



**Title 9 Major Use Permit No.: 108-03-19**  
**Date of Issue: May 31, 2019**  
**Permit Expires: December 31, 2021**

**Permit Issued By:**

Northwest Arctic Borough, Planning Department  
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**Permittee:**

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**Permittee Contact Information:**

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**Project Description:**

Teck American Incorporated (TECK) proposes to continue their mineral exploration activities (to include drilling, geophysical surveys, geologic mapping and sampling), which will be helicopter-supported on both state and NANA-owned lands ('Prospecting' is a Minor Use and 'Mineral Exploration' is a Major Use in both the Subsistence and General Conservation Districts). These activities are outside of the Borough Master Plan Permit for ongoing Red Dog Mine operations and require a use permit under borough code 9.12. The proposed start date is June 1, 2019 and will be completed by October 15, 2021.

This Title 9 Major Use Permit is a renewal permit for Title 9 Use Permit #104-03-16 and #110-03-13. Project activities will remain the same. Specific details of the project are contained in the permit application (19-02-108) and documents submitted by TECK to the Borough Planning Department. These documents are incorporated into the Borough's administrative record. Project Activities are summarized below.

**Mineral Exploration:**

The exploration and surface drilling is broken into three segments:



Regional exploration holes are completed using an LF-70 drill rig situated on a timber platform that has been constructed above the tundra. Silt fences catch water and cuttings coming from the hole; secondary containment for all hydrocarbons and other chemicals are kept onsite. Water is pumped from nearby streams directly to the rig. Daily and weekly inspections are conducted on the equipment for leaks. A helicopter flies all equipment to each site and all personnel to minimize disturbance to the tundra.

At the Aktigiruk prospect area drilling will be accomplished using 2 RD-6000 platform drill rigs that are helicopter supported. Each rig will set up on an elevated timber drill platform and will drill up to 9 holes from a single pad. The same environmental guidelines include silt fences to catch water and cuttings with the addition of a centrifuge (called a Solids Removal Unit) to remove cuttings from the drill fluids. These cuttings will be contained in a sealed tote and transported by helicopter to Red Dog Mine for disposal.

The geotechnical drilling will use a CME-45, track-mounted auger rig that is also helicopter portable, and will drill holes to a maximum of 100ft deep to better understand the strength and mineral characteristics of the soil and uppermost bedrock. The rig has a very small footprint and the tracks distribute its weight lightly across the ground; it will not require as many fluids as the other rig types proposed to be used, will have secondary containment for any fluids onsite, and will have daily and weekly inspections to check for leaks.

Note all drilling and exploration activities from 2019 to 2021 are planned to be executed on State claims held by TECK (see **Figure 1** on page 3). Drilling and field operations for 2020-2021 will be executed in accordance with the narrative for the 2019 plan (Operations, Access, Temp Water use, Environmental, and bonding)

### **Water Rock and Hydrological Drilling**

Several holes are planned roughly 50ft away from the Ikalukrok Creek to test for a groundwater source for future potential infrastructure at Aktigiruk, such as a field camp. This will involve an LF-70 rig drilling angled holes to approximately 150 feet deep beside the creek, and using a water pump to conduct hydrology tests of any water encountered, such as pump tests to determine the amount of water return and samples of this water to assess its quality. The drill rig will be raised on a pad off of the tundra, underlain by impermeable and adsorbent material to catch any potential spills, and have only limited fuel and chemicals stored at the rig.

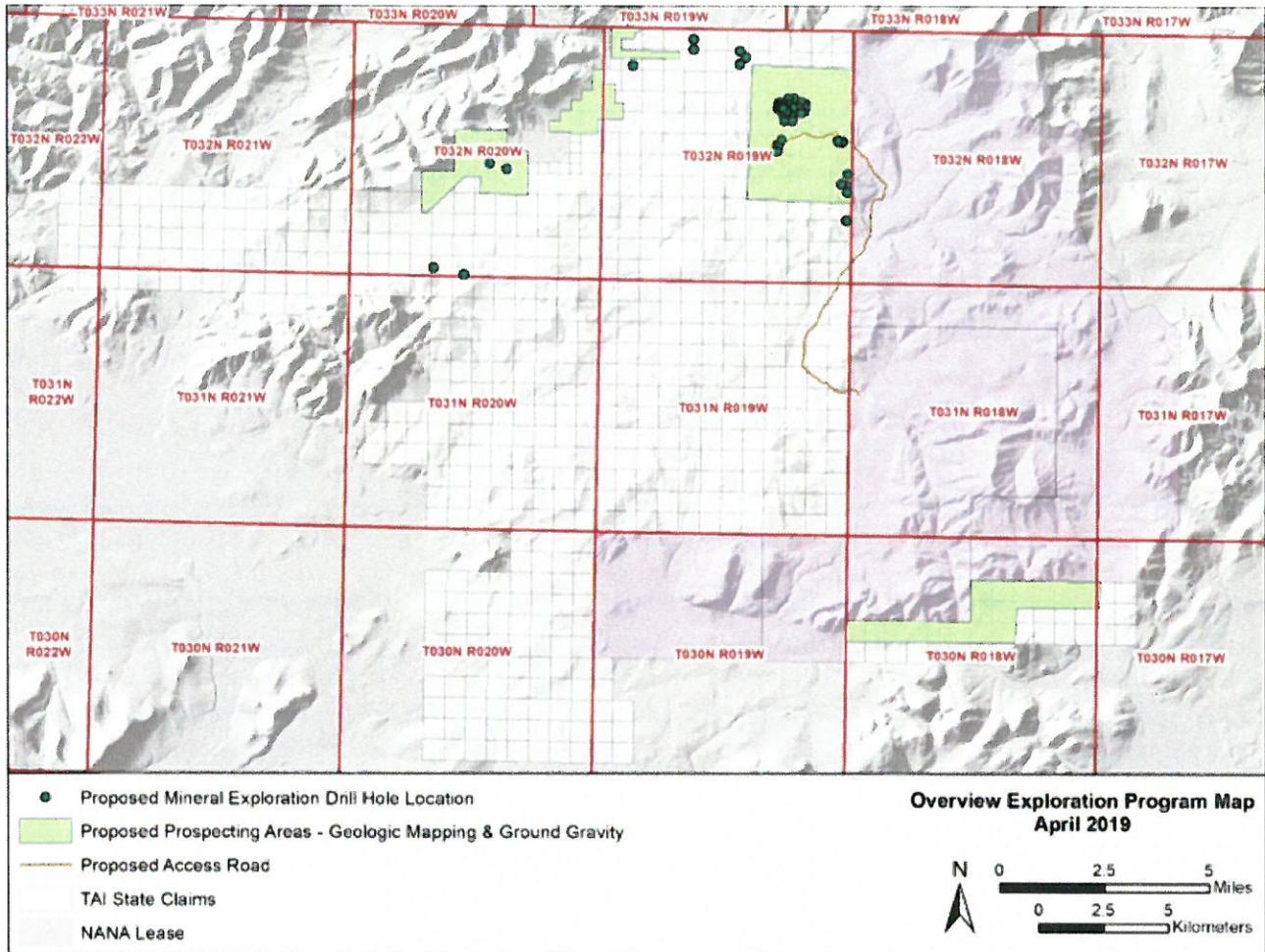
### **Prospecting:**

A mapping and ground gravity survey (prospecting) is planned in several areas in the district, and will involve teams of two people dropped off by helicopter and traversing the hills and tundra to investigate the bedrock geology. Rock chip samples will be collected from some of the bedrock.

Gravity surveying involves carrying a differential GPS and gravimeter (a metal box about the size of a backpack that contains electronics), along a predefined grid to measure the gravity response. A base station for the differential GPS system will be visited at the beginning and



ending of every day. At this base station, two tripods with a small battery-powered receiver with radio antennae will be set up. The actual gravity measurements involve placing the “plate”, a steel dinner plate-sized object with three legs, onto a flat area of ground in the vicinity of the planned station. The gravimeter, likely a Scintrex CG-5 Autograv gravimeter, is then placed on the plate and a measurement of the gravitational field is taken. A positional measurement is also taken with a Trimble RTK differential GPS system, which consists of a console on a survey pole. The operators then pack up the gear and proceed to the next station. The ground is not disturbed at the station and no items (garbage, flagging tape, etc) will be left behind.



**Figure 1. TECK’s exploratory drilling, mapping, and ground gravity survey locations, north and west of the Red Dog Mine.**

**Timeline:**

2019 Exploration and Geotechnical Drilling  
 Start date: On or about June 1, 2019

End Date: On or about October 15, 2019

Surface Exploration  
 Start Date: On or about June 1, 2019

End date: On or about September 30, 2019



	Waste Rock and Hydrological Drilling	
	Start Date: On or after July 1, 2019	End date: On or about October 15, 2019
2020	Exploration and Geotechnical Drilling	
	Start date: On or about June 01, 2020	End Date: On or about October 15, 2020
	Surface Exploration	
	Start Date: On or about June 1, 2020	End date: On or about September 30, 2020
	Hydrological Drilling	
	Start Date: On or after July 1, 2020	End date: On or about October 15, 2020
2021	Exploration Drilling	
	Start date: On or about June 01, 2021	End Date: On or about October 15, 2021
	Surface Exploration	
	Start Date: On or about June 1, 2021	End date: On or about September 30, 2021

**Current Approvals:**

- Department of Natural Resources, Division of Mining, Land and Water, Miscellaneous Land Use Permit for Hardrock Exploration & Reclamation, APMA #17-9339, expires 12/31/2021
- Department of Natural Resources, Division of Mining, Land and Water, Temporary Water Use Authorization, TWUA F2015-037, expires 12/31/2019
- Department of Natural Resources, Division of Mining, Land and Water, Temporary Water Use Authorization, TWUA F2017-055, expires 12/31/2021

**Permit Authorization and Documentation:**

Teck American Incorporated (TECK) submitted a Title 9 Zoning Permit Application (19-02-108) to conduct 'Mineral Exploration' and 'Prospecting' in both the Subsistence and General Conservation Districts on April 8, 2019. On April 26, 2019 the Borough Planning Department deemed the application was complete.

Permit fees due totaled to \$575.00 which was paid by check #212235.

The Planning Director has the authority to permit 'Prospecting' as a Minor Use in the Subsistence and General Conservation Districts, pursuant to NABC 9.12.030 and 9.12.050.

The Planning Director has the authority to permit 'Mineral Exploration' as a Minor Use in the General Conservation District, pursuant to NABC 9.12.050, and as a Major Use Permit in the Subsistence Conservation District, pursuant to NABC 9.12.030. A Major Use Permit requires a 20-day public comment period. There were no public comments for this project.



**Permit Terms and Conditions:**

1. Teck American Incorporated (TECK) shall comply with the terms of the permission, permits and/or agreements granted by the federal government, State of Alaska, NANA Regional Corporation, Northwest Arctic Borough and other applicable agencies.
2. TECK shall comply with any and all applicable local, Borough, state and federal laws. The Borough reserves the right to conduct periodic inspections of the permitted operations as well as work with the permittee to observe operations and/or trips for permit compliance.
3. Mineral exploration activities are required to be sited, designed, constructed and operated in a manner that does not substantially interfere with the use of a site that is important for significant cultural uses or essential for transportation to subsistence use areas.
4. TECK shall cease operations when migrating caribou are in the immediate vicinity (within  $\frac{3}{4}$  of a mile) of any area where it is operating under this Major Use Permit. The Planning Director may also request TECK to cease operations in order to not interfere with caribou herds and/or migrations.
5. TECK shall not, during the migration of caribou, locate any operation and/or equipment so as to block or cause diversion of the migration of caribou, and shall cease any activity that may interfere with the migration, such as airborne transports, airborne surveys or movement of equipment, until such time as the migration has been completed.
6. During the fall, winter and spring seasons, TECK or any project contractors shall not, during the migration of caribou, locate any operation and/or equipment so as to block or cause diversion of the migration of caribou. TECK and/or any project contractors shall cease any activity that may interfere with the seasonal spring and fall caribou migrations and/or caribou fall/winter/spring movements, such as marine, ground and airborne transports, ground and airborne surveys or movement of equipment, until such time as the migration or spring movements have cleared  $\frac{3}{4}$  of a mile from the location of the project activity. Concern for human safety will be given special consideration when applying this policy.

As a general guideline, caribou migration means an area where 500 or more caribou are travelling or congregating. However, during the fall/winter/spring period of January through December, TECK shall take extra precautions to avoid deflecting even small numbers (e.g. group sizes of 5-10) of the first caribou moving through the area as these groups/bands set trails as "lead caribou" that subsequent caribou later follow during the migration. The intent of these guidelines are to ensure free passage of caribou through the area and to avoid impacting caribou and the communities that historically and currently depend upon it as well as preserving existing and important adjacent land uses. These guidelines may be revised based upon updated information and research (including local traditional knowledge).



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7. All project activities shall utilize measures to avoid or minimize disrupting wildlife and bird migration, or subsistence activities including fishing, trapping, waterfowl hunting, egg gathering, berry picking and caribou hunting. The applicant will ensure reasonable access to subsistence users to subsistence resources.
8. All air (helicopter and airplane) traffic and ground transportation measures shall utilize measures to avoid disrupting wildlife and bird migration or subsistence activities by, 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. The Administrator may impose specific requirements as circumstances may warrant.
9. All aircraft transportation shall avoid areas where species that are sensitive to noise or movement are concentrated. As appropriate, the operations shall use horizontal and/or vertical buffers as appropriate while ensuring human safety.
10. All vehicles shall be operated in a manner such that the vegetative mat of the tundra is not disturbed. Vehicles shall not be abandoned. Vehicles must avoid areas where species that are sensitive to noise or movement are concentrated.
11. All trash and human waste generated at the sites must be properly disposed in accordance with Northwest Arctic Borough Ordinance 9.25.020 M., establishing standards of disposal of refuse, human body waste, and chemicals. All remedial activities shall comply with any and all other applicable state and federal laws, including all applicable hazardous waste and disposal requirements, all waste disposal and landfill requirements, and all open burning and air quality standards.
12. The applicant must conduct activities in a manner to maintain natural drainage pattern, water shed protection, and permafrost stability; to prevent runoff and erosion into water supplies; to minimize alteration of vegetation; and to conserve natural features and the general environment of the area.
13. The project will take place near a borough identified Priority Subsistence Use Area which is the Wulik River. All project uses and activities are to follow methods to minimize the likelihood of impacts to wildlife, waterfowl, and fish, including waterfowl staging areas, waterfowl nesting areas, and fish spawning areas. Use and activities shall not have a significant adverse impact on fish, including fish in their juvenile and larval stages.
14. Uses permitted shall cease upon the discovery of archaeological, prehistoric, historic or cultural resources during the project activities, and TECK shall immediately contact the Planning Director at the NAB to determine the conditions to continue.
15. All fuel/oil/hazardous substance storage, including waste oil, must meet all applicable state and federal containment laws. Any project fuel storage at the mineral exploration sites shall meet all applicable state and federal containment laws to prevent fuel spills and protect against fire danger. If a spill occurs, it must be reported immediately to the



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Alaska Department of Environmental Conservation and the NAB Planning Department (at least within 24 hours). Appropriate spill kits and absorbent pads must be stored at the mineral exploration sites. Fuel/oil drums or other storage containers shall not be abandoned.

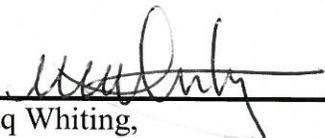
16. Project equipment servicing and fueling operations are prohibited within 100 feet of any surface water body, including any rivers, drainage channels, sloughs and lakes. Equipment must be monitored daily for hydraulic leaks. Project equipment shall not be abandoned.
17. TECK shall immediately notify the Borough (at least within 24 hours) of any change in the mineral exploration plans and seek modification of the permit.
18. At the completion of each season and overall completion of the project, erosion control measures shall be utilized to stabilize any exploration and/or drill hole sites. At a minimum, any disturbed areas must be re-graded to stable slopes that blend with the natural topography, maintain natural drainage, promote safety, and otherwise mitigate the effects of drilling. Within mean annual flood lines, re-grading to ground contours which will not entrap fish and not significantly alter the river/stream hydraulics will occur at the end of each operating season.
19. TECK is subject to all penalties and civil actions pursuant to section 9.08.240 for violation of the permit conditions and stipulations prescribed herein.
20. Annually by December 31<sup>st</sup>, the permittee shall file a written report with the NAB Planning Department, the City of Kivalina, the Native Village of Kivalina, and the Native Village of Noatak describing the following:
  - (a) GPS coordinates of all drill holes,
  - (b) complete report of any fuel or other hazardous substances discharges and clean-up activities completed,
  - (c) description of any reclamation,
  - (d) report the incidents of caribou migration and dates/times of ceased operations for allowing migration of caribou, and
  - (e) other matters as reasonable required by the Administrator/NAB Planning Director.
21. At the conclusion of each season the Borough Planning Department shall evaluate the effectiveness of the permit conditions. The Title 9 Administrator shall be authorized to adopt corrective measures for ineffective or inadequate permit conditions.
22. TECK and/or land owners shall allow the NAB and/or their representatives access to the permitted sites and properties, during the term of this permit or within 5 years after permit expiration, to conduct scheduled or unscheduled inspections to determine compliance with this permit or respond to emergency situations.
23. The Borough Planning Director, as the Title 9 Administrator under provision of NABC 9.08.020, will issue this permit for period of 3 years. Issuance of this permit under these



terms shall require submission of an annual report for compliance with the permit terms and conditions. **This permit will expire on December 31, 2021**, unless revoked by the Title 9 Administrator and/or TECK.

### Permit Approval

#### NORTHWEST ARCTIC BOROUGH

  
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Siikauraq Whiting,  
Planning Director/Title 9 Administrator

May 31, 2019  
\_\_\_\_\_  
Date

CC: Kivalina IRA Council, the City of Kivalina, The Native Village of Noatak,  
NANA Regional Corporation, Maniilaq Association

Posted at: [www.nwabor.org](http://www.nwabor.org)