they: ☐ Anadromous ☐ Resident ☐ Resistant ☐ Sensitive ☐ Unknown

☐ **Subsurface Source Name *(Example: Well A1)*:**

Well Depth (ft):	Well Diameter (in):	Static Water Level (ft):	Recovery Rate (g/m):

Is there a known contaminated site within ¼ mile of this source? ☐ Yes ☐ No ☐ Unknown

Quantity of Water to be used or taken from this source only:

Amount of Water to be Used:	Total amount per Day (gallons)	Total Seasonal Amount (gallons)	Total Seasonal Amount of Ice (gallons)	Total Water & Ice Combined (gallons)	Date Water Use Will Begin (mm/dd/yyyy)	Date Water Use Will End (mm/dd/yyyy)
	43,200	9,374,400		9,374,400	04/01/2022	11/01/2026

Purpose: Describe how the water is to be used and for what purpose. If multiple uses describe each use. Specify season of use if applicable.

Water source is to support 1-3 drill rigs and above amounts are maximum (~15k/rig). Estimates for drilling is maximum of 10 GPM. Water will be used and returned down hole or or at surface after filtering drill cutting at site.

Method of Taking: (Check and complete all that apply) ■ Withdrawal ☐ Diversion ☐ Impoundment ☐ In Source Water Use

■ **Withdrawal:** *If there are considerable variations in the pump/siphon capacities and operation schedule, describe difference in an attachment.*

■ Pumps ☐ Siphon	Number of Pump(s)/Siphon(s)	Pump/Siphon Intake Size (inches)	Max. Pump/Siphon Rate (gpm)	Max. Hours Pumping/Siphoning per Day (hrs)	# of Days Used/Month (days)	Length of pipe/hose *(pump/siphon to point of use)* (ft)
	3	2	10	24	31	Up to 1,800ft

Haul Trucks:	Number of Trucks:	Tank Capacity (gal):	# of Loads/day:
Storage Tanks:	Number of Tanks:	Tank Capacity (gal):	# of Fill/day:

☐ **Diversion:** Is this diversion a stream bypass? ☐ Yes ☐ No

Does the diversion have a headgate structure? ☐ Yes ☐ No If Yes, how many hours/day will the headgate be open: _____ hrs

	Pipe/Hose Diameter (in)	Pipe/Hose Length (ft) *(from take point to pint of use)*	Screened	Diversion Rate (gpm or cfs)
Pump:			☐ Yes ☐ No	

	Length (ft)	Width (ft)	Depth (ft)	Lined	Head Elevation (ft)	Diversion Rate (gpm or cfs)
Gravity / Ditch:				☐ Yes ☐ No		

☐ **Impoundment:** ***Attach drawings, specifications and plans***

	☐ Existing Dam ☐ Dam to be constructed			
Dam:	Dam Height (ft)	Dam Width at Base (ft)	Dam Width at Crest (ft)	Water Storage Capacity (gallons or acre-feet)

	Length (ft)	Width (ft)	Depth (ft)	Reservoir Storage Capacity (gallons or acre-feet)	Cofferdam Dewatering Amount (gallons or acre-feet)
Reservoirs / Cofferdam:					

	Length (ft)	Width (ft)	Height (ft)	Is this a Permanent Levee?	Diversion Rate (gpm or cfs)
Levee				☐ Yes ☐ No	

☐ **In Source Water Use:** *Water used does not leave water source* ***Attach drawings, specifications and plans***

☐ Hydrokinetic Device ☐ Hydroelectric Turbine ☐ Suction Dredge

Source 2 (as identified in Section V, Table 1)

■ **Surface Source Name (*Example: Chena River*):** Unnamed B

Source Depth (ft):	Source Width (ft) *(river, stream or creek only)*	Surface Area (acres): *(lake or pond. only)*	Source Volume (gallons):
unk	3		

Data Source(s): (i.e. bathymetry, etc.) Air Photo, in field measurement

Are fish present? ☐ Yes ☐ No ■ Unknown

If Yes, what fish type(s) are they: ☐ Anadromous ☐ Resident ☐ Resistant ☐ Sensitive ☐ Unknown

☐ **Subsurface Source Name *(Example: Well A1)*:**

Well Depth (ft):	Well Diameter (in):	Static Water Level (ft):	Recovery Rate (g/m):

Is there a known contaminated site within ¼ mile of this source? ☐ Yes ☐ No ☐ Unknown

Quantity of Water to be used or taken from this source only:

Amount of Water to be Used:	Total amount per Day (gallons)	Total Seasonal Amount (gallons)	Total Seasonal Amount of Ice (gallons)	Total Water & Ice Combined (gallons)	Date Water Use Will Begin (mm/dd/yyyy)	Date Water Use Will End (mm/dd/yyyy)
	43,200	9,374,400		9,374,400	04/01/2022	11/01/2026

Purpose: Describe how the water is to be used and for what purpose. If multiple uses describe each use. Specify season of use if applicable.

Water source is to support 1-3 drill rigs and above amounts are maximum (~15k/rig). Estimates for drilling is maximum of 10 GPM. Water will be used and returned down hole or or at surface after filtering drill cutting at site.

Method of Taking: (Check and complete all that apply) ■ Withdrawal ☐ Diversion ☐ Impoundment ☐ In Source Water Use

■ **Withdrawal:** *If there are considerable variations in the pump/siphon capacities and operation schedule, describe difference in an attachment.*

	Number of Pump(s)/Siphon(s)	Pump/Siphon Intake Size (inches)	Max. Pump/Siphon Rate (gpm)	Max. Hours Pumping/Siphoning per Day (hrs)	# of Days Used/Month (days)	Length of pipe/hose *(pump/siphon to point of use)* (ft)
■ Pumps ☐ Siphon	3	2	10	24	31	Up to 1,000ft

Haul Trucks:	Number of Trucks:	Tank Capacity (gal):	# of Loads/day:
Storage Tanks:	Number of Tanks:	Tank Capacity (gal):	# of Fill/day:

☐ **Diversion:** Is this diversion a stream bypass? ☐ Yes ☐ No

Does the diversion have a headgate structure? ☐ Yes ☐ No If Yes, how many hours/day will the headgate be open: _____ hrs

	Pipe/Hose Diameter (in)	Pipe/Hose Length (ft) *(from take point to pint of use)*	Screened	Diversion Rate (gpm or cfs)
Pump:			☐ Yes ☐ No	

	Length (ft)	Width (ft)	Depth (ft)	Lined	Head Elevation (ft)	Diversion Rate (gpm or cfs)
Gravity / Ditch:				☐ Yes ☐ No		

☐ **Impoundment:** ***Attach drawings, specifications and plans***

	☐ Existing Dam ☐ Dam to be constructed			
Dam:	Dam Height (ft)	Dam Width at Base (ft)	Dam Width at Crest (ft)	Water Storage Capacity (gallons or acre-feet)

	Length (ft)	Width (ft)	Depth (ft)	Reservoir Storage Capacity (gallons or acre-feet)	Cofferdam Dewatering Amount (gallons or acre-feet)
Reservoirs / Cofferdam:					

	Length (ft)	Width (ft)	Height (ft)	Is this a Permanent Levee?	Diversion Rate (gpm or cfs)
Levee				☐ Yes ☐ No	

☐ **In Source Water Use:** *Water used does not leave water source* ***Attach drawings, specifications and plans***

☐ Hydrokinetic Device ☐ Hydroelectric Turbine ☐ Suction Dredge

Source 3 (as identified in Section V, Table 1)

■ **Surface Source Name** (*Example: Chena River*): Unnamed C

Source Depth (ft):	Source Width (ft) *(river, stream or creek only)*	Surface Area (acres): *(lake or pond, only)*	Source Volume (gallons):
Unk	Unk		Unk

Data Source(s): (i.e. bathymetry, etc.) Air Photo

Are fish present? ☐ Yes ☐ No ■ Unknown

If Yes, what fish type(s) are they: ☐ Anadromous ☐ Resident ☐ Resistant ☐ Sensitive ☐ Unknown

☐ **Subsurface Source Name** (*Example: Well A1*):

Well Depth (ft):	Well Diameter (in):	Static Water Level (ft):	Recovery Rate (g/m):

Is there a known contaminated site within ¼ mile of this source? ☐ Yes ☐ No ☐ Unknown

Quantity of Water to be used or taken from this source only:

Amount of Water to be Used:	Total amount per Day (gallons)	Total Seasonal Amount (gallons)	Total Seasonal Amount of Ice (gallons)	Total Water & Ice Combined (gallons)	Date Water Use Will Begin (mm/dd/yyyy)	Date Water Use Will End (mm/dd/yyyy)
	14,400	3,124,800		3,124,800	04/01/2022	11/01/2026

Purpose: Describe how the water is to be used and for what purpose. If multiple uses describe each use. Specify season of use if applicable.

Water source will support 1 drill rig and the above amounts are maximum. Estimates for drilling is maximum of 10 GPM. Water will be used and returned down hole or or at surface after filtering drill cutting at site.

Method of Taking: (Check and complete all that apply) ■ Withdrawal ☐ Diversion ☐ Impoundment ☐ In Source Water Use

■ **Withdrawal:** *If there are considerable variations in the pump/siphon capacities and operation schedule, describe difference in an attachment.*

■ Pumps ☐ Siphon	Number of Pump(s)/Siphon(s)	Pump/Siphon Intake Size (inches)	Max. Pump/Siphon Rate (gpm)	Max. Hours Pumping/Siphoning per Day (hrs)	# of Days Used/Month (days)	Length of pipe/hose *(pump/siphon to point of use)* (ft)
	1	2	10	24	31	Up to 1,000ft

Haul Trucks:	Number of Trucks:	Tank Capacity (gal):	# of Loads/day:
Storage Tanks:	Number of Tanks:	Tank Capacity (gal):	# of Fill/day:

☐ **Diversion:** Is this diversion a stream bypass? ☐ Yes ☐ No

Does the diversion have a headgate structure? ☐ Yes ☐ No If Yes, how many hours/day will the headgate be open: _____ hrs

	Pipe/Hose Diameter (in)	Pipe/Hose Length (ft) *(from take point to pint of use)*	Screened	Diversion Rate (gpm or cfs)
Pump:			☐ Yes ☐ No	

	Length (ft)	Width (ft)	Depth (ft)	Lined	Head Elevation (ft)	Diversion Rate (gpm or cfs)
Gravity / Ditch:				☐ Yes ☐ No		

☐ **Impoundment:** ***Attach drawings, specifications and plans***

	☐ Existing Dam ☐ Dam to be constructed			
Dam:	Dam Height (ft)	Dam Width at Base (ft)	Dam Width at Crest (ft)	Water Storage Capacity (gallons or acre-feet)

	Length (ft)	Width (ft)	Depth (ft)	Reservoir Storage Capacity (gallons or acre-feet)	Cofferdam Dewatering Amount (gallons or acre-feet)
Reservoirs / Cofferdam:					

	Length (ft)	Width (ft)	Height (ft)	Is this a Permanent Levee?	Diversion Rate (gpm or cfs)
Levee				☐ Yes ☐ No	

☐ **In Source Water Use:** *Water used does not leave water source* ***Attach drawings, specifications and plans***

☐ Hydrokinetic Device ☐ Hydroelectric Turbine ☐ Suction Dredge

Source 4 (as identified in Section V, Table 1)

■ **Surface Source Name (*Example: Chena River*):** Unnamed D

Source Depth (ft):	Source Width (ft) *(river, stream or creek only)*	Surface Area (acres): *(lake or pond. only)*	Source Volume (gallons):
unk	unk		unk

Data Source(s): (i.e. bathymetry, etc.) Air Photo

Are fish present? ☐ Yes ☐ No ■ Unknown

If Yes, what fish type(s) are they: ☐ Anadromous ☐ Resident ☐ Resistant ☐ Sensitive ☐ Unknown

☐ **Subsurface Source Name *(Example: Well A1)*:**

Well Depth (ft):	Well Diameter (in):	Static Water Level (ft):	Recovery Rate (g/m):

Is there a known contaminated site within ¼ mile of this source? ☐ Yes ☐ No ☐ Unknown

Quantity of Water to be used or taken from this source only:

Amount of Water to be Used:	Total amount per Day (gallons)	Total Seasonal Amount (gallons)	Total Seasonal Amount of Ice (gallons)	Total Water & Ice Combined (gallons)	Date Water Use Will Begin (mm/dd/yyyy)	Date Water Use Will End (mm/dd/yyyy)
	14,400	3,124,800		3,124,800	04/01/2022	11/01/2026

Purpose: Describe how the water is to be used and for what purpose. If multiple uses describe each use. Specify season of use if applicable.

Water source will support 1 drill rig and the above amounts are maximum. Estimates for drilling is maximum of 10 GPM. Water will be used and returned down hole or or at surface after filtering drill cutting at site.

Method of Taking: (Check and complete all that apply) ■ Withdrawal ☐ Diversion ☐ Impoundment ☐ In Source Water Use

■ **Withdrawal:** *If there are considerable variations in the pump/siphon capacities and operation schedule, describe difference in an attachment.*

	Number of Pump(s)/Siphon(s)	Pump/Siphon Intake Size (inches)	Max. Pump/Siphon Rate (gpm)	Max. Hours Pumping/Siphoning per Day (hrs)	# of Days Used/Month (days)	Length of pipe/hose *(pump/siphon to point of use)* (ft)
■ Pumps ☐ Siphon	1	2	10	24	31	1,500

Haul Trucks:	Number of Trucks:	Tank Capacity (gal):	# of Loads/day:
Storage Tanks:	Number of Tanks:	Tank Capacity (gal):	# of Fill/day:

☐ **Diversion:** Is this diversion a stream bypass? ☐ Yes ☐ No

Does the diversion have a headgate structure? ☐ Yes ☐ No If Yes, how many hours/day will the headgate be open: _____ hrs

	Pipe/Hose Diameter (in)	Pipe/Hose Length (ft) *(from take point to pint of use)*	Screened	Diversion Rate (gpm or cfs)
Pump:			☐ Yes ☐ No	

	Length (ft)	Width (ft)	Depth (ft)	Lined	Head Elevation (ft)	Diversion Rate (gpm or cfs)
Gravity / Ditch:				☐ Yes ☐ No		

☐ **Impoundment:** ***Attach drawings, specifications and plans***

	☐ Existing Dam ☐ Dam to be constructed			
Dam:	Dam Height (ft)	Dam Width at Base (ft)	Dam Width at Crest (ft)	Water Storage Capacity (gallons or acre-feet)

	Length (ft)	Width (ft)	Depth (ft)	Reservoir Storage Capacity (gallons or acre-feet)	Cofferdam Dewatering Amount (gallons or acre-feet)
Reservoirs / Cofferdam:					

	Length (ft)	Width (ft)	Height (ft)	Is this a Permanent Levee?	Diversion Rate (gpm or cfs)
Levee				☐ Yes ☐ No	

☐ **In Source Water Use:** *Water used does not leave water source* ***Attach drawings, specifications and plans***

☐ Hydrokinetic Device ☐ Hydroelectric Turbine ☐ Suction Dredge

Source 5 (as identified in Section V, Table 1)

■ **Surface Source Name** (*Example: Chena River*): Unnamed E

Source Depth (ft):	Source Width (ft) *(river, stream or creek only)*	Surface Area (acres): *(lake or pond. only)*	Source Volume (gallons):
Unk	Unk		Unk

Data Source(s): (i.e. bathymetry, etc.) Air Photo

Are fish present? ☐ Yes ☐ No ■ Unknown

If Yes, what fish type(s) are they: ☐ Anadromous ☐ Resident ☐ Resistant ☐ Sensitive ☐ Unknown

☐ **Subsurface Source Name** (*Example: Well A1*):

Well Depth (ft):	Well Diameter (in):	Static Water Level (ft):	Recovery Rate (g/m):

Is there a known contaminated site within ¼ mile of this source? ☐ Yes ☐ No ☐ Unknown

Quantity of Water to be used or taken from this source only:

Amount of Water to be Used:	Total amount per Day (gallons)	Total Seasonal Amount (gallons)	Total Seasonal Amount of Ice (gallons)	Total Water & Ice Combined (gallons)	Date Water Use Will Begin (mm/dd/yyyy)	Date Water Use Will End (mm/dd/yyyy)
	14,400	3,124,800		3,124,800	04/01/2022	11/01/2026

Purpose: Describe how the water is to be used and for what purpose. If multiple uses describe each use. Specify season of use if applicable.

Water source will support 1 drill rig and the above amounts are maximum. Estimates for drilling is maximum of 10 GPM. Water will be used and returned down hole or or at surface after filtering drill cutting at site.

Method of Taking: (Check and complete all that apply) ■ Withdrawal ☐ Diversion ☐ Impoundment ☐ In Source Water Use

■ **Withdrawal:** *If there are considerable variations in the pump/siphon capacities and operation schedule, describe difference in an attachment.*

	Number of Pump(s)/Siphon(s)	Pump/Siphon Intake Size (inches)	Max. Pump/Siphon Rate (gpm)	Max. Hours Pumping/Siphoning per Day (hrs)	# of Days Used/Month (days)	Length of pipe/hose *(pump/siphon to point of use)* (ft)
■ Pumps ☐ Siphon	1	2	10	24	31	1,400ft

Haul Trucks:	Number of Trucks:	Tank Capacity (gal):	# of Loads/day:
Storage Tanks:	Number of Tanks:	Tank Capacity (gal):	# of Fill/day:

☐ **Diversion:** Is this diversion a stream bypass? ☐ Yes ☐ No

Does the diversion have a headgate structure? ☐ Yes ☐ No If Yes, how many hours/day will the headgate be open: _____ hrs

	Pipe/Hose Diameter (in)	Pipe/Hose Length (ft) *(from take point to pint of use)*	Screened	Diversion Rate (gpm or cfs)
Pump:			☐ Yes ☐ No	

	Length (ft)	Width (ft)	Depth (ft)	Lined	Head Elevation (ft)	Diversion Rate (gpm or cfs)
Gravity / Ditch:				☐ Yes ☐ No		

☐ **Impoundment:** ***Attach drawings, specifications and plans***

	☐ Existing Dam ☐ Dam to be constructed			
Dam:	Dam Height (ft)	Dam Width at Base (ft)	Dam Width at Crest (ft)	Water Storage Capacity (gallons or acre-feet)

	Length (ft)	Width (ft)	Depth (ft)	Reservoir Storage Capacity (gallons or acre-feet)	Cofferdam Dewatering Amount (gallons or acre-feet)
Reservoirs / Cofferdam:					

	Length (ft)	Width (ft)	Height (ft)	Is this a Permanent Levee?	Diversion Rate (gpm or cfs)
Levee				☐ Yes ☐ No	

☐ **In Source Water Use:** *Water used does not leave water source* ***Attach drawings, specifications and plans***

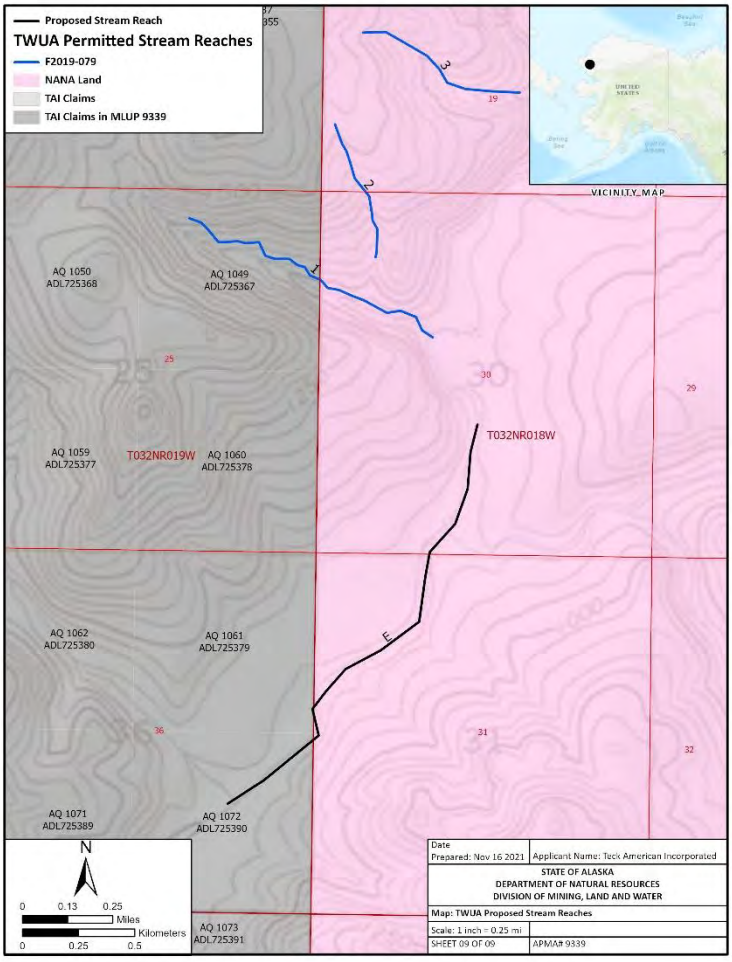
☐ Hydrokinetic Device ☐ Hydroelectric Turbine ☐ Suction Dredge

Proposed Stream Reach

Table 1: Name & Location of Water Source(s) (No more than 5 water separate sources per application)								
Geographic Name of Water Body or Well Depth *(if unnamed, put "Unnamed"; e.g. unnamed lake.)*	Meridian	Township	Range	Section(s)	Quarter Sections (optional) QQ		Q	
1. Ikalukrok Creek	Kateel River	032N	018W	36, 31, 30	NW/31	1/4	SW/30	1/4
	Latitude: 5169911.779			Longitude: 1521003.596				
2.						1/4		1/4
	Latitude:			Longitude:				
3.						1/4		1/4
	Latitude:			Longitude:				
4.						1/4		1/4
	Latitude:			Longitude:				
5.						1/4		1/4
	Latitude:			Longitude:				

Datum Used: Geographic Coordinate System for Lat/Long (e.g. NAD83): NAD83 AKSP

Map also in Appendix B – Map 9



Identify the project area(s) where water is to be used and the geographic locations using MTRS. Include Lat/Long coordinates if available. If linear, such as a road construction project, include a start and end Lat/Long and/or milepost.

Table 2: Location of Water Use Area(s)

Project Area (e.g. milepost range, place name, survey, etc.)	Meridian	Township	Range	Section(s)	Quarter Sections (optional) QQ		Q
1. See Attached Map 9						1/4	1/4
	Start Latitude:			Start Longitude:			
	End Latitude:			End Longitude:			
2.						1/4	1/4
	Start Latitude:			Start Longitude:			
	End Latitude:			End Longitude:			
3.						1/4	1/4
	Start Latitude:			Start Longitude:			
	End Latitude:			End Longitude:			

Datum Used: Geographic Coordinate System for Lat/Long (e.g. NAD83): _____
(Attach additional sheets if needed)

Identify the location(s) where water is to be discharged or returned to the source and the geographic locations using MTRS. Include Lat/Long coordinates if available.

Table 3: Location of Water Discharge or Return Flow (if applicable)

Describe the area where the water will be discharged or returned to the source (Example: ground surface, name of river, lake, well, etc.)	Meridian	Township	Range	Section(s)	Quarter Sections (optional) QQ		Q
Water will be discharged down hole/at collar at proposed drill sites in SW 1/4 of Section 25	Kateel Riv	032N	019W	25		1/4 SE	1/4
	Latitude:			Longitude:			
						1/4	1/4
	Latitude:			Longitude:			
	Kateel Riv					1/4	1/4
	Latitude:			Longitude:			
						1/4	1/4
	Latitude:			Longitude:			

Datum Used: Geographic Coordinate System for Lat/Long (e.g. NAD83): _____
(Attach additional sheets if needed)

Source 1 (as identified in Section V, Table 1)

■ **Surface Source Name (*Example: Chena River*):** Ikalukrok Creek

Source Depth (ft):	Source Width (ft) *(river, stream or creek only)*	Surface Area (acres): *(lake or pond. only)*	Source Volume (gallons):
unk	unk		unk

Data Source(s): (i.e. bathymetry, etc.) Air Photo

Are fish present? ☐ Yes ☐ No ■ Unknown

If Yes, what fish type(s) are they: ☐ Anadromous ☐ Resident ☐ Resistant ☐ Sensitive ☐ Unknown

☐ **Subsurface Source Name *(Example: Well A1)*:**

Well Depth (ft):	Well Diameter (in):	Static Water Level (ft):	Recovery Rate (g/m):

Is there a known contaminated site within ¼ mile of this source? ☐ Yes ☐ No ☐ Unknown

Quantity of Water to be used or taken from this source only:

Amount of Water to be Used:	Total amount per Day (gallons)	Total Seasonal Amount (gallons)	Total Seasonal Amount of Ice (gallons)	Total Water & Ice Combined (gallons)	Date Water Use Will Begin (mm/dd/yyyy)	Date Water Use Will End (mm/dd/yyyy)
	28,800	6,048,000		6,048,000	03/01/2022	10/01/2026

Purpose: Describe how the water is to be used and for what purpose. If multiple uses describe each use. Specify season of use if applicable.

Water source is to support 1-2 drill rigs and above amounts are maximum (~15k/rig). Estimates for drilling is maximum of 10 GPM. Water will be used and returned down hole or or at surface after filtering drill cutting at site.

Method of Taking: (Check and complete all that apply) ■ Withdrawal ☐ Diversion ☐ Impoundment ☐ In Source Water Use

■ **Withdrawal:** *If there are considerable variations in the pump/siphon capacities and operation schedule, describe difference in an attachment.*

	Number of Pump(s)/Siphon(s)	Pump/Siphon Intake Size (inches)	Max. Pump/Siphon Rate (gpm)	Max. Hours Pumping/Siphoning per Day (hrs)	# of Days Used/Month (days)	Length of pipe/hose *(pump/siphon to point of use)* (ft)
■ Pumps ☐ Siphon	2	2	10	24	31	Up to 3,000ft

Haul Trucks:	Number of Trucks:	Tank Capacity (gal):	# of Loads/day:	
Storage Tanks:	Number of Tanks:	Tank Capacity (gal):	# of Fill/day:	

☐ **Diversion:** Is this diversion a stream bypass? ☐ Yes ☐ No

Does the diversion have a headgate structure? ☐ Yes ☐ No If Yes, how many hours/day will the headgate be open: _____ hrs

Pump:	Pipe/Hose Diameter (in)		Pipe/Hose Length (ft) *(from take point to pint of use)*		Screened	Diversion Rate (gpm or cfs)
					☐ Yes ☐ No	
Gravity / Ditch:	Length (ft)	Width (ft)	Depth (ft)	Lined	Head Elevation (ft)	Diversion Rate (gpm or cfs)
				☐ Yes ☐ No		

☐ **Impoundment:** ***Attach drawings, specifications and plans***

Dam:	☐ Existing Dam ☐ Dam to be constructed				
	Dam Height (ft)	Dam Width at Base (ft)	Dam Width at Crest (ft)	Water Storage Capacity (gallons or acre-feet)	
Reservoirs / Cofferdam:	Length (ft)	Width (ft)	Depth (ft)	Reservoir Storage Capacity (gallons or acre-feet)	Cofferdam Dewatering Amount (gallons or acre-feet)
Levee	Length (ft)	Width (ft)	Height (ft)	Is this a Permanent Levee?	Diversion Rate (gpm or cfs)
				☐ Yes ☐ No	

☐ **In Source Water Use:** *Water used does not leave water source* ***Attach drawings, specifications and plans***

☐ Hydrokinetic Device ☐ Hydroelectric Turbine ☐ Suction Dredge