

STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL AND GAS

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**RE: LONS 13-006, Tulimaniq #1 Exploration Drilling Program
Lease Plan of Operations Approval, Exploration Phase**

I. INTRODUCTION

On September 8, 2014 NordAq Energy, Inc. (NordAq) submitted a request to the Division of Oil and Gas (Division) for approval of a Lease Plan of Operations (Plan) to carry out drilling of a single offshore well (Tulimaniq #1) near the delta of the Ikpikpuk River in the southern extent of Smith Bay on the North Slope, Alaska. The Tulimaniq #1 drill site is approximately 59 miles southeast of Point Barrow. Approval of this Plan, along with approvals from other state and federal agencies (Agencies), is necessary for NordAq to carry out the Tulimaniq #1 exploration drilling program.

After state land is leased for oil and gas development, projects currently follow a phased progression. These phases may include exploration, development, and transportation, depending on the project. Before the next phase of a project may proceed, the Division provides public notice and an opportunity to comment on a plan of operations for that phase and considers the potential impacts of the phase, including both proposed and anticipated activities. Every plan of operations decision, regardless of whether it is for the beginning of a phase or for a phased project, considers whether a proposed plan protects the State's interests (11 AAC 83.158(e)). NordAq's proposed operations would begin the Exploration phase for the subject project of this review.

II. SCOPE OF DECISION

The Commissioner for the Alaska Department of Natural Resources (DNR) has delegated authority for approval of Lease Plan of Operations activities to the Division under Department Order: 003 in accordance with Alaska Statute (AS) 38.05 and 11 Alaska Administrative Code (AAC) 83.158. As set forth below, the Division has evaluated the proposed Plan to determine if sufficient information as required by 11 AAC 83.158 is provided. The Division also considers

the State's interest and in approving a Plan, may require amendments that it determines are necessary to protect the State's interests (11 AAC 83.158(e)).

NordAq plans to explore for oil and gas hydrocarbons only within T17N, R09E, S16, Umiat Meridian, ADL 392275. The Tulimaniq #1 exploration program will consist of drilling a single oil and gas exploration well during the 2014-2015 winter season near the delta of the Ikpihpuk River within a State oil and gas lease. The well is planned as a single vertical well drilled into potential liquid hydrocarbon zones and is largely a stratigraphic well that will include the collection of cores and a vertical seismic profile (VSP).

The Plan states that additional wells may be drilled in subsequent seasons depending on the results of the first well. Additional information outlining any proposed future operations will need to be submitted for review to the Division for approval prior to commencing operations.

The following Plan elements require authorization through other Agencies:

- The well drilling permit is subject to approval from the Alaska Oil and Gas Conservation Commission (AOGCC);
- A land use permit from the DNR Division of Mining, Land and Water (DMLW) for winter off-road tundra travel, ice road/pad construction, and thermistor installation on all State owned lands outside the lease area using State approved vehicles;
- Fish habitat permits through the Alaska Department of Fish and Game (ADF&G) for fish stream crossings and water withdrawals;
- Temporary Water Use Permits (TWUPs) through DMLW for water withdrawal to support several components of the project; and
- Approval of a Spill Prevention and Countermeasure Plan (SPCC) Plan through the Alaska Department of Environmental Conservation (ADEC).

III. LAND STATUS

The Tulimaniq #1 project area is comprised of state lands.

A. Division's Leased Lands:

Meridian: Umiat Township: 17N Range: 09W Section(s):16

ADL: 392275. Lessee: NordAq Energy, Inc.

Proposed well site location(s):

- 70.826952, -154.268638;
- 70.845479, -154.237578; or
- 70.82693, -154.132679 Decimal Degrees, NAD 83

NordAq is reviewing several surface locations for the well site in Smith Bay and the final location will be based on results from ongoing seismic/geophysical studies. The Division considered each of

the potential locations. The proposed drill pad locations are all within ADL 392275 and within State of Alaska land and water.

B. State of Alaska Surface Lands:

All activities are planned to originate in the Kuparuk River Unit (KRU) and continue west to state land and waters in Smith Bay surrounded by the National Petroleum Reserve – Alaska (NPR-A). Areas west of the Colville River are managed by the Bureau of Land Management (BLM) and require BLM authorization.

A winter mobilization will be undertaken to reach the Tulimaniq #1 well site location in Smith Bay. There are two route options: 1) a “Priority Route” composed of both near shore sea-ice and overland travel, originating at an offshore staging pad near Oliktok Point, or 2) an exclusively overland “Alternate Route” with a staging pad at the Drill Site 2P (DS-2P) Pad in the Kuparuk River Unit. The “Alternate Route” will cross state land to cross the Colville River at Ocean Point and then continue through the NPR-A to Smith Bay. The selection of the winter mobilization route will depend upon the more optimal environmental parameters and weather conditions present as the winter season progresses (Figure 1). Both routes are outside of the lease and thus require a Land Use Permit from DMLW under 11 AAC 96.

11 AAC 96.014(b)(1) designates all lands in townships within the Umiat Meridian on the North Slope as special use land, and requires that any vehicle use that is not on a gravel road or for subsistence purposes obtain a tundra travel permit through the DNR DMLW. DMLW issued land use permit LAS 29943 on October 3, 2014 for NordAq’s winter off-road tundra travel, ice road/pad construction, and thermistor installation on all State owned surface lands using State approved vehicles.

Although the winter mobilization routes are not part of this Plan, they are part of NordAq’s project and thus the Division has considered these activities, and DMLW’s approval of the activities, when looking at Nordaq’s exploration phase as a whole.

IV. PROPOSED OPERATIONS

The Plan describes the proposed operations in full detail. Set forth below is a summary of the key details.

A. Sequence and Schedule of Events

NordAq proposed the following schedule for the 2014-2015 drilling season. All dates are approximate and may be altered by weather or logistic requirements. The dates will also change because some of them precede this decision. The schedule nonetheless provides the Division with an overall idea of the sequence and schedule of events. The Division reviewed this schedule

with the expectation that dates early in the sequence would move back, but that later dates for finishing drilling, demobilization, and clean up would remain the same.

Activity	Est. Start Date	Est. Duration
Barging to Point Lonely (optional)	September 15, 2014	14 days
Site surveillance – thermistor installation	October 1, 2014	5 days
Begin prepacking	November 1, 2014	45-60 days
Equipment and staging pad preparation (at Oliktok Point or 2P Pad)	December 1, 2014	30 days
Begin shore camp, equipment, and rig mobilization		
- From Oliktok Point if using priority route	December 15, 2014	30 days
- From 2P pad if using the overland route	January 1, 2015	30 days
Assume tundra travel opens	January 1, 2015	135 days
Ice island construction	January 19, 2015	24 days
Begin drilling and well testing	February 15, 2015	65 days
Finish drilling and well testing	April 20, 2015	N/A
Demobilization and site clean up	April 26, 2015	14 days
Summer site inspection/clean up	June-July 2015	10 Days

B. Well Sites/Drilling

NordAq is reviewing several surface locations for the Tulimaniq #1 well site in Smith Bay. The Tulimaniq drill site is located on State of Alaska land and water and all potential well sites are within the boundaries of mineral lease ADL 392275. The selection of the final surface location will depend on results from ongoing seismic/geophysical studies.

NordAq intends to drill one exploration well at one of the potential locations described previously. This is largely a stratigraphic well that will include the collection of cores and a VSP, with well testing expected to occur. Well drilling permit applications are subject to AOGCC approval, and well sites are reported to the Division through status completion reports, as described in Section IX(5)(a). Annular disposal is proposed for this project. VSP geophysical surveys will be performed on a contingency basis governed by well evaluation results. The VSP program is proposed to be conducted over an 18 to 24 hour period and the proposed energy source is vibroseis.

Drilling operations will begin when the well pad has been constructed, but will not occur after April 19, 2015. Well formation evaluations via open and cased hole logs will be performed during the drilling of Tulimaniq #1. In addition, a well testing plan has been developed to quantify reservoir inflow performance characteristics should hydrocarbons be encountered in sufficient quantities. At the conclusion of all formation evaluation and well testing work scopes, the well will be plugged and abandoned in compliance with AOGCC regulations.

C. Buildings

The Plan proposes construction of a single ice island in approximately 1-foot to 4 feet of water near the mouth of the Ikpikpuk River. The island will be circular in geometry with an approximate diameter of 500 feet. Facilities proposed to be placed on the ice island include: a drill rig; a 64-man camp; a 9,900 gallon fuel tank; a drilling fluids tank farm; cuttings bins; a spill response connex; a lined storage area; and a casing/tubulars area (Figure 2). The 64-man camp is intended to be used on the ice pad during drilling activities. The water and wastewater systems will function in similar fashion to the shore camp discussed below, with treated water discharged to sea ice.

In addition to the 64-man drilling camp, two additional non-drilling camp facilities are proposed. A 19-man camp at the staging pad (either Oliktok Point or DS-2P Pad) will use a store and haul wastewater system and will not have any discharge. A 36-person shore camp will initially be used for the ice pad, airstrip, and infield ice road construction prior to the arrival of the rig camp. This camp will treat lake water for potable use, and will have a wastewater treatment system with discharge of treated water to the tundra surface.

Camp facilities within the project area will house approximately 100 people. During the first mobilization phase when the ice airstrip and ice pad construction commences, a shore camp will be used to support the ice construction. After the rig is hauled to the ice island, the shore camp will remain at the southern end of Smith Bay to provide program logistics support, facilitate crew changes, and support demobilization at the end of the season.

D. Fuel and Hazardous Substances

Up to 20,000 gallons of fuel, in differing tank volume sizes (all 9,990 gallons or less) will be stored on the ice island to support camp and drilling operations. Tanks include the rig's day tank and a general use fuel tank. An additional volume, up to 90,000 gallons will be staged with a minimum offset of 500 feet from the Lake 654 shoreline. No single fuel storage tank will exceed 9,990 gallons on either the ice island or shore base installation.

Secondary containment of bermed and impermeable membrane-lined fuel storage areas will be used for all fuel storage. The fuel storage containment is designed for arctic conditions and will be capable of holding a minimum 110% of the maximum capacity of fuel storage. Containment discharge practices are outlined in the Tulimaniq SPCC Plan and include visual and olfactory assessment prior to removal of snow, ice, and water. Any small drips or leaks will be containerized and disposed of at an approved treatment and disposal facility. Snow melting, granular activated carbon filtration, and analytical sampling will be coordinated with the ADEC and the BLM prior to any necessary containment discharge where fuel is present. Fluid disposal will be via permitted onsite annular injection, or at an offsite injection facility in Prudhoe Bay.

Fuel will be transferred daily from the onshore tank farm using conventional fuel tanker trucks to the drill pad. Fuel resupply to the tank farm will be via aircraft to the Lake 654 airstrip and then transferred to the tank farm.

Drilling Waste

Water based drilling fluids will be used through all phases of well construction. Approximately 5,500 gallons per day (GPD) of non-hazardous Underground Injection Control (UIC) Class II fluids will require temporary on-site storage and disposal. Drilling fluids will be injected via annular disposal or transported to a Prudhoe Bay disposal facility.

The cuttings will be placed in cuttings bins in a temporary storage cell with secondary containment consisting of ice berms and/or impermeable liner, and transported to Prudhoe Bay for disposal at a permitted grind and inject facility.

Produced Fluids

Well testing is planned for the Tulimaniq #1 well. The well testing equipment inventory will include sufficient tankage to collect and store produced fluids over the well testing period. All prescribed tankage will be positioned in secondary containment on the ice island. At the conclusion of the well test period the collected/stored produced fluid will be disposed of via annular injection or transported to an approved disposal facility. Approval of the annular injection process is through AOGCC.

E. Solid Waste Sites

Waste management will be based on waste minimization and disposal and will comply with Federal, State, and local regulations to prevent attracting wildlife. All solid waste will be temporarily stored at each site pending shipment from the area. Non-putrescible waste will be deposited in "super sacks" at the drill site and will be transported overland to an approved disposal facility. Food and other putrescible waste will be stored in enclosed wildlife-proof containers and managed in accordance with the ADF&G required visual screening and protocols.

F. Water Supplies

Smith Bay and Harrison Bay are the proposed water sources in support of the exploration drilling program, along with nearby freshwater lakes (Figures 3-5).

Fresh water is needed for the ice island and airstrip construction, maintenance, drilling operations, and camp use. Fresh water will be withdrawn from permitted lakes. Water and ice chips will be extracted from the permitted lakes. Ice chips removed from grounded portions of any permitted lake are included in the total proposed withdrawal volume. Snow will be removed from portions of lakes approved for water withdrawal, ice mining, or both. Snow removal will

provide access for water trucks and ice chippers, installation of temporary water houses, and truck turnaround areas. Snow removal from non-grounded portions of fish-bearing lakes must be approved on an individual basis through authorizations from ADF&G.

Water for human use will be processed through lakes through a permitted drinking water treatment system. The drilling camp will require about 5,000 GPD of potable water for up to 100 days; a season total of approximately 500,000 gallons of water. Approximately 50,000 GPD of water will be required for the drilling operation for a season total of approximately 1.75 million gallons. Water withdrawal is permitted through TWUPs from DNR DMLW, which are currently pending.

G. Utilities

A dish antenna is proposed to support phone and internet services at the project site.

H. Roads

NordAq proposed two access routes to the drill site and applied for a Land Use Permit from DMLW for both the priority and alternate routes. The route selected will depend upon weather and sea ice conditions at the time of project start up in December 2014.

The priority travel route is along Harrison Bay and the Kogru River, which maximizes the use of sea and lake ice and allows smoother travel. Use of this route will require the development of a sea ice staging area just offshore from Oliktok Point. If tundra conditions are not favorable to overland travel at Harrison Bay or along the Kogru River, the priority route may deviate to the north to travel along the shoreline around Harrison Bay and Cape Halkett to Point Lonely. This route would be located on grounded sea ice and not on the shoreline itself.

The alternate travel route would begin from a staging area at DS-2P or an ice pad adjacent to DS-2P, cross the Colville River at Ocean Point and proceed along the historical travel route before heading north to the Tulimaniq drill site.

Frozen overland and oversea ice trails will be used to transport supplies and equipment from Prudhoe Bay to the project area. Existing permanent gravel roads and frozen trails will be used to the maximum extent possible. The frozen trails will be packed and maintained using the generally accepted practices for the North Slope, subject to BLM and DNR tundra opening criteria. Pre-packing of the trail will be requested prior to the official tundra opening to preserve early snow. Overland travel to the drill site will be via approved low-pressure all-terrain vehicles (LPVs) from staging areas. Frozen trail access west of the Colville River will be on BLM lands which are authorized through the BLM.

NordAq is planning to install up to 30 thermistors in critical overland travel areas. These thermistors are intended to transmit data including real-time soil temperature at depth via satellite to a website that would be available to Agencies, landowners, and contractors. The thermistors can provide information for determining tundra travel opening dates. The thermistors are planned to be located, at the shore camp area adjacent to Lake 654, along the priority route originating at Oliktok Point, and along the alternate route originating at DS-2P Pad.

DNR DMLW issued Land Use Permit LAS 29943 for the thermistor installation, ice road, and off lease ice pad construction on October 3, 2014.

I. Airstrips

An ice airstrip up to 5,000 feet in length will be constructed on Lake 654 near the well site. The airstrip will be used by medium-small aircraft to transport project components, crew, and a portion of the fuel. Most flights traveling to the project site will originate from Anchorage or Fairbanks, with local flights originating from Deadhorse and Barrow. NordAq estimates approximately five fixed-wing aircraft landings at the project site per week during the drilling program. Thermistor installation in the fall of 2014 will require approximately one week of rotary aircraft operations during the month of September or October. No rotary aircraft operations are expected during the drilling program.

Existing airstrips near the project site have been identified and their condition evaluated for use, if necessary. These backup air strips include the 4,000 foot gravel airstrip at Point Lonely approximately 24 miles east of the well site, and a 1,700 foot airstrip at Cape Simpson approximately 20 miles northwest of the well site.

J. All Other Facilities and Equipment

Light plants will be located on access roads and on frozen lakes at the water houses for safety purposes. The light plants will be refueled in compliance with Federal and State regulations. Light plant fuel supply storage will have 110% containment. Signs will be placed at the access points of permitted lakes.

K. Rehabilitation Plan

All debris will be hauled to an approved disposal site upon completion of drilling and testing. The ice pad will be scraped to remove any residual waste and will be hauled to an approved disposal facility. The well will be plugged and abandoned prior to the end of the winter drilling season in accordance with AOGCC regulations.

L. Local Hire, Communication and Training

Local Hire

NordAq states that hiring opportunities are limited during exploration drilling. However, subsistence observers at well sites during operations, marine mammal observers on the barges, translators, Native elders who are willing to share traditional knowledge of the area, and others have been, and will continue to be, hired for the NordAq exploration project. The shared knowledge by elders is used to assist in avoiding conflicts and to identify subsistence resource areas. Applicable traditional knowledge will be used during the project orientation training section. A NordAq representative will be available during operations and phone service will be available at the drilling camp 24-hours a day.

Training

All employees working on the Tulimaniq exploration drilling project will be required to receive training. The training includes project area orientation, threatened and endangered species information, environmental, social, and cultural awareness, subsistence conflict avoidance, and pertinent mitigation that is specific to the NordAq Tulimaniq exploration project. All project personnel are required to attend annual training. Training records will be maintained while the site is active.

In addition, North Slope employees and contractors are required to complete an 8-hour training program provided by the North Slope Training Cooperative (NSTC). A Field Environmental Handbook, Alaska Safety Handbook, and a North Slope Visitor's Guide are used for the training. The training program includes classes on the Alaska Safety Handbook, personal protective equipment, camp and safety orientation, hazard communication, HAZWOPER Level I, and Environmental Awareness. The NSTC provides training in hydrogen sulfide, hearing conservation, electrical safety, respiratory protection, energy isolation, confined space entry, asbestos awareness, fall protection/avoidance, toxic substance control, first aid/CPR, and use of an automated external defibrillator.

V. EXPLORATION PHASE AND PROTECTION OF STATE AND PUBLIC INTERESTS

This Plan begins NordAq's exploration of the lease area. The Plan addresses exploration activities for drilling a single well, but based on the results of this exploration, the Division anticipates that NordAq may submit additional plans of operation for additional exploration wells. Thus in considering the exploration phase, the Division considered both the specific activities proposed under this Plan as well as typical additional exploration activities that NordAq might propose for further exploring the lease.

The Division considered the potential impacts of exploration on public and State interests. In the oil and gas context, the public interest includes maximizing economic and physical recovery of oil and gas resources (AS 38.05.180(a)(1)). The State has an interest in protecting the public interest, and in encouraging assessment of oil and gas resources while minimizing the adverse impacts of exploration, development, production, and transportation activities (AS 38.05.180(a)(2)).

In considering potential impacts, the Division also considered the operating procedures NordAq has designed to minimize adverse effects of the Plan activities. These operating procedures include procedures to comply with the mitigation measures attached to the lease. These measures come from the Beaufort Areawide Best Interest Finding (BIF) and include mitigation measures to address potentially negative effects of oil and gas exploration on fish and wildlife species, habitats and their uses, on subsistence uses, and on local communities. NordAq has provided a mitigation measure analysis, which is required, as part of their Plan of Operations submittal.

A. Facilities, Access, and Operations

All proposed facilities are temporary in nature and include an ice island, ice runway, and the temporary placement of a staging camp, a shore camp, and the drilling camp. NordAq has designed, sited, and proposes to operate the exploration drilling facilities in accordance with the Beaufort Sea mitigation measures and fish habitat permits issued from ADF&G in January 2014. Beaufort Sea mitigation measure A.1.c requires that, to the extent practicable, the siting of facilities other than docks, roads, utility, and pipeline crossings be prohibited within 500 feet of all fish-bearing streams and water bodies, and 1,500 feet from all current surface drinking water sources. The Plan proposes that the shore camp staging pad be sited near Lake 654 which is not fish bearing. All activities are proposed to take place during the winter and are intended to avoid and minimize impacts to wetlands. Winter off-road travel will be conducted in accordance with DNR and BLM guidelines (when on federal land) to further avoid and minimize impacts to wetlands

No placement of gravel is proposed for the Tulimaniq #1 exploration program. Frozen overland and oversea ice trails will be used to transport supplies and equipment from Prudhoe Bay to the project area. Existing permanent gravel roads and frozen trails will be used to the maximum extent possible but no new gravel roads or pads will be constructed. Frozen trail access west of the Colville River are on BLM lands and are authorized through BLM. The frozen trails will be packed and maintained using the generally accepted practices for the North Slope, subject to BLM and DNR tundra opening criteria. Pre-packing of the trail will be requested prior to the official tundra opening to preserve early snow. Overland travel to the drill site will be via approved LPVs from staging areas.

Demobilization of the facilities is expected to occur in April 2015 in accordance with Beaufort Sea mitigation measure A.1.1. All temporary facilities and waste will be removed, all ice pads

will be scraped to remove residual waste, and the well will be plugged and abandoned, per AOGCC regulations. Packed snow roads and ice pads will be allowed to degrade naturally through thawing.

For a lease of this size, NordAq could end up drilling additional exploratory wells. The Division anticipates that plans for additional wells would involve facilities, access, and operations similar in nature and scope to this Plan. As is typical of exploration, facilities and access roads would all be temporary. NordAq would need to continue to comply with mitigation measures regarding the siting of facilities or provide the necessary request for a mitigation measure exception.

B. Fuel, Hazardous Substances, and Waste

The exploratory drilling proposed under the Plan, as well as other exploratory drilling NordAq might propose during the exploration phase, will result in drilling muds, cuttings, and produced water and pose some risk of a spill. Discharges of drilling muds, cuttings, and produced waters; oil spills; and accidental spills of fuel, lubricants, or chemicals can all have impacts to water, wildlife, and habitats during this exploration program. Impacts from exploration activities, from either disposal activities or a spill, could adversely affect water quality, but impacts are expected to be local and temporary because of dilution, settling, and other natural altering and regenerative processes.

Drilling Muds and Produced Water

Byproducts of drilling activities include muds and cuttings, produced water, and associated wastes. Produced water contains naturally occurring substances such as clay, sand, oil, water, and gas. Most drilling wastes are disposed of under ADEC's solid waste disposal program. Re-injection is the preferred method for disposal of drilling fluid. Disposal of drilling muds and cuttings requires permit approval. Most oil field wastes are considered non-hazardous and waste fluids are recycled, filtered, and treated before reinjection or disposal. Cuttings and waste fluids must be made non-hazardous before injection. Produced water is treated using heat, gravity settling, and gas flotation devices to remove hydrocarbons. After treatment, produced water is re-injected into either the oil-bearing formation to maintain pressure and enhance recovery or into an approved disposal well. Cuttings disposal is done through grinding and injecting on-site, or cuttings are transported to an approved disposal site. Wastewater, including sanitary and domestic graywater, is also treated to meet effluent guidelines before discharge.

During exploration drilling, muds and cutting are stored on-site, in holding tanks, or in a temporary reserve pit and then hauled to an approved solid waste disposal site or re-injected into the subsurface at an approved injection well. All production muds and cuttings on the North Slope are re-injected into a Class II injection well. All produced waters are re-injected either into the producing formation or into an injection well. The AOGCC oversees proper and safe handling and disposal of drilling wastes and oversees the underground operation of the Alaska

oil industry on private and public lands and waters. The AOGCC administers the UIC Program for oil and gas wells, acts to prevent waste of oil and gas resources and ensure maximum recovery, and protects subsurface property rights. All disposal wells inject fluids deep beneath any drinking water aquifers. Beaufort Sea mitigation measure A.4.j states that the preferred method for disposal of muds and cuttings from oil and gas activities is by underground injection.

NordAq's Plan states that water based drilling fluids will be used through all phases of well construction. Approximately 5,500 GPD of non-hazardous UIC Class II fluids will require temporary on-site storage and disposal. Drilling fluids will be injected via annular disposal, as regulated by AOGCC, or transported to a Prudhoe Bay disposal facility. The cuttings will be placed in cuttings bins in a temporary storage cell with secondary containment consisting of ice berms and/or impermeable liner, and transported to Prudhoe Bay for disposal at a permitted grind and inject facility. The Division anticipates that any additional plans of operation for exploratory wells will propose similar disposal.

Accidental Spills

Impacts resulting from accidental spills would depend on the type of product, the location, volume, season, and duration of the spill or leak, and the effectiveness of the cleanup response. Heavy equipment, such as trucks, tracked vehicles, aircraft, and tank trucks, commonly use diesel fuel, gasoline, jet fuel, motor oil, hydraulic fluid, antifreeze, and other lubricants. Spills or leaks could result from accidents, during refueling, or from corrosion of lines. Under standard DNR DMLW permit conditions for off-road activity, fuel and hazardous substances must have secondary containment apparatuses. A secondary containment or surface liner must be placed under all container or vehicle fuel tank inlet and outlet points, which NordAq will provide. Appropriate spill response equipment must be on hand during any transfer or handling of fuel or hazardous substances.

Oil Spills

The effects of an oil spill during the winter are limited. There are no production activities, permanent facilities, or pipelines proposed. Nordaq has proposed temporary activities during winter months, and the Division anticipates future exploratory drilling would also take place during the winter when the risk from spills is lower.

Mitigation measures include siting facilities away from fish-bearing streams and lakes, development of oil spill contingency plans, and providing adequate spill response training. Each of these measures has been met by NordAq.

Beaufort Sea mitigation measures require that sites be protected from leaking or dripping fuel and hazardous substances; secondary containment be placed under all container or vehicle fuel tank inlet and outlet points, hose connections, and hose ends during fuel or hazardous substance

transfers; vehicles cannot be refueled within the annual floodplain; containers must be marked with the contents and lessee/contractor name; waste from operations be reduced, reused, or recycled to the maximum extent practicable; muds and cuttings should be disposed of by underground injection, where practicable; and that proper disposal of garbage and putrescible waste be utilized.

NordAq's Plan states that secondary containment of bermed and impermeable membrane-lined fuel storage areas will be used for all fuel storage. The containment is designed for arctic conditions and is capable of holding a minimum 110% of the maximum capacity of fuel storage. Fuel transfers will be conducted by trained personnel in accordance with an approved SPCC plan. Duck ponds will be used where appropriate, and spill response equipment will be on hand at all points where fuel is to be transferred. Waste management is based on waste minimization and disposal and will comply with Federal, State, and local regulations to prevent attracting wildlife. All solid waste will be temporarily stored at each site pending shipment from the area. Non-putrescible waste will be deposited in "super sacks" at the drill site and will be transported overland to an approved disposal facility. Food and other putrescible waste will be stored in enclosed wildlife-proof containers and managed in accordance with the required visual screening and protocols. Camp wastewater will be processed through the camp wastewater treatment system and discharged in accordance with the North Slope General Permit No. AKG-57-2000. Wastewater generated by the rig camp will be approximately 5,000 GPD. Remnant sludge, seepage, grit, or grindings from the treatment system will be transported to an approved disposal facility.

C. Habitat, Fish, and Wildlife

Any exploration activity can impact habitat, fish, and wildlife. The Beaufort Sea mitigation measures are designed to minimize these impacts. The Plan activities will take place over a limited time period and involve temporary roads and facilities, so the Division anticipates impacts to habitat, fish, and wildlife, to also be limited and temporary. The Division also anticipates that any future plans of operation for the exploration phase will involve similarly limited and temporary activities and impacts.

Teshkepuk Lake

Due to high concentrations of staging and molting brant and other waterbirds within the coastal habitats along the Teshkepuk Lake Special Area (TLSA) and other areas, Beaufort Sea mitigation measure A.2.f requires that operations that create high levels of disturbance, including but not limited to dredging, gravel washing, and boat and barge traffic along the coast, are prohibited from June 20 to September 15 within one-half mile of coastal salt marshes. Nordaq's Plan states that should barging occur in the project area, it will be outside the restricted timeframe.

Fish

Withdrawal of water from lakes and ponds could affect fish overwintering habitat by entraining juvenile fish, lowering water levels, and increasing disturbance. The construction of roads across rivers and streams may also affect the ability of fish to reach overwintering areas by blocking movement and causing direct loss of overwintering habitat. Removal of water from lakes where fish overwinter may affect the viability of overwintering fish, and longer-term effects of lake drawdown may impede the ability of fish to return to the lake in subsequent years. Removal of snow from lakes may increase the freeze depth of the ice, kill overwintering and resident fish, and adversely affect the ability of fish to utilize the lake in future years.

Beaufort Sea mitigation measure A.2.b requires that removal of water from fish-bearing rivers, streams, and natural lakes have prior written approval by DMLW and ADF&G. Water intake pipes used to remove water from fish-bearing waterbodies must be surrounded by a screened enclosure to prevent fish entrainment and impingement, with screen mesh size no greater than 1 mm (0.04 inches), unless another size is approved by ADF&G. The maximum water velocity at the surface of the screen enclosure may be no greater than 0.1 foot per second, unless an alternative has been approved by ADF&G. In addition, Beaufort Sea mitigation measure A.2.c states that removal of snow from fish-bearing rivers, streams, and natural lakes require prior written approval from ADF&G. Compaction of snow cover overlying fish-bearing water bodies is prohibited except for approved crossings. Ice or snow bridges may be required if ice thickness is not sufficient to facilitate a crossing. ADF&G issued fish habitat permits to NordAq in January, 2014 for water withdrawal from fish-bearing lakes.

NordAq has applied for TWUPs from DNR DMLW, which are currently under review. Before a permit to appropriate water is issued, DMLW considers local demand and may require applicants to conduct aquifer yield studies. Generally, water table declines associated with the upper unconfined aquifer can be best mitigated by industrial users tapping confined (lower) layers or searching for alternate water sources.

Caribou

Exploration-related disturbance of caribou, particularly by helicopter traffic, is expected to have minor impacts on caribou, particularly large groups, with animals being briefly displaced from feeding and resting areas when aircraft pass nearby. Acute disturbance effects may in combination result in broader effects on habitat availability for individual caribou with fidelity to a calving area, but may have little or no effect on the Central Arctic herd population. It is expected these disturbances would be short term

The Beaufort Sea Areawide BIF encourages lessees to maintain aircraft at an altitude greater than 1,500 feet or a lateral distance of one mile, excluding takeoffs and landings, from caribou concentrations. Seasonal restrictions may be imposed on activities located in, or requiring travel

through or overflight of, important caribou calving areas. NordAq's Wildlife Avoidance and Interaction Plan notes that a 5,000' airstrip will be constructed approximately 1,200' from the Tulimaniq ice island. Aircraft will avoid any hunting parties and will fly above 2,000' except during landing approach and takeoff.

Bears

In 2008, the USFWS listed the polar bear as a threatened species under the Endangered Species Act. Polar bears may be present in the upland and offshore areas year round. Potential impacts to polar bears from exploration activities such as those proposed in the Plan include disruption of denning, attraction to areas of activity, and adverse interaction with humans.

The temporary displacement of some polar bears from preferred habitats is anticipated as a result of routine exploration activities such as the proposed Plan activities and activities NordAq might propose throughout the exploration phase. Females in dens, both on sea ice and onshore are at risk for disturbance from any vehicular traffic or noise. Exploration is likely to increase temporary displacement and disturbance. Other sources of disturbance include building ice roads, temporary ice islands as drilling platforms, helicopter flights to move crews and lightweight equipment, rollogons, snow machines, vibroseis equipment, and other motorized vehicles.

There are several regulations imposed by state, federal, and local agencies that are implemented to avoid, minimize, and mitigate these potential effects to bears. In addition to complying with the Endangered Species Act and the Marine Mammal Protection Act, NordAq must comply with mitigation measures to minimize effects of exploration activities on bears.

Beaufort Sea mitigation measure A.2.d.i.A-G requires lessees to prepare and implement a human-bear interaction plan. The human-bear interaction plan should include measures to: minimize attraction of bears to facility sites, including food and waste; organize layout of buildings and work areas to minimize interactions between humans and bears, such as including the use of electric fencing; warn personnel of bears near or on facilities and the proper actions to take; if authorized, to deter bears from the drill site; provide contingencies in the event bears do not leave the site; provide for proper storage and disposal of materials that may be toxic to bears; and document and communicate the sighting of bears onsite or in the immediate area to all shift employees. NordAq submitted a copy of their Wildlife Avoidance and Interaction Plan as an appendix to the Plan. Staff and contractors will implement and adhere to the training, guidelines, and procedures contained in the Wildlife Avoidance and Interaction Plan.

Beaufort Sea mitigation measure A.2.d.ii requires lessees to consult with ADF&G to identify the locations of any known brown bear den sites that are occupied in the season of proposed activities. Exploration activities started between September 20 and May 15 may not be conducted within ½ mile of known occupied bear dens, unless alternate measures are approved

by ADF&G. Lessees who encounter occupied brown bear dens not previously identified must report it to ADF&G within 24 hours. Mobile activities must avoid discovered occupied bear dens by ½ mile unless alternate measures are approved by the Division with concurrence from ADF&G. NordAq will contact ADF&G prior to commencing operations in order to identify locations of brown bear dens. NordAq will follow the guidelines and procedures outlined in their Wildlife Avoidance & Interaction Plan in order to avoid and mitigate interactions with brown bear dens.

Beaufort Sea mitigation measure A.2.d.iii requires lessees to consult with the U.S. Fish and Wildlife Service (USFWS) to identify the locations of known polar bear den sites. Operations must avoid known polar bear dens by one mile. Lessees who encounter an occupied polar bear den not previously identified must report it to the USFWS within 24 hours and subsequently avoid the new den by one mile. If a polar bear dens within an existing development, off-site activities must be restricted to minimize disturbances. NordAq has contacted USFWS regarding the proposed project and has submitted a request for Letter of Authorization for Incidental Take and for Intentional Take by Harassment. NordAq will consult with USFWS prior to commencing operations in order to identify locations of polar bear dens. NordAq has notified UFWS of its intention to participate in the USFWS FLIR program to identify polar bear den locations. Further, NordAq will follow the guidelines and procedures outlined in their Wildlife Avoidance & Interaction Plan in order to avoid and mitigate interactions with polar bears and their dens.

D. Subsistence, Commercial, and Sport Harvest Activities

Traditional subsistence uses in the area include: bowhead and beluga whaling; walrus, polar bear, and seal hunting; brown bear, caribou, muskox, and moose harvesting; hunting and trapping of furbearers; hunting migratory waterfowl and collecting their eggs; fishing for whitefish, char, salmon, smelt, grayling, trout, and burbot; collecting berries, edible plants, and wood; and producing crafts, clothing, and tools made from these wild resources. Equally important, subsistence also includes social activities of consuming, sharing, trading and giving, cooperating, teaching, and celebration among members of the community.

Potential exploration activities that could have effects on subsistence uses in the area include discharges from well drilling, and ongoing disturbances from activities such as vehicle, and aircraft traffic. Noise, traffic disturbance, and oil spills generally produce short-term impacts on subsistence species.

The Beaufort Sea Areawide BIF contains several mitigation measures intended to reduce conflicts with subsistence, commercial, and sport harvest activities. Prior to submitting a Plan to the Division, the lessee must consult with affected subsistence communities, the Alaska Eskimo Whaling Commission (AEWC), and the NSB to discuss reasonably foreseeable effects on subsistence during the proposed operations, and methods of proposed operations and safeguards

or mitigation measures that can be implemented to prevent unreasonable conflicts. The lessee must make reasonable efforts to assure that the proposed exploration activities are compatible with subsistence hunting and fishing, and will not result in unreasonable interference with subsistence harvests. The Division may implement restrictions, as appropriate, to reduce potential conflicts.

NordAq staff and contractors participated in an agency pre-application meeting on June 27, 2014 with the NSB, and presented the 2014-2015 exploration drilling program to the BLM Subsistence Advisory Panel (SAP) in their meeting on September 10-11, 2014 in Barrow. NordAq sent invitation letters during the first week of October to the following organizations for community meetings to present and discuss the project: Inupiat Community of the Arctic Slope; City of Atqasuk; Atqasuk Village Council; Native Village of Atqasuk; Eskimo Walrus Commission; Barrow Whaling Captains Association; City of Barrow; NSB Department of Wildlife Management; NSB Mayor's Office; Inupiat Community of the Arctic Slope; Native Village of Barrow; AEWC; Ukpeagvik Inupiat Corporation; Arctic Slope Regional Corporation; City of Nuiqsut; Native Village of Nuiqsut; Kuukpik Corporation; and the Kuukpik Subsistence Oversight Panel. The community meetings were held in Barrow on October 27, 2014; Atqasuk on October 28, 2014; and Nuiqsut on October 30, 2014.

NordAq has developed a Plan of Cooperation and Good Neighbor Plan based on consultations with the NSB and the SAP. The Plan is intended to assist in efforts to mitigate potential conflicts between the NordAq 2014-2015 winter activities, subsistence hunting, and cultural activities. Should subsistence hunters or local residents communicate concerns or conflicts, NordAq will investigate and mitigate the perceived impact through operational changes and emergency assistance. The NSB issued development permits for the NordAq exploration project on November 19, 2014.

NordAq will need to continue complying with the mitigation measures throughout the exploration phase, and the Division anticipates that any future plans of operations for exploration will either continue use of this Plan of Cooperation and Good Neighbor Plan or include similar measures to address subsistence concerns.

Access

Beaufort Sea mitigation measure A.3.b requires that traditional and customary access to subsistence areas be maintained unless reasonable alternative access is provided. NordAq's Plan states that unless a safety concern arises, traditional and customary access will not be impeded for subsistence users, and public access to packed snow trails will be allowed. A safety exclusion zone will be identified using signs at and approaching the Tulimaniq #1 well site, warning the public of the work in progress.

Whales

A biological opinion prepared by the National Oceanic and Atmospheric Administration (NOAA), found that overall, bowhead whales exposed to noise producing activities such as vessel and aircraft traffic, drilling operations, and seismic surveys most likely would experience temporary, nonlethal effects. In addition to complying with the Marine Mammal Protection Act, lessees must comply with seasonal drilling restrictions in identified subsistence whaling zones and coordinate with local whaling groups, communities, and other interested parties. Exploration shall be conducted in a manner that prevents unreasonable conflicts between oil and gas activities and subsistence whale hunting. Lessees are required to have an approved oil discharge prevention and contingency plan through ADEC. Beaufort Sea mitigation measures A.3.c.i-iii for whale harvest protection are specifically related to the siting of permanent facilities. There are no permanent facilities proposed for the Tulimaniq #1 exploration program.

E. Prehistoric, Historic, and Archaeological Sites

While exploring, NordAq could encounter prehistoric, historic, or archaeological sites. AS 41.35.200 addresses unlawful acts concerning cultural and historical resources. In addition, all field-based response workers are required to adhere to historic properties protection policies that reinforce that it is unlawful to collect or disturb, remove, or destroy any historic property or suspected historic property and to immediately report any historic property that they see or encounter.

Under North Slope Borough municipal code (NSBMC), proposed development shall not impact any historic, prehistoric, or archaeological resource before the assessment of that resource by a professional archaeologist (NSBMC 19.50.030(F)). NSBMC 19.70.050(F) says, "Development shall not significantly interfere with traditional activities at cultural or historic sites identified in the Coastal Management Program." These provisions give the NSB authority to protect cultural and historic resources and current subsistence uses of these sites.

In addition, Beaufort Sea mitigation measures require the lessee to conduct an inventory of prehistoric, historic, and archaeological sites within the area affected by an activity. The inventory must include consideration of literature provided by the NSB, nearby communities, Native organizations, and local residents; documentation of oral history regarding prehistoric and historic uses of such sites; evidence of consultation with the Alaska Heritage Resources Survey and the National Register of Historic Places; and site surveys. The inventory must also include a detailed analysis of the effects that might result from the activity. A cultural resources survey and inventory was conducted for NordAq by Reanier and Associates in the project area in the summer of 2013. NordAq has supplied the report to BLM and must provide it to the DNR Division of Parks and Outdoor Recreation (DPOR).

F. Mitigation Measure Compliance and Exceptions

All Plan applicants must complete a mitigation measure analysis demonstrating that each mitigation measure is satisfied or inapplicable to its proposed Plan, or that the applicant is seeking an exception. The Beaufort Sea mitigation measures allow for the Division to grant an exception if the applicant shows that compliance with the measure is not practicable or that the applicant will undertake an equal or better alternative to satisfy the intent of the mitigation measure.

NordAq completed the mitigation measure analysis for the Beaufort Sea areawide mitigation measures and seeks exceptions to the mitigation measures discussed below. Aside from these exceptions, NordAq's mitigation measure analysis shows that the Plan complies with the applicable mitigation measures.

NordAq seeks an exception to the following mitigation measures:

Beaufort Sea Mitigation Measure: A.4.b:

Containers with a storage capacity larger than 55 gallons that contain fuel or hazardous substances shall not be stored within 100' of a water body, or within 1,500' of a current surface drinking water source.

NordAq provided the request and explanation below for the exception:

The ice island for the drilling rig will be constructed on Smith Bay. Bermed and impermeable lined fuel storage areas will be used to temporarily store diesel fuel and drilling fluids. The diesel fuel storage containment is designed for arctic conditions.

The intent of this measure is to protect waterbodies and drinking water from contamination from a fuel or hazardous substance spill or leak. Due to the short length of the exploration drilling season, it is necessary for NordAq to place the ice island in this location in order to reach the intended drilling target. In addition, exploration programs are temporary in nature and conducted in the winter when most water bodies are frozen and/or protected by snow cover. Thus the risk to waterbodies and drinking water is reduced. The fuel storage containment that NordAq proposes is specifically designed for Arctic conditions to minimize the risk of contamination to nearby water sources. These fuel storage containers provide added protection not otherwise required by the mitigation measure, which focuses on proximity to water sources rather than the form of storage to address risk of contamination.

The Division finds that by proposing fuel storage designed for Arctic conditions, NordAq has shown rationale that equally satisfies the intent of this mitigation measure. Therefore, the Division grants an exception to this mitigation measure to allow for NordAq's proposed alternative as set forth in the Plan. This exception does not apply to activities that NordAq may

propose in future or amended plans of operations. Should NordAq see promising results from this exploration well and determine that development is feasible in this area, the location of any proposed permanent facilities would be re-evaluated at that time and sited accordingly to minimize future potential impacts of a long-term development site.

Beaufort Sea Mitigation Measure: A.4.e:

Vehicle refueling shall not occur within the annual floodplain, except as addressed and approved in the plan of operations. This measure does not apply to water-borne vessels.

NordAq provided the below request and explanation for the exception:

Due to the location of the Tulimaniq operations [in Smith Bay], vehicle refueling is likely to occur within the annual floodplain. All refueling will be conducted in accordance with the SPCC Plan in order to mitigate the risk of spills and to provide adequate and rapid spill response if needed.

The intent of this measure is to protect the floodplain from fuel leaks or spills. Again, due to the short length of the exploration drilling season, it is expected that refueling will occur in the annual flood plain due to the location of the ice drilling island. Exploration programs are temporary in nature and conducted in the winter when most water bodies are frozen and/or protected by snow cover. The SPCC Plan provides protections against the risk of spills that otherwise would not apply under just the mitigation measure. Thus, even though NordAq may refuel inside the floodplain, the SPCC Plan includes measures to avoid and minimize damage from spills from refueling.

The Division finds that NordAq has shown rationale that equally satisfies the intent of this mitigation measure. Therefore, the Division grants an exception to this mitigation measure to allow for NordAq's proposed alternative as set forth in the Plan. This exception does not apply to activities that NordAq may propose in future or amended plans of operations. Should permanent facilities be proposed in the future, the location of refueling stations will be re-evaluated at that time and sited accordingly to minimize future potential impacts of a long-term development site.

**VI. CONSIDERATION OF LEASE PLAN OF OPERATIONS REQUIREMENTS
UNDER 11 AAC 83.158 (c-d) and 11 AAC 83.160**

A. Full Payment of Damages to the Surface Owner 11 AAC 83.158(c)

The State owns both the surface and subsurface estates in the lease area. A lessee provides for payment of damages to the State by posting a bond, and remains liable for full damages under the lease. NordAq has a Statewide Oil and Gas Bond in the amount of \$500,000 and continuing liability under the lease.

B. Plan Sufficiency 11 AAC 83.158(d)

A proposed plan must include statements, maps, or drawings setting forth (1) the sequence and schedule of operations; (2) the projected use requirements directly associated with the proposed operations; (3) plans for rehabilitation; (4) a description of operating procedures to prevent or minimize adverse effects on natural resources and concurrent uses of the area (11 AAC 83.158(d)).

The information contained in NordAq's proposed Plan, summarized above in section IV. Proposed Operations, satisfies the requirements for a plan under 11 AAC 83.158(d) and provide the Director with sufficient information available at this time to determine the surface use requirements and impacts directly associated with the proposed operations.

VII. CONSULTATION WITH OTHER GOVERNMENT ENTITIES

In reviewing the proposed Plan, the Division considered the fact that NordAq may require approvals from different Agencies for other elements of its project. Although mentioned in the Plan and above, these aspects of the project are not operations being approved by this decision and the Division offers no opinion on whether an agency should or should not approve these activities. The Division did, however, consider all potential exploration activities when considering the exploration phase of Nordaq's project.

In addition to reviewing the approvals required by different Agencies, as they relate to this decision, the Division provided an Agency review and comment opportunity for the activities considered for authorization under this decision. The following government entities were notified on September 15, 2014 for comment on the Plan: National Oceanic Atmospheric Administration; U.S. Army Corps of Engineers; BLM; North Slope Borough (NSB); ADF&G; ADEC; and DNR: State Pipeline Coordinator's Office (SPCO), DMLW, Office of Project Management and Permitting (OPMP), and the Division of Oil and Gas. The comment deadline was 4:30 pm Alaska time on September 29, 2014. Comments were received from ADF&G, ADEC, and DNR DMLW. Agency comments are summarized in Appendix A. The Plan was then publicly noticed.

VIII. PUBLIC NOTICE

Public notice of the Plan and opportunity to comment was published in the Alaska Dispatch News and the Arctic Sounder on October 2, 2014 with a deadline for comments on November 3, 2014 at 4:30 pm Alaska time. Additionally, a copy of the notice was posted on DNR's web site; faxes of the public notice were sent to the Deadhorse, Barrow, and Nuiqsut post offices; and hard copies of the notice were mailed to the BLM, City of Barrow, the City of Nuiqsut, Kuukpik Corporation, and Jim and Teena Helmericks. Comments were received and considered by the Division. Summaries of the public comments and the Division's responses are set forth in Appendix B.

IX. CONDITIONS OF APPROVAL

Having considered the proposed project, the Division approves the Plan as amended and modified by this decision and subject to the Conditions of Approval listed below:

To protect the State's interest, the Division finds that it is necessary to amend the Plan to incorporate the following Conditions of Approval:

1. The applicant shall defend, indemnify and hold the State of Alaska harmless from and against any and all claims, damages, suits, losses, liabilities and expenses for injury to or death of persons and damage to or loss of property arising out of or in connection with the entry on and use of State lands authorized under this approval by the applicant, its contractors, subcontractors and their employees.
2. The applicant shall inform and ensure compliance with any and all conditions of this approval by its employees, agents and contractors, including subcontractors at any level.
3. Amendments and modifications to this approval require advance notice and must be approved in writing by the DNR.
4. The Commissioner of the DNR may require that an authorized representative be on-site during any operations conducted under this approval. This stipulation is required to ensure that the Divisions of Oil and Gas and Mining, Land and Water meet their statutory responsibilities for monitoring activities taking place on state-owned lands.
5. NordAq will provide the Division with the exact well location when they submit their Permit to Drill application to the Alaska Oil and Gas Conservation Commission (AOGCC.). The well location will be identified by Township, Range and Section and include the Decimal Degrees in NAD 83.
6. A status report for the activities conducted under this approval must be filed with this office on May 1 and November 1 each year, from the date this approval is issued and until a final completion report is filed with the Division. If a lessee requests an assignment, a status report must also be submitted during the assignment process. Failure to file in a timely manner may result in revocation of this approval.
 - a. Each status report shall include a statement describing, and map(s) depicting, all operations actually conducted on the leased area as of the date the report is prepared including the location, design and completion status of well sites, material sites, water supplies, solid waste lines, buildings, roads, utilities, airstrips, and all other facilities and equipment installed.
 - b. Upon completion of operations, the applicant will submit a completion report that will include all information required of a status report described

in (a) above, as well as a statement indicating the date of operations completion, any noncompliance with the terms of this plan approval of which a reasonable lessee would have knowledge of, clean-up activities conducted, the method of debris disposal, and a narrative description of known incidents of surface damage.

7. Notification. The applicant shall notify the DNR of all spills that must be reported under 18 AAC 75.300 under the timelines of 18 AAC 75.300. All fires and explosions must be reported to DNR immediately. The DNR 24 hour spill report number is (907) 451-2678; the fax number is (907) 451-2751. The ADEC oil spill report number is (800) 478-9300. DNR and ADEC shall be supplied with all follow-up incident reports.

X. FINDINGS AND DECISION

Having considered the specific activities proposed, the best interest finding and associated supplements for the lease sale area within which the project is located, and the foregoing discussion of issues and conditions of approval, the Division makes the following findings:

1. The Plan provides sufficient information, based on reasonably available data, for the Division to determine the surface use requirements and impacts directly associated with the proposed operations.
2. The Plan includes statements, maps, or drawings setting forth the sequence and schedule of operations, projected use requirements, a rehabilitation plan, and a description of operating procedures designed to prevent or minimize adverse effects.
3. All oil and gas activities conducted under oil and gas leases are subject to numerous local, state and federal laws and regulations with which NordAq is expected to comply.
4. Nordaq has demonstrated that the Plan complies with applicable mitigation measures, aside from measures A.4.b. and A.4.e.
5. Nordaq has demonstrated that the Plan proposes alternatives to mitigation measures A.4.b. and A.4.e. that are equal or better alternatives to satisfy the intent of these mitigation measures.
6. The Plan protects the State's interest, including the State's interest in maximizing economic and physical recovery of oil and gas resources, assessing oil and gas resources while minimizing adverse impacts from exploration, and the utilization, development, and conservation of natural resources for the maximum benefit of the people. The Plan incorporates amendments to protect both the public and State interests. The types of activities and plans of operation that the Division anticipates NordAq might propose throughout the exploration phase should similarly protect these interests.

Based upon the Plan, supporting information provided by the applicant and the Division's review, determination of applicable statutes and regulations, consultation with other Agencies,

relevant entities and individuals, public comment, and the above findings related to that Plan, the Division hereby approves the Plan and entry into the exploration phase.



William C. Barron, Director
Division of Oil and Gas

12/2
14
Date

Appeal

An eligible person affected by this decision may appeal it, in accordance with 11 AAC 02. Any appeal must be received within 20 calendar days after the date of issuance of this decision, as defined in 11 AAC 02.040(c) and (d), and may be mailed or delivered to the Commissioner, Department of Natural Resources, 550 W. 7th Avenue, Suite 1400, Anchorage, Alaska 99501; faxed to 1-907-269-8918; or sent by electronic mail to dnr.appeals@alaska.gov. This decision takes effect immediately. An eligible person must first appeal this decision in accordance with 11 AAC 02 before appealing this decision to Superior Court. A copy of 11 AAC 02 may be obtained from any regional information office of the Department of Natural Resources

Enclosures: Figures 1-5
Appendix A: Agency Review Comments and Response
Appendix B: Public Comments and Response

Ecc: Brook Brisson, Trustees for Alaska, on behalf of:
Leah Donahey, Alaska Wilderness League; Lindsey Hajduk, Conservation Lands Foundation; Carol Hoover, Eyak Preservation Council; Elisabeth Dabney, Northern Alaska Environmental Center; Faith Gemmill, REDOIL; Dan Ritzman, Sierra Club; and Nicole Whittington-Evans, The Wilderness Society
Amanda Henry, ASRC Energy
Rhoda Ahmaogak, Gordon Brower, Thomas Brower III, Maria Esparza, John Adams; NSB
Sara Longan; OPMP
Henry Brooks, Jeanne Proulx, Alexander Wait, Melissa Head, Sean Willison, Brian Jackson; DMLW
Jack Winters, Marla Carter, Michael Daigneault, William Morris; ADF&G
Jodi Delgado-Plikat; SPCO
Fathima Siddeek, Gerry Brown; ADEC
Donna Wixon; BLM
regpagemaster@usace.army.mil; USACE
hcd.anchorage@noaa.gov; NOAA
Kathleen King, Kim Kruse, Nathaniel Emery, Amy Karn, Paul Blanche, Conor Williamson, Jeanne Frazier; DOG

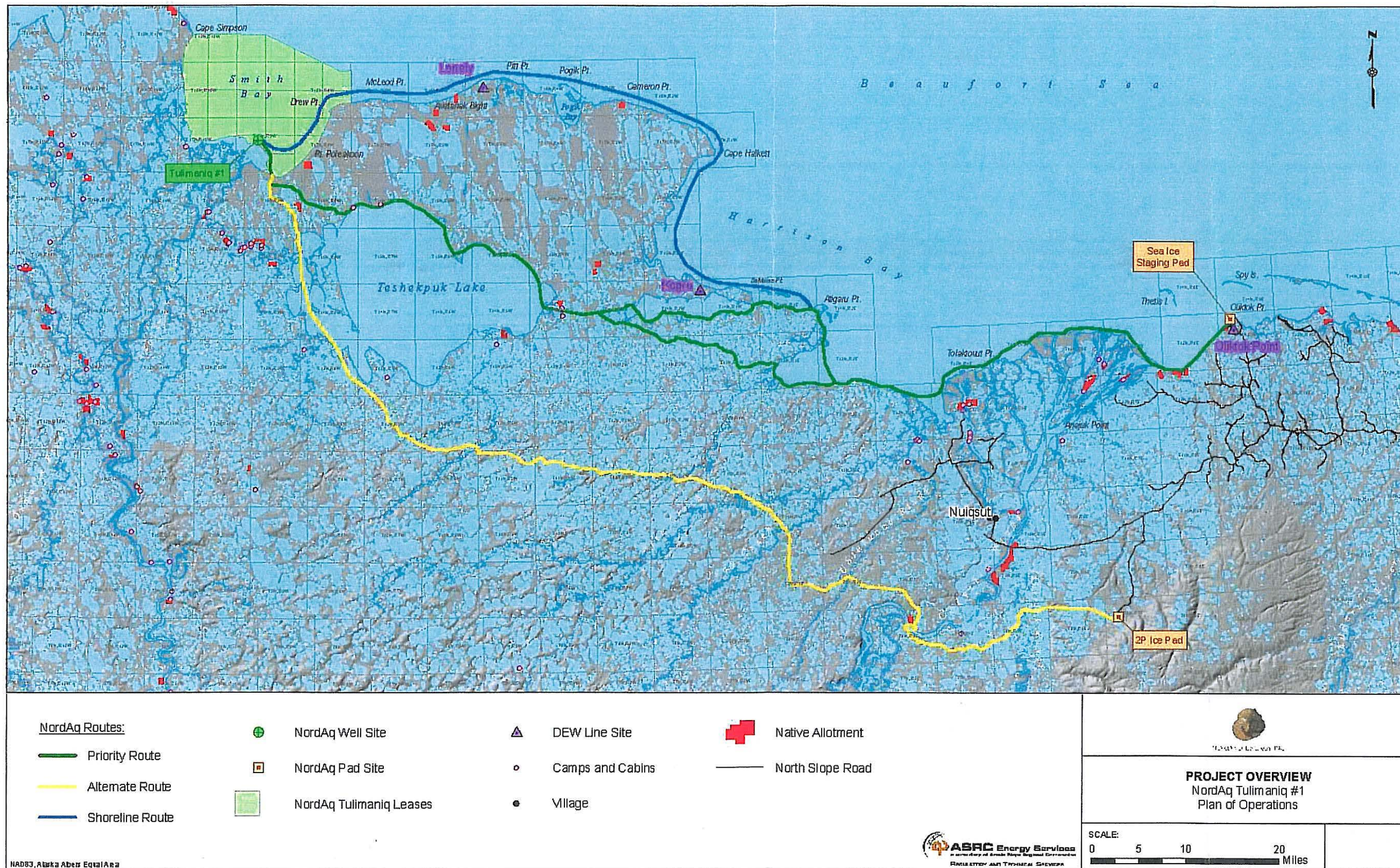


Figure 1

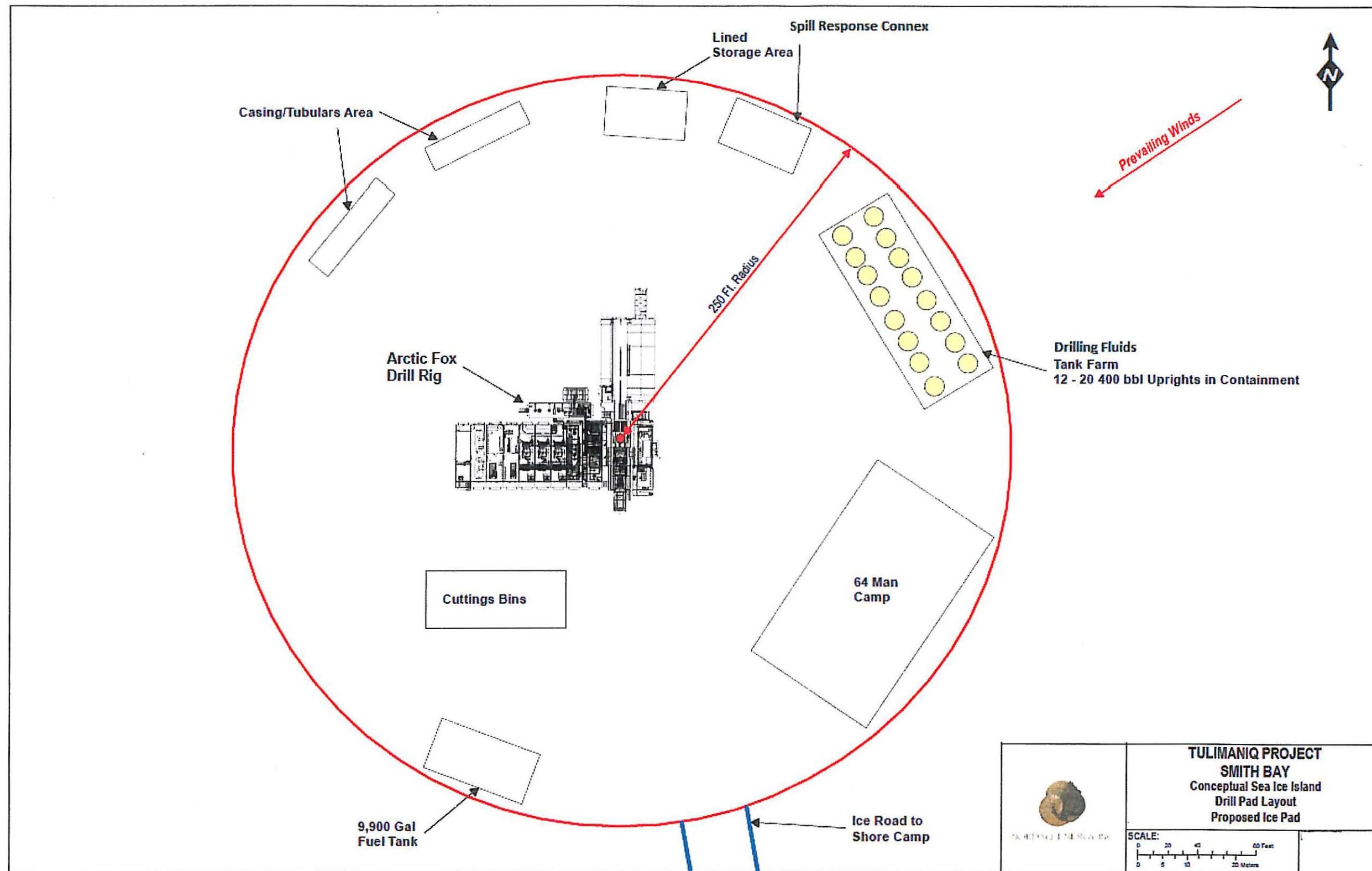


Figure 2

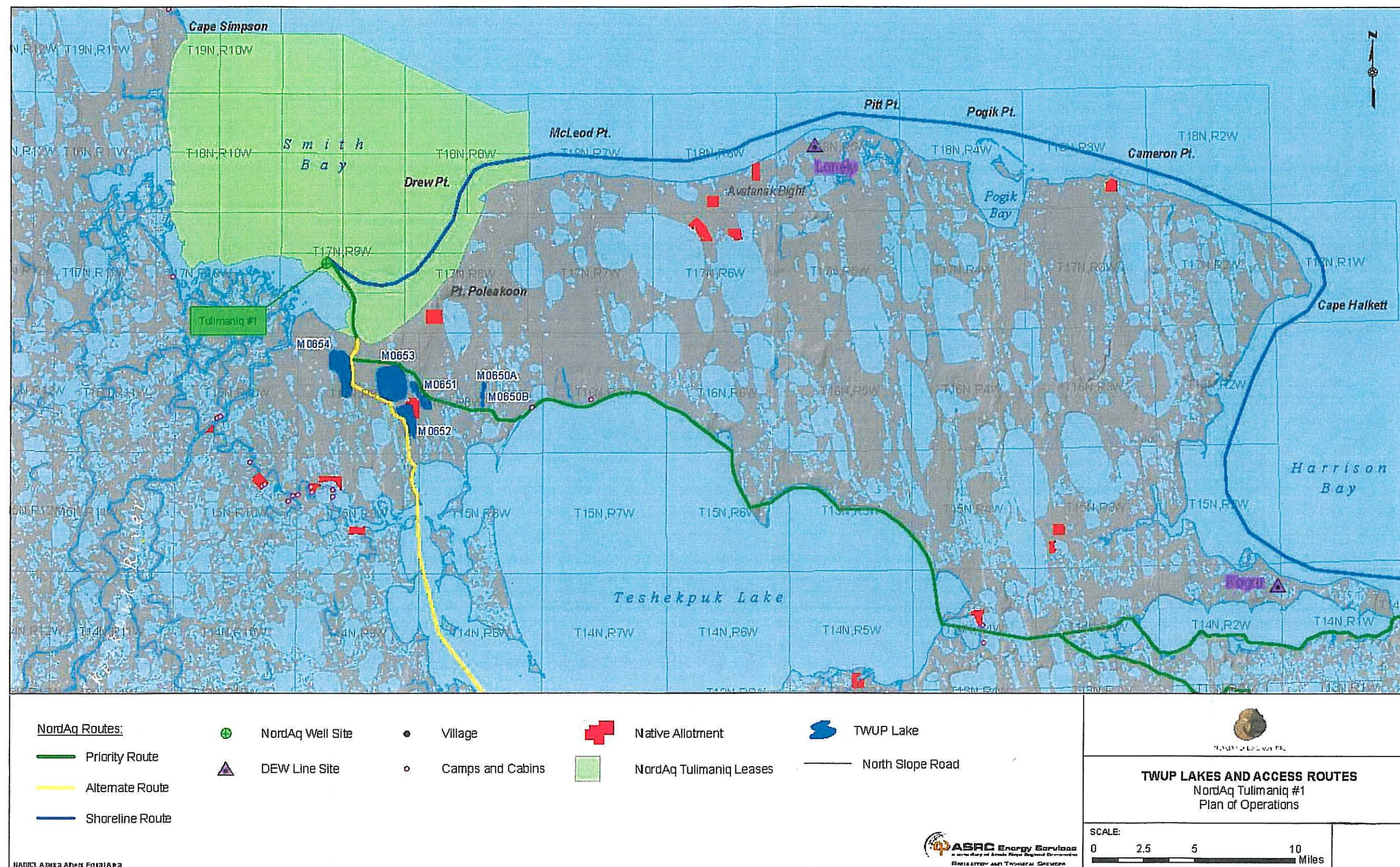


Figure 3

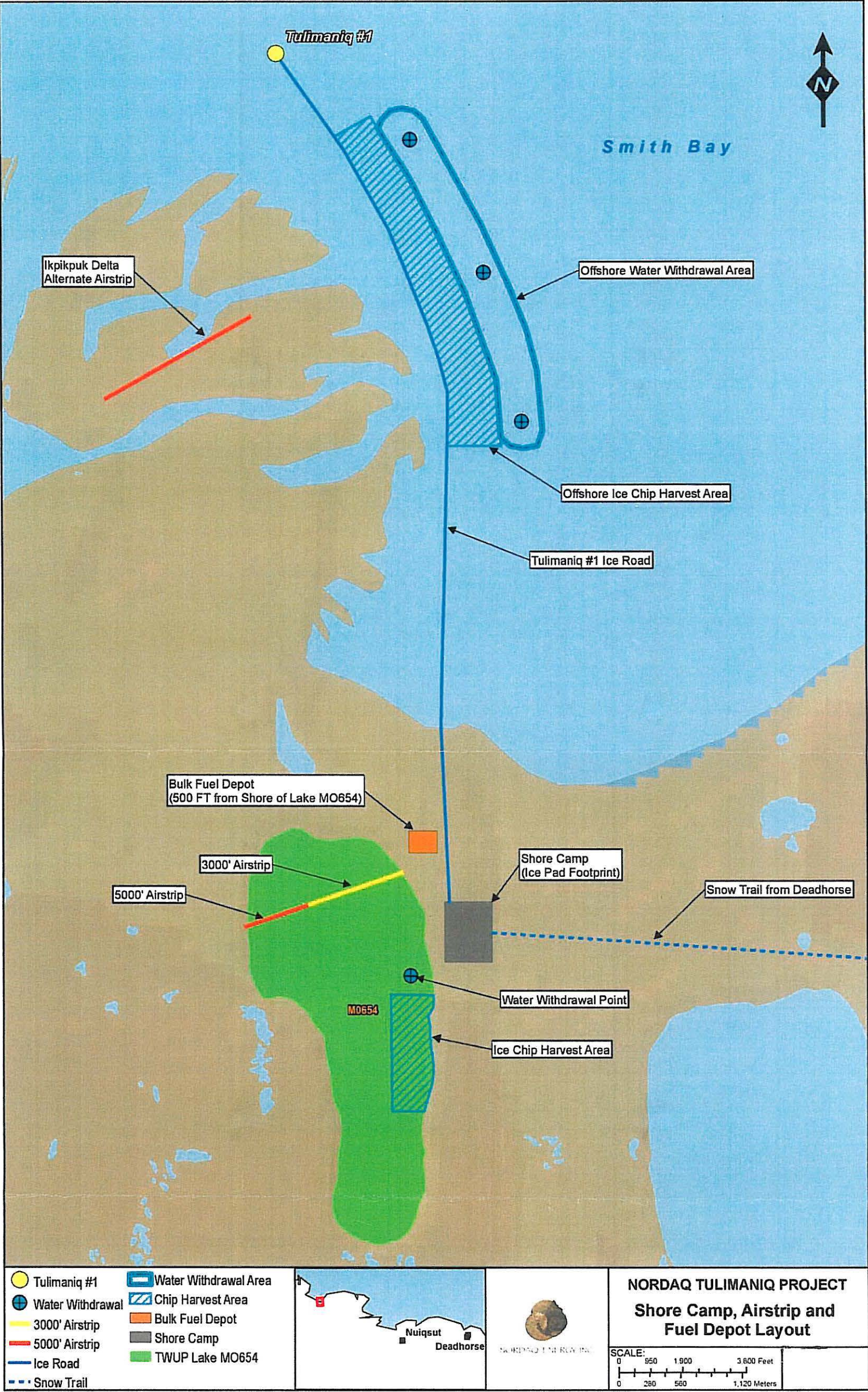


Figure 4

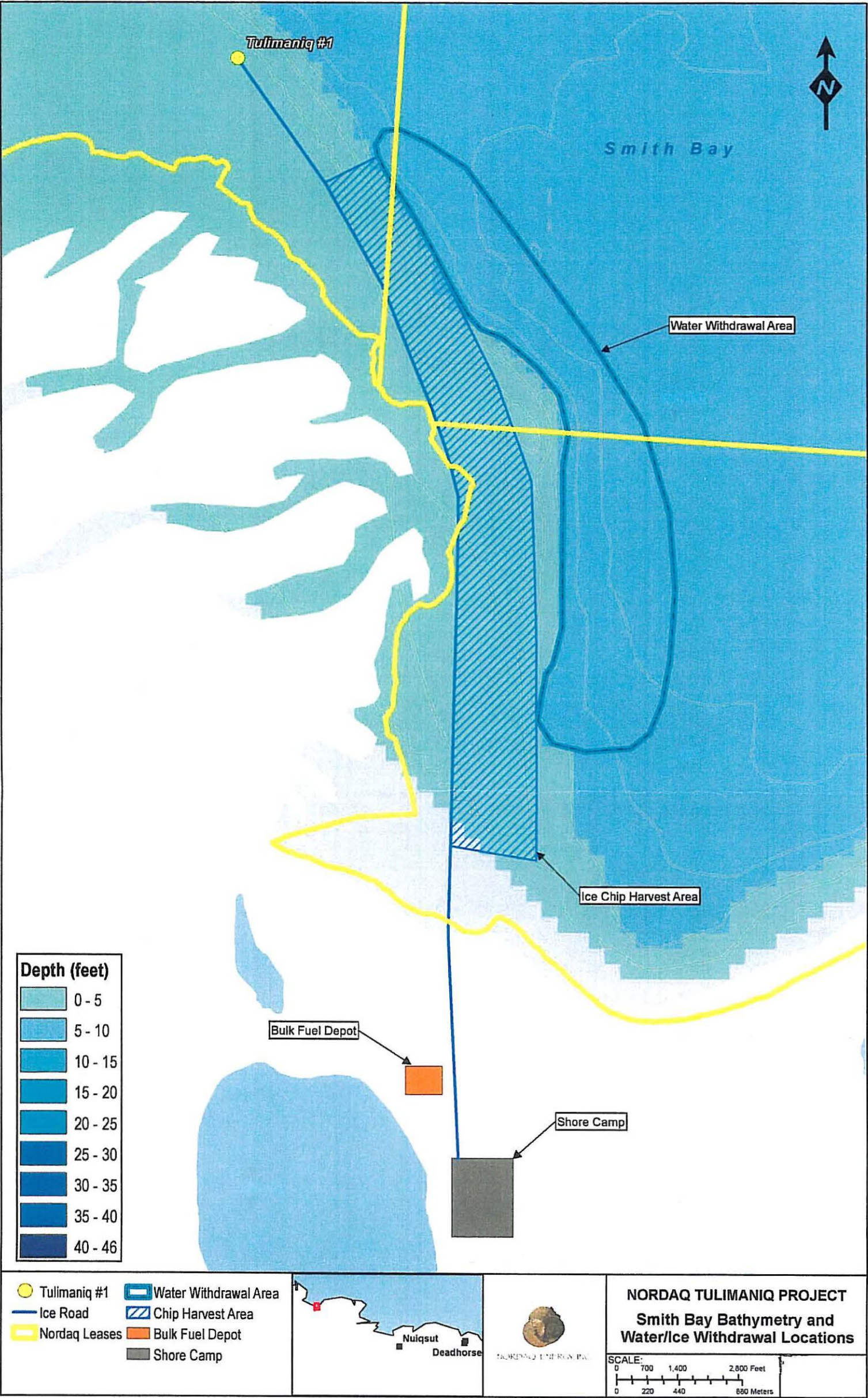


Figure 5

APPENDIX A

Agency Review Comments

Alaska Department of Fish and Game, September 29, 2014

“The ADF&G has reviewed the 2014-2015 Plan of Operations submitted by NordAq Energy Inc. for its Smith Bay winter oil and gas exploration activities. The ADF&G has no objection to the proposed activities. The ADF&G issued NordAq Energy Inc. fish habitat permits in January 2014 for anadromous fish stream crossings associated with project cross-country travel and for project water withdrawal from fish-bearing waterbodies. These permits are current through June 1, 2019.”

Division Response:

Comments noted.

Alaska Department of Environmental Conservation, September 29, 2014

“Thank you for the opportunity to comment on the NordAq Tulimaniq #1, Plan of Operations (Plan). The Department of Environmental Conservation, Wastewater Discharge Authorization Program (WDAP) has reviewed the Plan and believes the applicant may not be aware of general permit (GP) AKG331000 – Facilities Related to Oil and Gas Extraction (North Slope GP). This permit authorizes certain discharges within the North Slope Borough coverage area that may pertain to proposed activities in the Plan. This comment primarily concerns the discharge from Secondary Containment (Discharge 008 in the North Slope GP). The applicant is expected to obtain authorization and monitor discharges of accumulated rain or snowmelt water from these areas. Other potential discharges the applicant should evaluate for coverage under the North Slope GP include, but may not be limited to, Gravel Pit Dewatering (Discharge 003) if gravel pit water is proposed for ice road or pad construction and Mobile Spill Response (Discharge 007).”

Division Response:

Comments noted and forwarded to applicant on 9/29/2014.

Alaska DNR, Division of Mining, Land and Water, September 29, 2014

“After reviewing the NordAq Energy Inc. (NordAq) plan of operations (Plan), for its Smith Bay winter oil and gas exploration activities, DNR/DMLW has no objection. DNR/DMLW is working on issuing NordAq a Land Use Permit for thermistor placement, snow road construction and travel and ice pad construction. The permit is currently out for review and should be active by Oct. 4th barring any comments that need to be addressed.”

Division Response:

Comments noted.

APPENDIX B **Public Comments**

The Division received comments during the public notice period from the Alaska Wilderness League, the Center for Biological Diversity, the Conservation Lands Foundation, the Eyak Preservation Council, the Northern Alaska Environmental Center, Resisting Environmental Destruction on Indigenous Lands (REDOIL), the Sierra Club, and The Wilderness Society. One letter was submitted from all of these organizations to collectively capture the comments. The Division has considered all of these comments and provides the following responses.

Comment 1: “The Alaska Wilderness League, Center for Biological Diversity, Conservation Lands Foundation, Eyak Preservation Council, Northern Alaska Environmental Center, Resisting Environmental Destruction on Indigenous Lands (“REDOIL”), the Sierra Club, and The Wilderness Society submit the following comments regarding NordAq Energy, Inc.’s (“NordAq”) Miscellaneous Land Use Permit (“MLUP”) Application for Tulimaniq #1, an exploration well in Smith Bay.”

Division Response: To clarify, the comment letter refers to the application as a Miscellaneous Land Use Permit (MLUP) throughout the comments. The application submitted is not an MLUP. The application submitted is a Lease Plan of Operations (Plan) which includes a plan to drill an exploration well, obtain core samples and conduct a vertical seismic profile.

REDOIL Applicability/Process

Comment 2: “DNR is obligated to analyze the impacts, including the cumulative impacts, of the exploration project and provide public notice and comment under *REDOIL*.”

Comment 3: “*REDOIL* is Directly Applicable to NordAq’s Proposed Exploration Project. The impacts analysis and public process required under *REDOIL* apply to the exploration, development, production, and transportation phases for oil and gas projects in the Beaufort Sea. NordAq acquired the leases in Smith Bay in 2011 and 2012 lease sales. As the Court stated, “potential impacts must be considered by DNR in the future, at each subsequent phase, as more information becomes known, and *particularly as DNR decides whether to issue permits for future activities.*” DNR is currently in the process of deciding whether to issue a permit for NordAq’s exploration project in Smith Bay. Drilling an exploratory well and the associated activities are undeniably part of the exploration phase. NordAq’s exploration project is, therefore, exactly the type of activity that the Alaska Supreme Court contemplated in its *REDOIL* decision would be subject to a cumulative impacts assessment and public notice and comment.”

Comment 4: “DNR is Constitutionally Required to Consider the Direct, Indirect, and Cumulative Impacts of NordAq’s Exploration Well and Allow for Public Comment.

“DNR published NordAq’s MLUP application and plan of operations without any consideration or analysis by DNR of the potential impacts of NordAq’s proposed exploratory project. Allowing the project to move forward without that analysis and process is inconsistent with the Alaska Constitution and the Alaska Supreme Court’s *REDOIL* decision. Now that NordAq has applied for a MLUP and submitted a plan of operations, DNR has adequate information available about the project to be able to evaluate the potential immediate and cumulative impacts. That means that DNR must conduct an analysis of the proposed project and the potential impacts, including the cumulative impacts, to ensure that the project is in the public interest.

“In addition to assessing the direct, indirect, and cumulative impacts of NordAq’s exploration well, DNR must provide the public with a meaningful opportunity to comment on its analysis. DNR’s process fails to satisfy these constitutional requirements. Accordingly, DNR cannot grant the permit until it complies with *REDOIL*.”

Comment 5: “DNR Must Consider Impacts on Habitat, Wildlife, and Subsistence.

“...DNR deferred consideration of future impacts until it had more specific information on particular projects. Now that DNR has been presented with a permit application and plan of operations for NordAq’s Tulimaniq #1 project, the agency is constitutionally obligated to provide further analysis of environmental impacts from the proposed project, taking into account the specific habitats, wildlife, and resources that could be impacted.”

Division Response to Comments 2-5: The Division agrees that the Plan is subject to *Sullivan v. Resisting Environmental Destruction on Indigenous Lands (REDOIL)*, 311 P.3d 625 (Alaska 2013). The Division has complied with the *REDOIL* decision, as detailed in the narrative below.

The Division disagrees with the commenters’ interpretation of the case. In *REDOIL*, the Supreme Court held that DNR has a constitutional obligation to consider the cumulative impacts of a project at each phase. *Id.* at 636. To the extent DNR was not doing so, the Court considered DNR’s application of its statutes and regulations unconstitutional. The Court did not, however, deem any statute or regulation unconstitutional on its face, including the statutes and regulations that dictate the procedures for DNR to review a project. To the contrary, the Court emphasized that it was up to the executive branch to determine procedures:

We reiterate that it is not the court’s place to provide instruction on *how* the State should analyze cumulative impacts after the lease sale phase, for that is the legislature’s prerogative, so long as the process complies with the Alaska Constitution and the State’s duty to take a continuing hard look—including analysis of cumulative impacts—throughout the course of a project.

Id. at 637. By statute, DNR must provide public notice and comment and issue a decision before the beginning of a new phase. AS 38.05.035(e)(1)(C). This statute neither requires nor allows DNR to follow a bifurcated process of first issuing a preliminary decision, providing the preliminary decision to the public for comment, and then issuing a final decision. Nor does the Plan regulation, 11 AAC 83.158, require or allow a bifurcated process with a preliminary and final finding. The Supreme Court in *REDOIL* did not find these statutes and regulations unconstitutional, so DNR can comply with *REDOIL* by following its existing statutory and regulatory process.

A 30-day public notice of the application was provided from October 2, 2014 to November 3, 2014. The public thus had notice and opportunity to comment on the Plan, as required by AS 38.05.035(e)(1)(C)(ii). The Plan decision is also appealable to the Commissioner. Thus the public has opportunity to respond to the Plan and its analysis of impacts by appealing to the Commissioner.

In considering the exploration phase, the Division considered both the specific activities proposed under this Plan as well as typical additional exploration activities that NordAq might propose for further exploring the lease.

The Division considered the potential impacts of exploration on public and State interests. In the oil and gas context, the public interest includes maximizing economic and physical recovery of oil and gas resources AS 38.05.180(a)(1)). The State has an interest in protecting the public interest, and in encouraging assessment of oil and gas resources while minimizing the adverse impacts of exploration, development, production, and transportation activities (AS 38.05.180(a)(2)).

In considering potential impacts, this decision also considered the operating procedures NordAq has designed to minimize adverse effects of the Plan activities. These operating procedures include procedures to comply with the mitigation measures attached to the lease. These measures come from the Beaufort Areawide BIF and includes mitigation measure to address potentially negative effects of oil and gas exploration on fish and wildlife species, habitats and their uses, on subsistence uses, and on local communities. NordAq has provided a mitigation measure analysis, which is required, as part of their Plan submittal.

Comment 6: “The project area is an ecologically vibrant area. The area encompasses a unique wildlife-rich wetlands complex located in and around Teshekpuk Lake and the Ikpikpuk River corridor as well as the associated coastal and marine areas.

“Congress expressly recognized the ecological importance of the Teshekpuk Lake area in the 1976 Naval Petroleum Reserve Production Act (“NPRPA”) as deserving of “maximum protection” for its internationally significant wildlife values. The land surrounding the lake provides important wildlife habitat for hundreds of thousands of migratory waterfowl (including

essential molting habitat for internationally significant populations of Black Brant and Greater White-fronted Geese); has high numbers of nesting and staging shorebirds; supports denning habitat for polar bear (a threatened species); and is used year round by the Teshekpuk Lake caribou herd. The diversity and abundance of wildlife populations in this area and throughout western Arctic Alaska has long been recognized.”

Division Response: Due to high concentrations of staging and molting brant and other waterbirds within the coastal habitats along the Teshekpuk Lake Special Area (TLSA) and other areas, Beaufort Sea mitigation measure A.2.f requires that operations creating high levels of disturbance, including but not limited to dredging, gravel washing, and boat and barge traffic along the coast, be prohibited from June 20 to September 15 within one-half mile of coastal salt marshes. Nordaq’s Plan states that should barging occur in the project area, it will be outside the restricted timeframe.

Comment 7: “The area provides high-value habitat areas for the Teshekpuk Lake Caribou Herd throughout the caribou’s life stages. The current count for the herd is 32,000, less than half of the highest count of 68,000 in 2008.²⁸ The Teshekpuk Lake Caribou Herd is unique in that it is the only herd in which over 50% of the population typically overwinters on the coastal plain, including the area surrounding Smith Bay. This makes it an essential source of protein in winter for the villages of Atkasuk, Barrow, and Nuiqsut. Caribou is the most important resource, by weight, harvested by Atkasuk residents and provides a year-round source of fresh meat for Nuiqsut.”

Division Response: Although the land under Teshekpuk Lake is owned and managed by the State, any uplands and proposed surface facilities west of the Colville River are part of the NPR-A and managed by the BLM. As noted before, the Beaufort Sea mitigation measures include protections for the TLSA. NordAq’s Plan complies with these mitigation measures. Other surface impacts outside of this restriction are reviewed and authorized through the BLM.

Comment 8: “There are also an abundance of archeological sites in the project area, including many sites along and near the transportation routes. In the 1998 environmental impact statement/integrated activity plan for the Northeastern portion of the NPR-A, the Bureau of Land Management (“BLM”) provided a map of sites around Teshekpuk Lake. The explanation for the map indicates that the clustering of sites results from which types were examined, rather than the distributional density of those who used the sites. The absence of recorded sites across most of the planning area is simply the result of the limited work that has been conducted there.

“The area also has high wilderness values in the area. As the BLM recently described, the Ikpiupuk River corridor, including the shoreline around Smith Bay, “has outstanding opportunities for solitude or a primitive and unconfined type of recreation.”

Division Response: State land, including land leased for oil and gas, is subject to concurrent uses. While the Division recognizes the value of solitary recreation, there is also value for all Alaskans in developing the state's oil and gas resources, and it is DNR's duty to consider all interests and concurrent uses of land.

There are state and local laws and mitigation measures to protect any archaeological sites NordAq encounters. These requirements are described in greater detail in the Plan decision.

Water Quality/Spills/Spill Response

Comment 9: "The NordAq exploration project "is planned as a single vertical well drilled into potential liquid hydrocarbon zones," meaning the risk of spill is both relevant and significant. Offshore discharges from oil and gas operations may be both routine or the result of spills. Routine discharges in this coastal area would be non-problematic as EPA's effluent limitations guidelines do not allow discharges of free oil and no discharge of drilling fluids and cuttings. State water quality permits need to ensure this is the case with no exceptions warranted in this highly sensitive offshore area. Should the state choose to consider any exceptions, that possibility should be subject to full public comment and government-to-government consultations with those tribes that fish or hunt in the Beaufort Sea."

Comment 10: "As for the risk of a spill during exploration or production activities, major oil spills can and do occur from blowouts during exploration, pressurized pipeline releases during production, and from other types of onshore and offshore (e.g., supply barges) infrastructure. Produced water spills from wells and pipelines also can cause adverse environmental damage. Because these proposed wells will be nearshore, major spills can cause significant damage to coastal resources."

Comment 11: "Despite the potential risks, DNR has not provided an analysis of the possible impacts of a spill. In other words, DNR has failed to "continue to analyze and consider all factors material and relevant to what is in the public interest[.]" Without providing further analysis explaining what impacts are likely to result now that the precise parameters of the project are known, DNR cannot allow the Tulimaniq #1 project to proceed."

Division Response to Comments 9-11: This decision authorizes the exploration phase only. Potential risks from production activities are not applicable to this project, as there will be no production activity, permanent facilities, or pipelines. Due to the temporary nature of the drilling program, a major spill is unlikely. However, water quality, spills, and spill response are under the authority of ADEC and managed through the SPCC Plan. Although the Division considers these risks as a whole, the authority to permit the activity lies with ADEC. In addition, blowout preventers (BOPs) are required equipment on rigs, and the rig and BOP are inspected by the AOGCC prior to drilling. The Division's analysis of spill issues and NordAq's measures to avoid or minimize the risk

of spills is set forth in greater detail in the Plan decision.

As discussed above, *REDOIL* did not declare any statute or regulation unconstitutional, and the relevant statutes and regulations do not require or allow the Division to bifurcate its process into a preliminary and final decision. The public was provided notice and an opportunity to comment on the proposed Plan. The public has the opportunity for further input by appealing the Division's Plan decision to the Commissioner.

Comment 12: “The Beaufort BIF also discusses reasonably foreseeable impacts to fish populations from later phases, including exploratory drilling... Further, it explains that “[w]ithdrawal of water from lakes and ponds could affect fish overwintering habitat by entraining juvenile fish, lowering water levels, and increasing disturbance.” Despite acknowledging these potential impacts in the BIF, DNR provides no analysis of the impacts of the expected water withdrawal for the project — predicted at 80,886,717 gallons — nor has DNR taken the requisite “hard look” at possible impacts to fish habitat from ice road and pad construction. Though DNR was not required to speculate about potential effects at the BIF stage, “this does not mean that these effects, once known, are not to be considered.” Now that DNR is aware of the location and characteristics of the proposed project — including road routes and the quantity and location of water withdrawal — it is constitutionally required to conduct further analysis of the direct, indirect, and cumulative impacts of the project.

“In addition, the building and use of ice roads, ice airstrips, and ice pads can have adverse impacts. The extraction of water for building ice-based facilities potentially uses millions of gallons per lake, which could decrease dissolved oxygen concentrations and increase lake temperatures. This would impact sensitive fish species by increasing daily metabolic costs, reducing growth, and increasing the chance of weight loss or starvation. It is essential to conduct winter fish presence surveys in lakes prior to permitting and water extraction for building ice roads.

“Since fish potentially migrate to overwintering locations in the fall right before freeze up, summer fish surveys used to assess overall impacts may not be representative of species present and of overwintering habitat used, and could underestimate development impacts on fish. If winter surveys are not possible we recommend — in order to protect sensitive overwintering fish species — that all habitat deeper than approximately 1.6 m be considered overwintering habitat with sensitive fish until winter fish surveys are conducted. Additionally, we recommend that conservative water withdrawal restrictions of 10% under ice volume be followed until adequate winter fish surveys are complete.”

Division Response: The Division considered water usage and impacts on fish and wildlife, as set forth in greater detail in the Plan decision. The Division also considered the oversight that other government entities provide concerning these issues. Fish overwintering, cross country travel across anadromous streams, and water withdrawal

from fish bearing lakes is managed by the ADF&G. In addition, Temporary Water Use Permits (TWUPs) for water withdrawal are issued through the DNR DMLW. Ice road and ice pad placement and construction is authorized through the DNR DMLW Northern Region Office (NRO). NordAq has active fish habitat permits for their cross country travel and water withdrawals from fish bearing lakes from the ADF&G. The permits were issued in January 2014 and are valid through June 1, 2019. NordAq has applied for TWUPs through the DNR DMLW. Agency review for the TWUP applications closed on November 24 and the request is currently under review by DMLW. The ability to restrict water withdrawals is within the TWUP authorization. DNR DMLW NRO issued land use permit LAS 29943 for the thermistor installation, ice road, and off lease ice pad construction on October 3, 2014.

Comment 13: “NordAq proposes to transport the drill rig overland, using both ice roads and frozen trails on the tundra. The project also would require onshore infrastructure and support facilities, which could have adverse impacts. Onshore infrastructure and support facilities likely would include emergency response equipment storage, aviation infrastructure, personnel housing, etc. This infrastructure will have impacts on nearby lands and wildlife and, presumably, subsistence activities that DNR must analyze.”

Division Response: The Division considered potential impacts to wildlife, habitat, and subsistence from both the proposed activities under this Plan and additional activities NordAq might propose throughout the exploration phase. Discussion of these issues is set forth in greater detail in the Plan decision.

Comment 14: “DNR must also reconsider impacts to terrestrial habitat and animals from project activities. For example, in the BIF, DNR noted that overland transportation and camp trails can have impacts on the tundra vegetation that are slow to recover. DNR also explained that “[p]otential impacts [to caribou] can occur at all phases.” Similarly, activities can have significant impacts on polar bears, which “may be present in the upland and offshore areas year round.” The potential impacts to polar bears include disruption of denning, attraction to areas of activity, and adverse interaction with humans.” The impacts to denning, given that the project is a winter project, could be significant. Despite acknowledging these impacts to terrestrial vegetation and animals, however, DNR failed to provide any analysis related to the current proposal.”

Division Response: Because this exploration project is temporary and will occur in the winter, the potential impact to tundra is minimal. The impact of any cross country travel off of established gravel roads is considered by the DNR DMLW NRO when issuing land use permits for ice roads/cross country travel. The Division considered NordAq’s overall plans when considering the potential impacts of the exploration phase, but notes that the Plan itself authorizes activities only within NordAq’s lease area. For activities outside the lease, DNR DMLW issued land use permit LAS 29943 on October 3, 2014 for NordAq’s

winter off-road tundra travel, ice road/pad construction, and thermistor installation on all State owned surface lands using State approved vehicles.

There are several regulations imposed by state, federal, and local agencies that are implemented to avoid, minimize, and mitigate potential effects to bears. In addition to complying with the Endangered Species Act and the Marine Mammal Protection Act, NordAq must comply with mitigation measures to minimize effects of exploration activities on bears.

For example, Beaufort Sea mitigation measure A.2.d.i.A-G requires lessees to prepare and implement a human-bear interaction plan. NordAq submitted a copy of their Wildlife Avoidance and Interaction Plan as an appendix to the Plan. Beaufort Sea mitigation measure A.2.d.iii requires lessees to consult with the USFWS to identify the locations of known polar bear den sites. Operations must avoid known polar bear dens by one mile. Lessees who encounter an occupied polar bear den not previously identified must report it to the USFWS within 24 hours and subsequently avoid the new den by one mile. If a polar bear dens within an existing development, off-site activities must be restricted to minimize disturbances. NordAq has contacted USFWS regarding the proposed project and has submitted a request for Letter of Authorization for Incidental Take and for Intentional Take by Harassment. NordAq will consult with USFWS prior to commencing operations in order to identify locations of polar bear dens. NordAq has notified UFWS of its intention to participate in the USFWS FLIR program to identify polar bear den locations. Further, NordAq will follow the guidelines and procedures outlined in their Wildlife Avoidance & Interaction Plan in order to avoid and mitigate interactions with polar bears and their dens.

The Division considered potential impacts to wildlife and the laws and mitigation measures in place to avoid or minimize these impacts. These issues are discussed in greater detail in the Plan decision.

Comment 15: “DNR also must reconsider impacts to marine mammals, including bowhead whales, and other subsistence resources including caribou. The project area is a high subsistence use area — both the area in and around Smith Bay by Barrow and Atqasuk and the proposed drill-rig transportation routes by Nuiqsut. Potential impacts to subsistence include those from noise, which include behavioral changes such as avoidance and diversion from typical migratory paths and feeding habits.

“Importantly, whales are disturbed by sound from drill rigs — resulting in “a significant temporary loss of habitat” during and after drilling activities. This could, in turn, have impacts on subsistence use. Vehicle, aircraft, and drilling noise may divert marine mammals further from shore, thus diminishing hunting areas for Alaska Natives. Despite acknowledging these potential direct, indirect, and cumulative impacts in the BIF, DNR has conducted no analysis of the

impacts to whales or other subsistence resources from NordAq's operations in Smith Bay area, nor has it examined the concomitant effects from human and vehicle presence in the area on terrestrial mammals, including caribou. DNR has not provided any analysis, let alone a constitutionally adequate analysis, of the impact on subsistence resources."

Division Response: The Division considered potential impacts to wildlife, including whales and caribou, as well as law and mitigation measures to avoid or minimize those impacts, as discussed in greater detail in the Plan decision. In addition to complying with the Marine Mammal Protection Act, lessees must comply with seasonal drilling restrictions in identified subsistence whaling zones and coordinate with local whaling groups, communities, and other interested parties. Exploration must be conducted in a manner that prevents unreasonable conflicts between oil and gas activities and subsistence whale hunting. Lessees are required to have an approved oil discharge prevention and contingency plan through ADEC. Beaufort Sea mitigation measures A.3.c.i-iii for whale harvest protection are specifically related to the siting of permanent facilities. There are no permanent facilities proposed for the Tulimaniq #1 exploration program.

Comment 16: "Lastly, DNR must consider the effects of full removal of infrastructure following completion of operations, and whether there will be sufficient funds to do so in a manner that would restore the region to its pre-infrastructure conditions."

Division Response: Because this is an exploration program, all facilities and infrastructure are temporary in nature. Demobilization of the facilities is expected to occur in April, 2015, in accordance with Beaufort Sea mitigation measure A.1.1. All temporary facilities and waste will be removed, all ice pads will be scraped to remove residual waste, and the well will be plugged and abandoned, per AOGCC regulations. Packed snow roads and ice pads will be allowed to degrade naturally through thawing. In addition, 11 AAC 83.158(c) requires that a lessee provides for payment of damages to the State by posting a bond, and remains liable for full damages under the lease. NordAq has a Statewide Oil and Gas Bond in the amount of \$500,000 and continuing liability under the lease.