

**United States Department of the Interior
Bureau of Land Management**

Environmental Assessment

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**NordAq Energy, Inc.
3000 A Street, Suite 410
Anchorage, AK 99503**

**Right-of-Way
FF096856**

Arctic Field Office, Fairbanks, Alaska



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LIST OF ACRONYMS

ACEC.....	Area of Critical Environmental Concern
ADEC.....	Alaska Department of Environmental Conservation
ADFG.....	Alaska Department of Fish and Game
ADNR.....	Alaska Department of Natural Resources
AEWC.....	Alaska Eskimo Whaling Commission
ANILCA.....	Alaska National Interest Land Conservation Act
AO.....	(BLM) Authorized Officer
AOGCC.....	Alaska Oil and Gas Conservation Commission
Arctic FO.....	Arctic Field Office
BLM.....	Bureau of Land Management
BMP.....	Best Management Practice
CEQ.....	Council of Environmental Quality
CFR.....	Code of Federal Regulations
C-Plan.....	Oil Spill Discharge and Contingency Plan
Cruz.....	Cruz Construction, Inc.
CX.....	Categorical Exclusion
EA.....	Environmental Assessment
EFH.....	Essential Fish Habitat
EIS.....	Environmental Impact Statement
EO.....	Executive Order
EPA.....	U.S. Environmental Protection Agency
ESA.....	Endangered Species Act
FLPMA.....	Federal Land Policy and Management Act of 1976
FONSI.....	Finding of No Significant Impacts
GAC.....	Granular Activated Carbon
IAP.....	Integrated Activity Plan
IHLC.....	Inupiat History, Language, and Culture
IMT.....	Incident Management Team
LOA.....	Letter of Authorization
NEPA.....	National Environmental Policy Act
NordAq.....	NordAq Engery, Inc.
NHPA.....	National Historic Preservation Act
NPR-A.....	National Petroleum Reserve – Alaska
NPRPA.....	Naval Petroleum Reserve Production Act
NSB.....	North Slope Borough
NSTC.....	North Slope Training Cooperative
ODPCP.....	Oil Discharge Prevention and Contingency Plan
ROD.....	Record of Decision
ROW.....	Right of Way
SAP.....	Subsistence Advisory Panel
SPCC.....	Spill Prevention, Control, and Countermeasures
USCOE.....	United States Corp of Engineers
USAF.....	United States Air Force
USDOI.....	United States Department of Interior
USFWS.....	United States Fish & Wildlife Service

Chapter 1

1. Introduction

This Environmental Assessment (EA) has been prepared in compliance with the National Environmental Policy Act (NEPA) to disclose and analyze the environmental consequences of granting a Right-of-Way (ROW) for activity proposed by NordAq Energy, Inc. (NordAq). The Bureau of Land Management (BLM) follows the procedures contained in the agency's NEPA Handbook (H-1790-1), which was issued June, 2010. NordAq holds State of Alaska offshore oil and gas leases in Smith Bay. A ROW application was submitted on September 11, 2014, by the Applicant in the BLM Arctic Field Office (Arctic FO), with supplemental information submitted October 10, 2014. Federal lands in the National Petroleum Reserve in Alaska (NPR-A) are administered by the BLM's Arctic FO. The description of the Proposed Action (Section 2.1) provides details of the activity that would be conducted if the ROW were to be granted.

1.1 Need for the Proposed Action

The Applicant has filed a ROW application. The BLM's underlying need is to respond to the ROW application by considering the proposed activity in a manner that minimizes impacts to resources.

1.2 Purpose of the Proposed Action

The purpose of the proposed action is to allow the applicant to conduct the requested activity. The applicant's purpose with the proposed project is to determine, in a one-year exploration drilling and well testing program, whether offshore lease holdings contain economically recoverable oil and gas.

The proposed project is composed of several elements and is designed to meet the applicant's needs and objectives, including:

- Access to drilling site and water supply lakes in a way that allows for maximum operations during the winter season in a cost-effective manner, while minimizing environmental impact.
- Drilling a single well (non BLM managed) near the delta of the Ikpikuk River in the southern extent of the Smith Bay to acquire sufficient subsurface information to satisfy the applicant's economic and exploration performance criteria.
- Compliance with all related requirements of the NPR-A Integrated Activity Plan/Environmental Impact Statement (IAP/EIS) Record of Decision (ROD) and all associated laws, regulations, permits, and approvals.
- Alternatives to the proposed project are evaluated on the basis of their effectiveness in meeting these objectives.

The BLM is authorized to approve ROWs on BLM-administered public lands pursuant to the 43 Code of Federal Regulations (CFR) 2800 which establishes procedures for issuing grants and 2360, operations within the petroleum reserve when authorization for such operations is required from the BLM.

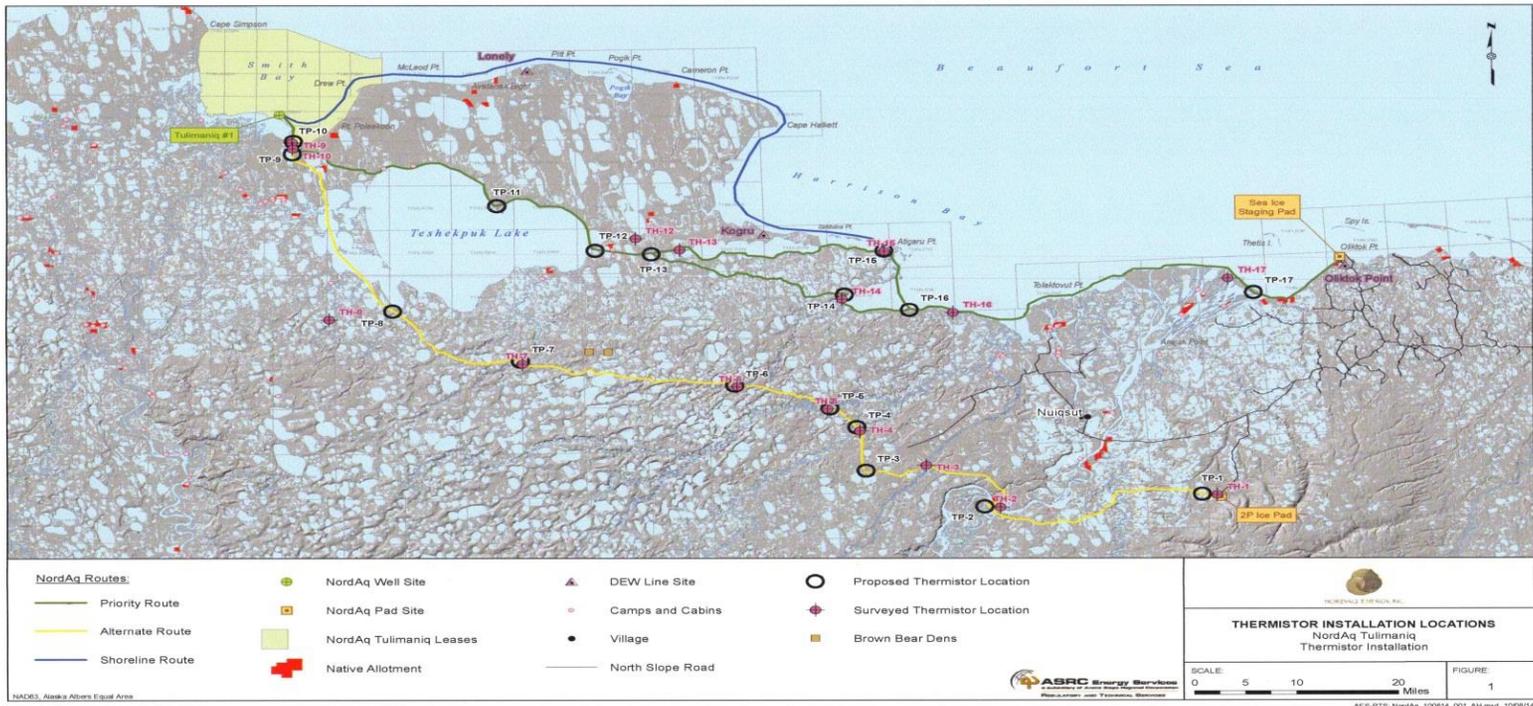


Figure 1. Applicant Map Overview of Proposed Project

1.3 Related Statutes, Regulations, Policies, and Programs

The 2012 IAP/EIS was completed to fulfill the BLM’s responsibility to manage lands in the NPR-A under the authority of the: Naval Petroleum Reserve Production Act, as amended (NPRPA), Federal Land Policy and Management Act of 1976 (FLPMA), National Environmental Policy Act, and the Alaska National Interest Lands Conservation Act (ANILCA). Findings in the IAP/EIS and decisions reflected in the 2013 ROD were based upon an open and collaborative public process, as well as experience with multiple exploration programs completed in the NPR-A.

1.3.1 Federal Laws and Regulations

The proposed action must comply with numerous Federal laws and Executive Orders (EOs) that apply to activities on public lands – including those listed above. Key Federal and State controls associated with the proposed action were described in the 2013 IAP/EIS. The proposed action is consistent with the 2001 National Energy Policy and the Energy Policy Act of 2005.

The proposed action is in conformance with the NPR-A IAP/EIS (2012), NPRPA, FLPMA, ANILCA, Endangered Species Act, Marine Mammal Protection Act, Sustainable Fisheries Act, EO 11988, and EO 11990.

1.3.2 Required Permits, Licenses, Authorizations, and Approvals

A number of Federal, State, and local permits and approvals must be obtained before the applicant can access a drill site and commence drilling. Primary regulatory authorization requirements for the proposed project are listed in Table 1.1.

Table 1.1 Permits and Authorizations for Proposed Project

<i>Federal Authorizations and Approvals</i>	
Bureau of Land Management (BLM)	Right-of-Way (ROW) Threatened and Endangered Species Determination Essential Fish Habitat Assessment (EFH) Subsistence Plan ANILCA 810 Evaluation and Findings Archaeological and Cultural Resources Clearance Waste Management Plan Orientation Program Weed Management Plan
U.S. Fish and Wildlife Service (USFWS)	Letter of Authorizations for the Incidental and the Intentional Take of Polar Bears Concurrence on BLM Threatened and Endangered Species Determination
Federal Aviation Administration (FAA)	Visual Flight Rules (VFR) requirement
National Oceanic and Atmospheric	Seals and use of area.

Administration (NOAA)/National Marine Fisheries Service (NMFS) Protected Species	
United States Air Force (USAF)	Non objection of use and landing permit
Bureau of Safety and Environmental Enforcement (BSEE)	Review and approval of ODPCP required to conduct operations.
<i>State Authorizations and Approvals</i>	
Alaska Oil and Gas Conservation Commission (AOGCC)	Authorization to Drill Shallow Hazards Analysis Annular Injection
Alaska Department of Environmental Conservation (ADEC)	Air Quality Minor Source General Permit (MGP1) Authorization for Temporary Storage of Drilling Waste Oil Discharge Prevention and Contingency Plan (ODPCP) Spill Prevention, Control, and Countermeasures Plan (SPCC) (drilling/testing contractor) Grey Water discharge
Alaska Department of Natural Resources (ADNR) Division of Mining Land and Water (DMLW)	Temporary Water Use Permits Land Use Permit (Overland travel on State lands that includes: ice pad at 2P, travel from 2P to Ocean Point, the staging pad at Oliktok Point, submerged lands along the nearshore ice route, and at Tulimaniq #1 drill site.)
ADNR Division of Oil and Gas (DOG)	Detailed operational plans for project on State of Alaska oil and gas lease.
ADNR Office of Project Management and Permitting (OPMP)	Agreement to act as coordinator for NSB, State, and Federal agencies.
Alaska Department of Fish and Game (ADFG)	Fish Habitat Permits
<i>Local North Slope Borough (NSB) Authorizations and Approvals</i>	
North Slope Borough (NSB)	Development Permits (for related elements) Inupiat History, Language, and Culture (IHLC) Clearance
Private Agreements	
BP Exploration Alaska, LP/ConocoPhillips Alaska, Inc.	Agreement for disposal of cuttings at permitted Deadhorse Grind and Inject facility
Alaska Clean Seas	Oil Spill Response Organization/Primary Response Action Contractor

1.3.3 Related Environmental Analyses

The Council of Environmental Quality (CEQ) Regulation 40 CFR 1502.20 encourages agencies to “tier off their environmental impact statements to eliminate repetitive discussions of the same

issues and to focus on the actual issues ripe for decision at each level of environmental review.” The analysis for this EA is tiered off the National Petroleum Reserve-Alaska Integrated Activity Plan Environmental Impact Statement (USDOJ BLM 2012) and ROD, which are incorporated in their entirety by reference in accordance with CEQ Regulation 40 CFR 1502.21.

1.4 Decision to be Made

The EA assists the BLM in project planning by evaluating the potential significance of environmental impacts. As defined by the CEQ, the significance of a federal action is determined by the context of the action in relation to the overall project setting, as well as the intensity of direct, indirect, and cumulative effects resulting from the project. If the BLM determines that the preferred alternative would not result in significant impacts beyond those already addressed in the USDOJ BLM 2012 and ROD, the BLM would prepare a Finding of No Significant Impact (FONSI) and Decision Record approving the selected alternative. If the project is found to result in significant impacts, an Environmental Impact Statement may be prepared.

The decision-maker, BLM Authorized Officer (AO), will take into account technical, economic, environmental, and social issues (Table 1.2) and the purpose and need of the proposed project. This EA will be based on findings, management controls and protective measures of the NPR-A ROD (USDOJ BLM 2013) as well as other laws and regulations. The scope of this EA includes analysis which enables BLM to select among alternatives that meet the purpose and need, and are within the BLM’s jurisdiction [40 CFR 1506.1(a) (2)].

1.5 Scoping and Issues

Public notification of the Environmental Analysis was announced on October 6, 2014 in the NEPA Register on file at the Arctic Field Office Environmental Assessment web site. No public comments have been received through December 9, 2014. Development of the 2012 IAP/EIS involved extensive input from other Federal agencies, the State, the NSB, thousands of individuals, and many institutions. BLM guidelines include a list of issues that are addressed, where applicable, in NEPA assessments, (USDOJ BLM 2012). Some elements are not present in the project area and are, therefore, not discussed further. A summary listing of related issues considered by Arctic Field Office (AFO) Field Staff is provided in Table 1.2.

Table 1.2 Issues Considered in Evaluating Impacts

Issue Considered	Determination	Basis of Determination (See Note 1) ¹
ACEC’s	Not Present	
Air Quality	Minimal Impact	Air quality impacts likely to remain below applicable ambient air quality standards and increments. Protection provided by: ADEC air permit; 40 CFR 2020(c)(2), and BMP A-9

Issue Considered	Determination	Basis of Determination (See Note 1) ¹
Cultural and Paleontological Resources	Not Present	Archaeological survey completed; no identified cultural or paleontological resources in the project area. Cultural resources expected to remain unaffected based on location; no impacts to paleontological resources expected, based on identified locations and <i>de minimus</i> surface disturbance. Protection provided by BMP C-2, E-13, and I-1.
Environmental Justice	Minimal Impact to Not Present	No disproportionately high and adverse human health or environmental effects to North Slope Inupiaq residents have been identified for the proposed project. Impacts to subsistence use from this project in and of itself are not expected to be more than minor and short term. Protection provided by NPR-A BMPs A-1 – A-4, A-7, A-9, B-1, B-2, F-1, H-1, H-3, and I-1. EO 12897 [See Subsistence]
Fisheries	Minimally Impacted	Protections provided by NPR-A BMPs A-3, A-4, B-1, B-2, and C-2 to C-4; additional permit stipulations required by this EA (Section 4.5); and ADF&G Fish Habitat Permits. EFH assessment finding is <i>not likely to adversely affect</i> .
Floodplains/Wetlands and Riparian Zones	Minimally Impacted	Protection provided by BMPs A-2, A-3, A-4, C-2, C-3, and C-4, And EO 11988 AND EO 11990.
Invasive, Non-native species	Minimal Impact to Not Present	BMP M-2 (ROD for NPRA IAP/EIS 2013) will ensure that invasive plants do not become an issue.
Native American Religious Concerns	Minimal Impact to Not Present	No disproportionately high and adverse human health or environmental effects to Nuiqsut residents has been identified for the proposed project. Impacts to subsistence use are not expected to be more than minor and short term. NPRA BMPs A-1 – A-4, A-7, B-1, B-2, F-1, H-1, H-3, and I-1. EO 12897 [See Subsistence]
Recreation	Minimally Impacted	Protection provided by 2013 NPR-A BMPs A-1, C-2, C-3, C-4, F-1, H-3, I-1 and M-2
Sociocultural Systems	Minimally Affected	Impacts to sociocultural systems from winter exploration activities are not expected to be more than minor and short term. Protection provided by NPR-A BMPs A-1 – A-4, A-7, A-9, A-12, B-1, B-2, F-1, H-1, H-3, and I-1. EO 12897 [See Subsistence]
Subsistence	Potentially Affected	Large game could be deflected from areas of activity, but effects are expected to be short-term and minor. Hunters may avoid area, but public access to packed snow trails may facilitate hunting Negative impacts could result if demobilization and melting of ice island and roads do not proceed as expected. ANILCA 810 Evaluation and Findings by BLM required. Additional

Issue Considered	Determination	Basis of Determination (See Note 1) ¹
		protection provided by: NPR-A BMPs A-1 – A-4, A-7, A-9, A-12, B-1, B-2, C-4, F-1, H-1, H-3, and I-1
Threatened & Endangered Species Steller's eider	Minimally Impacted	Steller's eiders are listed as Threatened under the Endangered Species Act. No impacts expected other than those already covered in 2012 NPRA Final IAP/EIS. USFWS concurred with the BLM ESA finding of not likely to adversely affect. Protections are provided by Section 7 of the Endangered Species Act, and BMP's A-2 thru A-4, A-7, and E-9 from the 2013 ROD.
Threatened & Endangered Species Spectacled eider	Minimally Impacted	Spectacled eiders are listed as Threatened under the Endangered Species Act. No impacts expected other than those already covered in 2012 NPRA Final IAP/EIS. USFWS concurred with the BLM ESA finding of <i>not likely to adversely affect</i> . Protections are provided by Section 7 of the Endangered Species Act, and BMP's A-2 thru A-4, A-7, and E-9 the 2013 ROD.
Threatened & Endangered Species Polar Bear	Minimally Impacted	Letter of Authorization for the Incidental and Intentional Take of polar bears issued under sections 101 (a) (4) (A) (c), 109(h) and 112(c) of the Marine Mammal Protection Act. In accordance with section 7 of the Endangered Species Act of 1973, as amended (ESA), issuance of these LOAs also fulfills the requirements for Tier 2 Consultation of the Programmatic Biological Opinion. Protection provided by Section 7 of the Endangered Species Act and BMPs A-4 - A-4, A-7, A-8, C-1, F-1, and M-1 from the 2013 ROD.
Non threatened and endangered birds	Minimally Impacted	Snowy owls, gyrfalcons, raven and ptarmigan may inhabit the area during the operations period. No impacts expected other than those already covered in 2012 NPRA Final IAP/EIS. Protections are provided in the 2013 ROD by BMPs A-2 – A-4, A-7, E-9, E-15, and I-1.
Non threatened and endangered mammals	Minimally Impacted	Caribou, grizzly bear, polar bear, wolf, wolverine and small mammals (weasel, rodents, and shrews) may inhabit the area. No impacts expected other than those already covered in 2012 NPRA Final IAP/EIS. Protection provided in the ROD for that document BMPs A-4, A-4, A-7, A-8, C-1, F-1 and M-1.
Vegetation	Minimally Impacted	Protection provided by BMP C-2 (2013 ROD for 2012 NPRA Final IAP/EIS).

Issue Considered	Determination	Basis of Determination (See Note 1) ¹
Visual Resource Management	Minimally Impacted	Protection provided by 2013 NPR-A BMPs A-1, A-3, A-4, 4 C-2, C-3, F-1, I-1, and M-2.
Water Resources	Potentially Affected	Applicants request a deviation from BMP A-5. Water Quality protected by frozen, snow-covered water bodies as well as USCOE, EPA, ADEC, ADFG and ADNR required permits. Other protections provided by: BMPs A-2 – A-4, A-7, B-1, B-2, C2 – C-4.
Waste (Hazardous/Solid)	Minimally Impacted	Protection provided by ADEC waste storage permit and the NordAqWaste Management Plan Protection provided by required C-Plans and SPCC Plans, and BLM-required Orientation and Subsistence Protection Plans. Other protections provided by BMPs A-1 – A-4, A-7.
Wild & Scenic Rivers	Not Present	
Wilderness Characteristics	Minimally Impacted	Protection provided by 2013 NPR-A BMPs A-1, A-4, C-2, C-3, E-13, F-1, I-1 and M-2.

Key to Table 1.2:

AAC- Alaska Administrative Code	EPA Environmental Protection Agency
ACEC- Area of Critical Environmental Concern	ESA- Endangered Species Act
ADFG- Alaska Department of Fish and Game	IAP/EIS- Integrated Activity Plan/Environmental Impact Statement
ADNR-Alaska Department of Natural Resources	LOA-Letter of Authorization
ANILCA- Alaska National Interest Lands Conservation Act	NE-Northeast
BLM – Bureau of Land Management	NHPA- National Historic Preservation Act
BMP- Best Management Practice	NPRA-National Petroleum Reserve in Alaska
CFR - Code of Federal Regulations	ROD – Record of Decision
C-Plan Oil Spill Discharge and Contingency Plan	ROP- Required Operating Procedure
EA- Environmental Assessment	SPCC-Spill Prevention, Control, and Countermeasures
EFH – Essential Fish Habitat	USCOE- United States Corp of Engineers
EO- Executive Order	USFWS-United States Fish & Wildlife Service

Potentially Affected: The proposed action or alternative could result in potential impacts to resource or issues to the level that additional mitigation may be required, or there is a need to evaluate potentially significant issues.

Minimally Impacted: Resources or issues would not be affected to a degree requiring further analysis because either the expected impacts from the proposed action and alternative would be minimal, or standard protections (e.g., ROPs, BMPs and Stipulations from overriding BLM plans

or other legal protections) would reduce impacts. Minimally impacted resources or issues will not be analyzed further in this EA.

Not Present: Resources or issues are not expected to be affected by the proposed action or alternatives because activities would occur at a different time or place. Resource or issues not present will not be analyzed further in the EA.

Notes, Table 1.2:

¹ Determination tiered from: 2012 IAP/EIS Vol. 2, Chap. 4; 2013 ROD; and laws and regulations as noted.

In summary, BLM resource specialists have identified the following issue for further evaluation in this EA: Fish and Subsistence

1.6 Public Involvement

Development of the NPR-A IAP/EIS (USDOI BLM 2012) involved extensive input from Federal agencies, the State, the NSB, thousands of individuals, and many institutions. Project-specific permit applications (see Table 1.1) are available for public review prior to agency decision making. NordAq would follow their Plan of Cooperation and Good Neighbor Plan. NordAq representatives have met with the North Slope Borough (NSB) Mayor's office, NSB Wildlife and Planning Departments, whaling captains, and the Alaska Eskimo Whaling Commission (AEWC) to introduce the project. Additionally, NordAq presented to the BLM Subsistence Advisory Panel on September 18 and 19, 2013 in Wainwright, Alaska and on September 10 and 11, 2014 in Barrow, Alaska.

NordAq conducted introductory meetings in Barrow, Atkasuk, and Nuiqsut in October of 2014. At each of these meetings, NordAq inquired about subsistence patterns of use, impacts that could occur, and mitigation measures that could reduce or eliminate those concerns.

Through use of available databases, NordAq has identified Native Allotment holders and cabin and camp owners within 3 miles of any of the proposed travel routes. Each allotment holder and cabin owner will receive a letter notifying them of NordAq's intended activity and a means to notify NordAq should they have any questions or comments about the project.

Chapter 2

2 Proposed Action and Alternatives

NordAq conducted archaeological studies to support the winter activities on August 20 and 21, 2013. The archaeology work included aerial helicopter surveys conducted at an elevation of approximately 500 feet (ft.). The work was conducted by Dr. Richard Reanier. NordAq is using the results of this work to validate the overland access routes to the project area and to permit lake water withdrawals. NordAq submitted a cultural clearance report to the BLM on July 9, 2014. The BLM concurred with the findings of the report on July 17, 2014.

In early October 2014, Nordaq installed 16 thermistors in critical overland travel areas. The 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 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 2P Pad. The BLM authorized the installation of the thermistors with a permit.

2.1 Description of the Proposed Action

NordAq is proposing to cross BLM managed lands to reach their State of Alaska offshore Oil and Gas lease (Tulimaniq drill site) and drill a single well during the winter of 2014-2015. NordAq has already staged equipment at Point Lonely by plane and built a snow road from Point Lonely to the onshore camp site at Lake 654 south of Smith Bay. NordAq proposes to pack two different travel routes between Lake 654 and the east side of NPR-A. The preferred route would be from Oliktok and follow the coast on near shore ice to Kogru, then overland from Kogru to the south side of Smith Bay. If conditions do not allow for the overland portion of this route, a sea ice route across Harrison Bay around Cape Halkett to the Tulimaniq site will be used. A second, alternate, more southerly overland route will be prepared from the 2P ice pad to the Smith Bay site that will be used if conditions do not allow use of the preferred route.

The initial mobilization would include equipment needed (including the Arctic Fox drilling rig and fuel) to construct an ice island at Tulimaniq #1 in water depths ranging from 1 ft. to 4 ft., proximal to the southern shoreline of Smith Bay. For a complete legal description of the project area see Appendix A.

Table 2.1. Estimated Schedule

Activity	Estimated Start Date	Estimated End Date
Start Operations at Pt. Lonely	22 November 2014	
Prepacking Snow Trail, Pt. Lonely to Smith Bay	26 November 2014	28 November 2014
Overland Mobilization to Lake 654	28 November 2014	02 December 2014
Construct Ice Pad at North Shore of Lake 654	29 November 2014	01 December 2014
Pre-Season Infield Ice Construction and Prepack Operations	2 December 2014	1 January 2015
Construct Ice Runway Lake 654	05 December 2014	14 December 2014
Prepack overland routes (Lake 654 to Deadhorse)	09 December 2014	15 January 2015
Construct Secondary Containment	13 December 2014	14 December 2014

Mobilize to Smith Bay	15 January 2015	27 February 2015
Demobilization	17 April 2015	10 May 2015

2.1.1 Access

2.1.1.1 Access Via Point Lonely

NordAq originally proposed access from Oliktok Point and a location named 2P Ice Pad (Figure 1). NordAq's updated plan included use of Point Lonely (Pt. Lonely), Alaska, and the BLM issued a permit for this portion of the activity on 11/19/2014 based on a Categorical Exclusion (CX) NEPA document. Pt. Lonely was formerly used by the US Air Force (USAF) as a Distant Early Warning Site. The USAF is currently conducting a demolition and removal project at Pt. Lonely. NordAq acquired a nonobjection from the USAF verifying that their proposed activity would not interfere with the USAF project.

NordAq proposed to use an area of pad of 150 feet length by 50 foot width (Figure 2). A crew of four to six persons would fly to Pt. Lonely in a ski-equipped fixed wing aircraft to prepare the site for C-130 Hercules aircraft operations. Olgoonik Corporation is a subcontractor working on the restoration project at Pt. Lonely and has equipment on-site. NordAq is working on an agreement with Olgoonik Corporation whereby the Olgoonik Corporation would send its own crew to run the equipment. The crew would clear the runway with equipment currently on location, set up airport lighting (3 day project), and unload buildings and generator. Once set up is complete (estimated 22 November), NordAq anticipates using the site for 10 days. NordAq expects to have 24-hr per day Hercules transport plane flights from Deadhorse transporting 4-6 loads per day (16 total) to Pt. Lonely during this timeframe. Personnel transportation would utilize a local Deadhorse air carrier and would require 3 to 4 flights into Pt. Lonely during mobilization. The crew is not expected to stay overnight during the mobilization. The plan is to transport work crews daily in and out of Pt. Lonely via fixed-wing aircraft. If an evening flight out is not possible Olgoonik Corporation has the ability to provide heated shelter for up to 6 people.

Table 2.2 Equipment to be transported to Pt. Lonely via Hercules transport plane:

12 Person Spike Camp	4 Person Survival Camp	2 PistenBully 400s
2 PistenBully Sleigh Trailers	4 Tucker-Terra's	Tucker Mister Tank
2 Fuel Sleighs, 2,500 gallon each	2 Fuel Sloops, 2,500 gallon each	6 Light Towers
2 ES1700 Heaters	Portable Mechanics Shop	Mechanic Spare Parts & Supplies
8 B55 Hurricane Pumps		

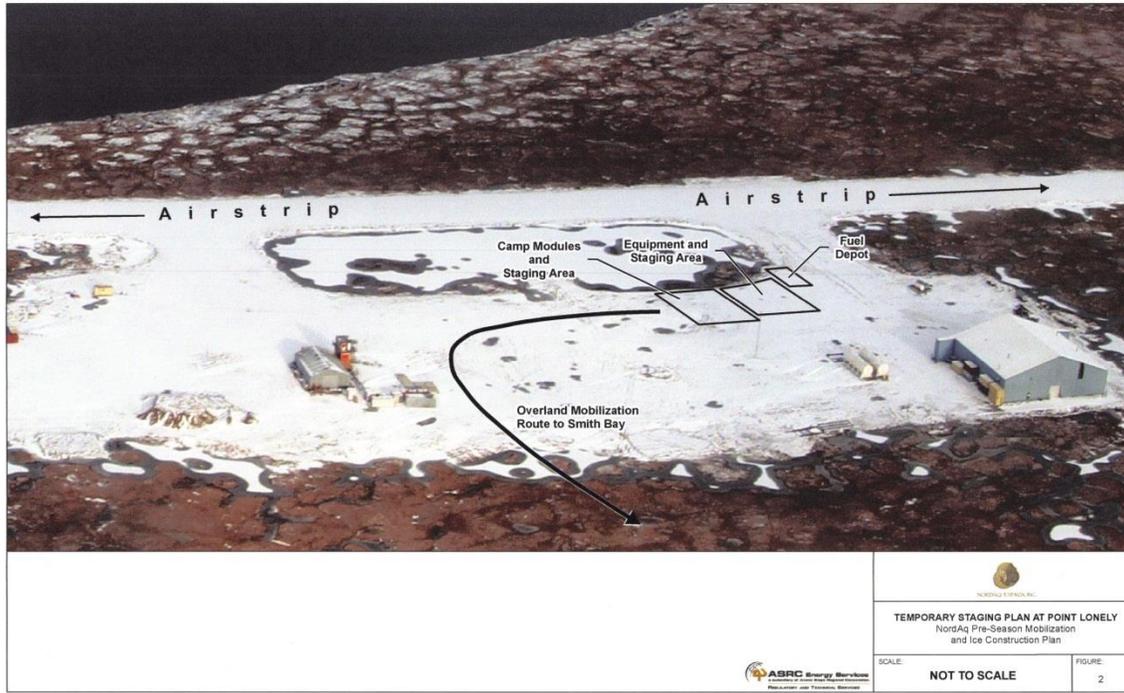


Figure 2. Pt. Lonely Pad Overview

Once equipment is staged at Pt. Lonely, two operators and a mechanic would begin preparations for pre-packing the trail from Pt. Lonely to Lake 654 including spike camp and fuel tank farm set up at Pt. Lonely. Ground operations to Lake 654 would include a one-time overland mobilization with the Tuckers, and three trips with the PistenBullys pulling trailers of camp modules, fuel sloops, fuel sleighs, light plants, and mechanic shop and tools. All equipment used for hauling, including Tuckers and PistenBullys (Figure 3), would be fitted with appropriate tracks for use on the tundra, and the trailers would be fitted with UHMW Skis.

NordAq does not plan to use the Pt. Lonely site after all equipment and supplies have been transported to Lake 654.



Figure 3 PistenBully with winter tracks and trailer

2.1.1.2 Preferred Overland Travel Route Access

Once the equipment has been mobilized from Point Lonely to Lake 654, the two overland travel routes would be constructed from both ends (starting from the west at Lake 654 and the two sites on the east side of NPR-A). NordAq's preferred overland travel route (snow trail) is along Harrison Bay and the Kogru River which maximizes the use of sea and lake ice and allows smoother travel as shown as Priority Travel Route on Figure 1. Use of this route would require the development of a sea ice staging area just offshore from Oliktok Point (not BLM managed land). If tundra conditions are not favorable for 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 (Figure 1). This route would be located on grounded sea ice and not on the shoreline itself.

2.1.1.3 Alternate Overland Travel Route Access

The alternate travel route (snow trail) would be constructed from both ends: Lake 654 on the west and a staging area at 2P (Figure 1) or an ice pad adjacent to 2P (not BLM managed land) on the east. The route from 2P would cross the Colville River at Ocean Point and proceed west before heading north to the Tulimaniq drill site. The route selected would depend upon weather and sea ice conditions at the time of project start up projected to be December 2014.

2.1.1.4 Mobilization

Pre packing activities would include the use of Tuckers with summer tracks, survival camps, and fuel. The Tuckers would travel along the pre-defined travel route options from Lake 654 towards Oliktok and 2P Pad. The pre packing is intended to pack down freshly fallen snow to hold it in place during windstorms. The pre-packing would also pack over the tops of the installed center-line thermistors in order to provide accurate soil temperature profiles. Reference

thermistors have been placed (Figure 1) adjacent to the trail centerlines to provide reference temperature profiles for non-pre-packed soil.

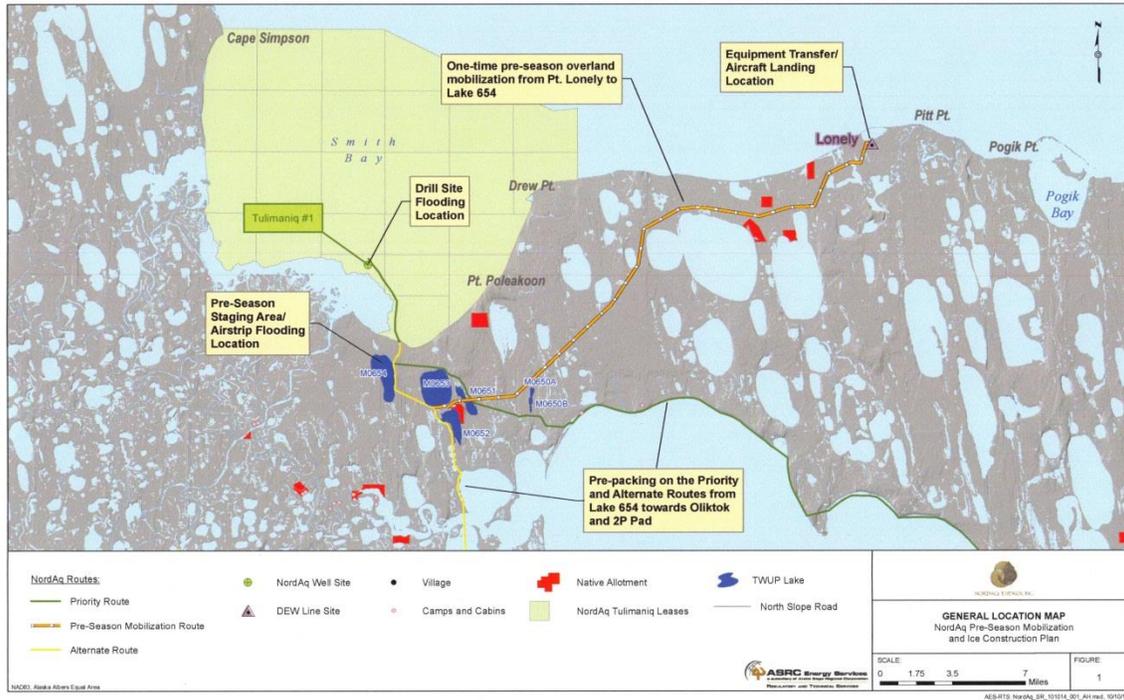


Figure 4 Route from Pt. Lonely to Lake 654

Public access to packed snow trails would be allowed. A safety exclusion zone would be identified using signs at and approaching the Tulimaniq well site, warning the public of the work in progress.

Table 2.3: Equipment List for ice pad, ice road, camp, and snow trail

Volvo L120 Loader	Cat. D6 Dozer	3 Water Buffalo with Tundra Tires
3 Ejector Trucks	Motor Grader	Case Magnum Ice Grinder with Attachments
F350 Crew Cab Pickup Truck	4 Light Towers	2 ESI700 Heaters
Portable Mechanics Shop	Mechanic's Lube Truck	Mechanic Spare Parts and Supplies
Water Shack	Pump Shacks	

An ice airstrip up to 5,000 ft. in length is proposed to be constructed on Lake 654. The airstrip would be connected by a 4.5 mile ice road to the Tulimaniq #1 wellsite. The airstrip would be used by medium-small aircraft (such as C-130 Hercules or other similar and smaller aircraft) to transport project components, crew, and a portion of the fuel. Most flights traveling to the project site would originate from Anchorage or Fairbanks, with local flights originating from Deadhorse and Barrow as well. NordAq estimates approximately five fixed-wing aircraft landings at the project site per week during the drilling program. No rotary aircraft operations are expected during the drilling program.

Existing airstrips near the project site have been identified by NordAq and their condition evaluated for use, if necessary. These backup air strips include the 4,000 ft. gravel airstrip at Pt Lonely approximately 24 miles east of the well site; and a 1,700 ft. airstrip at Cape Simpson approximately 20 miles northwest of the wellsite. The airstrip at Pt Lonely is under the control of the USAF and use would be coordinated through them.

2.1.2 Shore Camp Lake 654

NordAq proposes to construct a 36 person shore camp staging pad onshore adjacent to Smith Bay in the vicinity of Lake 654 with an alternate site located in the Ikpikpuk River Delta (Figure 5).

Equipment transported from Pt. Lonely would be staged on shore-fast ice at the north end of Lake 654 in preparation for infield and pre-packing activities. The ice would be profiled using Kovacs flights and bits for thickness and to confirm grounded conditions. The camp would be staged against the shore (Figure 5), and a temporary airstrip (2,500 foot) would be cleared along the north shore for receiving fuel and camp supplies prior to the grounding and opening of the planned Herc strip. A pre-season fuel depot ice pad would be constructed 500 feet from the shore of Lake 654, adjacent to the planned site for the fuel depot.

The pad would be constructed of pre-packed snow fortified with water from a misting tank mounted on a Tucker. The pad would be a minimum of 6 inches thick. Ice construction activities would consist primarily of flooding. Containment berms would be pushed up at the perimeters of the flooding areas to confine the areas of flooding. The flooding would be performed using 6 inch flood pumps that distribute water radially from an augured hole in the ice. An engineer would observe and direct ice construction activities as needed. The intent of the flooding procedure at each site is to add weight to the existing ice layer to ground the ice and create a solid ice column at the airstrip. Ice construction would occur along the route from the Shore Camp to the drill site as necessary (4.5 miles).

Air operations would involve the transportation of fuel, camp supplies, and personnel to Lake 654. Personnel and supplies are expected to be transported 2 times per week, with fuel flights 1 to 2 times per day. Local Deadhorse air carriers would be used, and DeHavilland Otters and Cessna 207s are planned. No rotary aircraft are planned for the operations.

The camp would initially be used for ice pad, airstrip, and infield ice road construction prior to the arrival of the rig camp. The onshore camp would treat lake water for potable use. Waste

water holding tanks large enough to accommodate 12,000 gallons of waste water would be used with the waste water transported to Deadhorse for NSB disposal.

After the rig is hauled to the ice island, the shore camp would 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. A dish antenna would be used to support communications of phone and internet.

The layout for the camp is currently in the design phase by NordAq. The planned items to be staged at the Lake 654 camp include: 36 person camp, water and wastewater treatment facilities, generator shed, 2 bear proof dumpsters, parking areas, a mechanic shop, and a storage Conex. The dimensions of the proposed pad are 500 feet by 500 feet with the constructed pad thickness of 8 to 24 inches of ice, depending on underlying topography.

2.1.3 Water

Fresh water would be needed for the ice island and airstrip construction, maintenance, drilling operations, and camp use. Fresh water would be withdrawn from permitted lakes (Table 2.5). Water and ice chips would be extracted from permitted lakes. Ice chips removed from grounded portions of any permitted lake would be included in the total permitted withdrawal volume.

Snow would be removed from portions of lakes approved for water withdrawal, ice mining, or both. Snow removal would provide access for water trucks and ice chippers, installation of temporary water houses, and truck turnaround areas. NordAq may request approval for snow removal from non-grounded portions of fish-bearing lakes. The water would be pumped from lakes and transported by low pressure vehicles or rolling stock. Rolling stock (Steigers, Tuckers, Water Buffalo ATV trucks, and Tundra Bear ATV trucks) would only use trails that have been improved with a firm ice surface to support the weight and pressure of the vehicles.

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

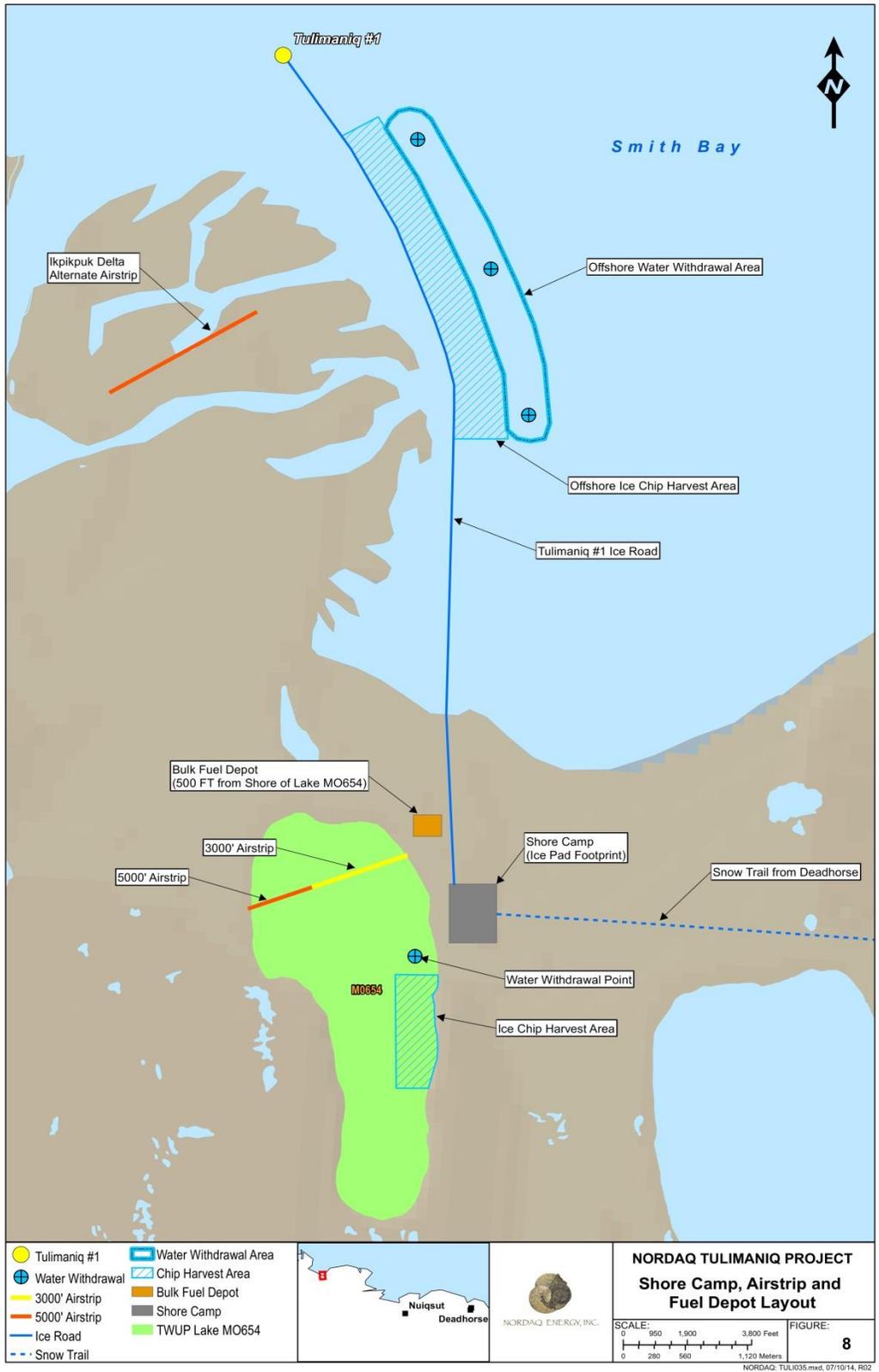


Figure 5 Lake 654 Layout

Water for human use would be processed from the Alaska Department of Natural Resources (ADNR and the Alaska Department of Fish and Game (ADFG) permitted lakes through a permitted drinking water treatment system. The drilling camp would 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 would be required for the drilling operation; for a season total of approximately 1.75 million gallons.

Ice island and infield ice road /pad construction and maintenance totals are estimated in Table 2.4 below.

Table 2.4 Water and Ice Withdrawal Requirements by use

Nordaq Tulimaniq Water Withdrawal Requirements By Use							
Item	Length (ft.)	Width (ft.)	Depth (ft.)	Water Required (gal)	Ice Chips Required (gal)	Total Volume Required (cf)	Total Volume Required (gal)
Infield Ice Roads	29,040	24	6	15,640,869	15,640,869	4,181,760	31,281,737
Ice Island Area, 500 ft. diameter	229,022		20	17,132,035	17,132,035	4,580,440	34,264,071
Shore Camp Pad	500	500	2	1,870,130	1,870,130	500,000	3,740,260
Ice Airstrip on Lake 654	5,000	50	3	5,610,390	0	750,000	5,610,390
Alternate Ice Airstrip on Ikpikpuk Delta	5,000	50	2	1,870,130	1,870,130	500,000	3,740,260
Drill Rig Use	0	0	0	1,750,000	0	0	1,750,000
Potable Camp Use	0	0	0	500,000	0	0	500,000
Total Requirements				44,373,553	36,513,164	10,512,200	80,886,717

Water withdrawal locations and access routes are presented in Figure 4. Water withdrawal from an offshore channel (Not BLM managed land) adjacent to the Ikpikpuk Delta alluvial plain is proposed using mixing water from Smith Bay and Ikpikpuk River discharge. Ice chip withdrawal is proposed from shorefast ice at a shoal location adjacent to the Ikpikpuk alluvial plain. If the water from the Ikpikpuk Delta is found to be too saline, freshwater from onshore lakes would be used for ice pad/road off shore at Smith Bay.

All water volumes would be recorded and tallied daily against total available volumes, with results reported weekly to ADNR and BLM.

Table 2.5 Water and ice Withdrawal Requirements by Source

Site ID	Latitude (N) (NAD83)	Longitude (W) (NAD83)	Max Depth (feet)	Surface Area (acres)	Volume (MG)	Sensitive Fish Species Captured	Resistant Fish Species Captured ^a	Applicable Volume per BMP B-2			Liquid Water Volume Requesting (MG)	Ice Aggregate Volume Requesting (MG)	Notes
								15% of Water Under 7 ft. of Ice (MG)	30% of Water Under 5 ft. of Ice (MG)	35% of Lake Volume (MG)			
BLM LAND													
Lake 651	70.72595°	154.05833°	8.0	459	596.87	None	NS	--	13.98	--	0.00	5.00	-
Lake 652	70.71931°	154.09684°	10.8	546	1172.40	None	NS	--	113.10	--	1.13	0.00	-
Lake 653	70.74082°	154.13029°	7.9	1432	2701.00	None	NS	--	162.96	--	1.00	0.00	-
Lake 654	70.7494°	154.22931°	6.4	1086	1615.00	None	None	--	--	565.25	42.43	7.20	This volume includes 27 MG of contingency water that would be used in the unlikely event the Smith Bay water is too saline for use
Lake R0219	151.33037	151.33037	18.7	468	949.78	Assumed	Assumed	--	89.14	--			--
NON-BLM LAND													
Ikpikpuk Shoal Ice	70.806813°	154.22815°	4.0	429	364.95	SeeFootnote b	See Footnote b	--	--	--	0.00	24.32	- -

Key:

MG = million gallons; -- = not estimated or not applicable

Notes:

a. NS = ninespine stickleback

b. Fish species presence is not known. ADF&G-approved fish screens will be used.

Table 2.6 Stream crossings identified on BLM lands for 2014-2015 exploration.

Stream Name	Crossing Identifier	Latitude (NAD83)	Longitude (NAD83)	National Hydrography Dataset Permanent Identifier	ADF&G Anadromous Waters Catalog Number
Priority Routes and Shoreline Route					
Unnamed Creek	Shore Camp	70.755555	-154.205408	125836067	--
Alternate Route					
Colville River	Alt1	70.055393	-151.389928	120009621	330-00-10700
Ublutuoch River	Alt2	70.133779	-151.643275	72307953	330-00-10840-2017
Unnamed Creek	Alt3	70.12423	-151.816709	72309297	--
Judy Creek	Alt4	70.206646	-151.905619	120009622	330-00-10840-2043
Fish Creek	Alt5	70.250486	-152.029871	120009622	330-00-70840
Unnamed Creek	Alt6	70.291806	-152.295005	--	--
Kalikipik River	Alt7	70.293499	-152.397773	120008550	330-00-10850
Unnamed Creek	Alt8	70.296912	-152.408442	72305153	--
Unnamed Creek	Alt9	70.32277	-152.908357	--	--
Unnamed Creek	Alt10	70.332498	-153.104866	125839280	--
Kealok Creek	Alt11	70.343124	-153.272812	125804867	--
Unnamed Creek	Alt12	70.348396	-153.502928	125839217	--
Unnamed Creek	Alt13	70.363277	-153.585991	125808872	--
Unnamed Creek	Shore Camp	70.755555	-154.205408	125836067	--

Key:

-- = not applicable or not available

2.1.4 Fuel Supply and Storage

Fuel for use at Pt. Lonely would be flown in using a local air transport vendor operating a DeHavilland Otter equipped with bladder tanks. The fuel is planned to be transferred via electric transfer pump, camlock fittings, and safety nozzle into the double-walled 2,500 gallon fuel sloop. Overall fuel use at Pt. Lonely is expected to be less than 2,000 gallons. After the move to Lake 654, the fuel sloops and fuel sleighs would be transported via PistenBullys and trailers to the lake and staged until the pre-season fuel pad is constructed. The two 2,500 gallon double-walled fuel sloops would be placed in 110% containment consisting of liner and timbers.

For pre-season use, up to 102,000 gallons of Ultra Low Sulfur Diesel #1 fuel would be staged with a minimum offset of 500 ft. from the Lake 654 shoreline. The bladder volume of fuel per flight is expected to be 800 gallons. No more than 10,000 gallons of fuel would be on site at the shore pad at any given time. An estimated fuel consumption rate of 1,400 gallons per day is planned, and a week's worth of fuel is planned to be available at any given time during pre-season activities.

Following tundra opening and the transportation of additional storage tanks to the site, drilling activities would be supported as follows:

- Ice Island

- Up to 10,000-gallons of fuel, in several tank volume denominations, less than 9,990 gallons will be stored in containment on the ice island to support camp and drilling operations.
- Shore Camp
 - Up to 90,000 gallons will be staged in a lined and bermed tank farm 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.

Both the ice island and Shore Camp will be resupplied via aircraft into Lake 654, as needed, with a conservative project total of 600,000 gallons total fuel to be utilized during the pre-season and drilling operations.

Secondary containment of bermed and impermeable membrane-lined fuel storage areas would be used for all fuel storage. The fuel storage containment is designed for Arctic conditions and would be capable of holding a minimum 110 percent of the maximum capacity of fuel storage. Containment discharge practices are outlined in the Tulimaniq Spill Prevention and Countermeasure Plan (SPCC) Plan and include visual and olfactory (smell) 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 (GAC) filtration, and analytical sampling would be coordinated with the Alaska Department of Environmental Conservation (ADEC) and BLM prior to any necessary containment discharge where fuel is present.

2.1.4.1 Fuel Transfer, BMP A-5 Deviation Request

NordAq proposes to store fuel 500 feet from Lake 654 to comply with BLM BMP A-5. However, their proposed airstrip is on the lake and fuel would need to be transported from the plane to the fuel storage location. NordAq requests a deviation from BMP A-5 and submitted the following for BLM consideration:

“Fuel transfer procedures from the plane to the tank farm are as follows; the plane stages on the lake and a fuel sleigh drives adjacent to the plane. A bonding cable is placed between the plane and the fuel sleigh, and duck ponds are placed at each end of the transfer line. The fuel is pumped using a diesel pump, with trained fuelers staged at the nozzle and top hatch of the fuel sleigh. All work will be conducted in accordance with the project-specific SPCC and respective guidelines and transfer checklist.

It is recognized that the BLM ROPs do not allow fuel transfer over waterways; however, in this circumstance there is no feasible option to transfer incoming fuel to the pre-season tank farm without transferring fuel to the fuel sleighs from delivery aircraft on the surface of the lake. Ice can be considered an impermeable barrier to spilled fuel, duck ponds and two personnel will be used, a spill kit will be included with each fuel sleigh and any spill will be reported. At the cessation of the fueling operation, any contamination will be scraped from the ice and transported to Deadhorse for disposal. The fuel sleighs will be transported using PistenBullys to the pre-season

tank farm and transferred using a similar procedure as the aircraft transfer into the double-walled fuel sloops.

Transportation equipment used near the tank farm will be fueled at the pre-season tank farm using a bonding cable, manually operated nozzles, two persons, and duck ponds at the tank and the equipment. Pumps and other staged equipment will be fueled directly from the fuel sleigh in similar fashion to the tank farm fueling procedure. Equipment that is planned to travel from the site, such as Tuckers, will carry 100-200 gallon skid tanks for self-fueling while away from the pre-season tank farm”.

2.1.5 Waste Management

Waste management would be based on waste minimization and disposal and would comply with Federal, State, and local regulations to prevent attracting wildlife. All solid waste would be temporarily stored at each site pending shipment from the area. Non-putrescible waste would be deposited in “super sacks” at the drill site and would be transported overland to an approved disposal facility. Food and other putrescible waste would be stored in bear-proof dumpsters prior to backhaul and disposal at a permitted disposal facility.

Camp wastewater would be processed through the camp wastewater treatment system and discharged in accordance with the North Slope General Permit No. AKG-57-2000. NordAq states that the treatment system would meet Federal and State requirements.

2.1.6 Contingency Plans

2.1.6.1 Wildlife Protection and Encounter Plans

NordAq would implement practices to minimize wildlife attraction to the winter operations. NordAq submitted a Wildlife Avoidance and Interaction Plan to the BLM on September 11, 2014. The procedures contained in the Wildlife Avoidance and Interaction Plan would apply whether a polar or grizzly/brown bear is encountered. Camp design and NordAq policies to prevent bear encounters include storing food inside buildings or containers to minimize odors. Feeding or attracting wildlife is prohibited by NordAq policy. Hazardous materials would be kept in drums or other secure containers.

Wildlife that may be in the project vicinity during the project includes owls, ravens, arctic fox, musk ox, and a small number of over-wintering caribou. The project is located in waters less than 10 ft. deep and NordAq states that due to this they are unlikely to encounter seals or seal lairs. It is likely that polar bears would be encountered in the drilling operations area. Grizzly/brown bears are unlikely to be active in the winter. NordAq and its contractors would be cautious and watch for bear sign. NordAq policy requires sightings to be reported immediately to the site superintendent. NordAq submitted a request for a Letter of Authorization for the incidental take of polar bears to the US Fish and Wildlife Service (USFWS) on September 9, 2014.

2.1.6.2 Oil Discharge Prevention and Contingency Plan

An Oil Discharge Prevention and Contingency Plan (ODPCP) has been prepared for this project. The approved plan would be kept on site at all times for guidance in controlling and cleaning up any accidental discharges of fuels, lubricants, or produced fluids. The plan includes immediate response actions, receiving environments, spill cleanup mobilization response times, and well control.

2.1.6.3 Spill Prevention and Countermeasure Plan –

NordAq's various contractors would maintain SPCC plans for drilling, fuel storage facilities, drilling operations, and well testing tanks. The plan includes fuel storage facilities for the camps. Other contractors needing to store fuel would have SPCC plans covering their specific fuel storage and transfer operations.

2.1.6.4 Weed Management Plan

Cruz Construction, Inc. (Cruz) has been contracted by NordAq to provide the logistical operations for the proposed project. Cruz wrote the Weed Management Plan that NordAq submitted for their proposed activities. Cruz provided details on their procedure to assure that all equipment is properly maintained, inspected for leaks and serviceability, cleaned of all organic material, and prepared appropriately for remote service. All equipment is steam cleaned at their Deadhorse heated indoor shop prior to use.

2.1.6.5 Orientation Plan

NordAq submitted an Orientation Plan to the BLM for approval on October 28, 2014. All employees working on the Tulimaniq exploration drilling project would be required to receive training. The training would include project area orientation, threatened and endangered species information, environmental, social, and cultural awareness, subsistence conflict avoidance, and pertinent mitigation that will be specific to the project. All project personnel would be 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 1, 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.

2.1.6.6 Subsistence Plan

NordAq submitted a revised subsistence Plan entitled “Subsistence Plan of Cooperation and Good Neighbor Plan” to the BLM on December 1, 2014. Community consultations are closely linked to the plan. The Plan of Cooperation documents NordAq’s efforts to maintain communications with residents and subsistence hunters. NordAq would communicate with public announcements on radio and television, project information newsletters, community meetings, and subsistence advisors.

Hiring opportunities are limited during exploration drilling. However, NordAq would hire subsistence observers at well sites during operations, marine mammal observer(s) on the barges, translators, Native elders who are willing to share traditional knowledge of the area, and others. The shared knowledge by elders has been and will continue to be used to assist in avoiding conflicts and to identify subsistence resource areas. Applicable traditional knowledge would be used during the project orientation training section. The project area is approximately 20 miles from ice leads. According to NordAq, it therefore should not interfere with or impact subsistence hunting activities unless there are polar bears transiting across the ice.

2.1.6.7 Other plans

All emergency response situations would be managed by the Incident Management Team (IMT) which would follow the Incident Command System and the Alaska Unified Plan. The IMT is on call 24-hours a day. Personnel involved in an emergency situation would immediately notify the IMT for response. NordAq Environmental Health and Safety Policies and Procedures Manual and Emergency Response Plans will be available at the individual facilities

Worker safety would be in compliance with State and Federal regulations, and NSB requirements. A site specific safety and emergency plan would be developed prior to initiation of the work, for each portion of the project.

2.1.7 Project End

At the end of the 2014-15 drilling season, all equipment associated with the project would be demobilized to Deadhorse over the selected land or sea-ice route. In the event that schedule constraints with respect to weather conditions and tundra travel closure prevent a complete Deadhorse demobilization, the project would plan to initially demobilize to Cape Simpson or Point Lonely over shorefast sea ice, then demobilize via barge to Prudhoe Bay during the 2015 barging season. Locations with temporary infrastructure constructed of snow and ice would be cleaned of all debris and potential contamination and allowed to naturally degrade (thaw) in the spring to their original state. The ice pad would be scraped to remove any residual waste and will be hauled to an approved disposal facility.

2.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not take place on BLM managed land. None of the impacts that may result from approval of the ROW grant would occur. Federal lands would not be disturbed by implementation of the Proposed Action. Denial of the Proposed Action may result in NordAq not being able to implement their offshore drilling program this winter.

2.3 Conformance

ROW grant would be subject to the BMPs from the NPR-A IAP/EIS (USDOI BLM 2012) and associated ROD (USDOI BLM 2013).

The proposed action is in conformance with the NPR-A IAP/EIS (USDOI BLM 2012) and associated ROD (USDOI BLM 2013), the National Petroleum Reserve Product Act (NPRPA), Federal Land Policy Management Act (FLPMA), Alaska National Interest Lands Conservation Act (ANILCA), Endangered Species Act, Executive Order (EO) 11988, and EO 11990.

In the NPR-A IAP/EIS (USDOI BLM 2012), the BLM evaluated the direct, indirect, and cumulative effects of winter access in the NPR-A. This analysis concluded that the stipulations and BMPs provided adequate protection for surface resources and subsistence activities in the planning area.

As part of the most recent analysis, the BLM considered site-specific evaluations of exploration programs in the planning area over the past years, all of which received a Finding of No Significant Impact by the BLM. Findings for these winter programs included analysis of Threatened and Endangered Species, Essential Fish Habitat (EFH) and Subsistence Use under ANILCA 810, as well as coordination with the State Historic Preservation Office. In addition to BLM permits, other required Federal, State, and local authorizations were issued.

Chapter 3 Affected Environment

Chapter 3 describes the aspects of the human environment that may be affected by implementing Alternatives A or B. Resources and resource values analyzed in this EA are aspects of the human environment. The CEQ regulations discuss “human environment” (40 CFR 1508.14) as broadly relating to the biological, physical, social, and economic elements of the environment. The project area refers to the lands enclosed within the exterior boundaries of the priority and alternate route selection (See Figure 1).

3.1 Introduction

Environmental characteristics of the general project area have been extensively described in the NPR-A IAP/EIS (USDOI BLM 2012, Vol. 1, Chapter 3), to which this analysis is tiered, with some site-specific features described below. Proposed activities would take place on the Arctic Coastal Plain, where temperatures average below freezing for 8 months of the year. A dramatic change to higher temperatures and longer day length occurs during the other 4 months. Annual

precipitation is low, averaging 8 inches per year, with more than half falling as snow. Snow cover is typically established in late September/October and disappears late May/mid-June. North Slope air quality meets the National Ambient Air Quality Standards and State of Alaska

The topography of the project area is generally flat to gently rolling, dominated by permafrost-related geomorphic features including polygonal patterned ground, shallow lakes, and extensive areas of wetland interlaced with small, meandering streams. Permafrost ranges from 650 to 1,330 feet deep, with an active thaw layer typically 1 to 2 feet deep.

The proposed ROW segment crosses channels and tributaries of the Colville River, and the Ublutuoch River (also known as the Tingmiaqsugvik or 'Ting'), drainage systems. NordAq has identified 6 lakes in the NPR-A on BLM managed land which may be utilized as water sources.

Based on the proposed project and the issue identification in Section 1.5, the following discussion of the affected environment covers those issues that warranted further consideration within this EA: Water Quality and Subsistence

3.1.1 Issue 1 Water Quality

NordAq proposes to store fuel 500 feet from Lake 654 to comply with BLM BMP A-5. Their proposed airstrip is on the lake and fuel would need to be transported from the plane to the fuel storage location. For this to occur, NordAq requests a deviation from BMP A-5. Lake 654 has a maximum depth of 6.4 ft., an area of 1086 acres, no fish, and is in close proximity to the NordAq camp.

BMP A-5: Objective: Minimize the impact of contaminants from refueling operations on fish, wildlife and the environment.

Requirement/Standard: Refueling of equipment within 500 feet of the active floodplain of any water body is prohibited. Fuel storage stations shall be located at least 500 feet from any water body with the exception that small caches (up to 210 gallons) for motor boats, float planes, ski planes, and small equipment, e.g. portable generators and water pumps, are permitted. The authorized officer may allow storage and operations at areas closer than the stated distances if properly designed to account for local hydrologic conditions.

3.1.2 Issue 2 Subsistence

NordAq proposes to pre-pack snow roads and move equipment through Nuiqsut's core subsistence use area and to establish a camp and air strip near the camps and cabins of several Barrow residents. The areas crossed by the ROW near Nuiqsut are used for winter furbearer and some winter caribou hunting and the location of the exploration site/camp are used for furbearer hunting in the winter and opportunistically for caribou in winter. Owners of camps and cabins in the Teshekpuk Lake area tend to travel from Barrow through the Tulimaniq project area to retrieve caches from ice cellars in the spring. Traditional knowledge indicates that the rivers directly to the east of the ice island that flow from Teshekpuk Lake constitute the main access for fish into and out of the lake.

Chapter 4 Environmental Impacts

Activities proposed by NordAq are similar to previously authorized winter activities in the NPR-A over the past 15 years. All of these programs have been approved and monitored on the basis of full implementation of relevant restrictions, protective measures, and the mitigation set forth in the applicable RODs, as well as state and local permits, and compliance. To date, authorizations to conduct winter activities in the NPR-A have resulted in no long-term significant impacts to the environment, or access to and the use of subsistence resources.

Because the proposed activities are not substantially different from those previously evaluated, and because no significant new scientific information or analyses have been developed since the most recent related evaluation (i.e., USDO BLM 2012), this NEPA analysis will focus on impacts due to the project-specific/site-specific differences of the proposed action.

4.1 Direct and Indirect Effects

The proposed action is built on experience gained from decades of similar operations on the North Slope. This EA is tiered from the 2012 NPR-A IAP/EIS and its ROD. Related discussions of impacts are found in: 2012 NPR-A IAP/EIS, Vol. 2, Chapter 4.5 (Environmental Consequences of Alternative B-2, the preferred alternative).

Issues specifically identified in Section 1.5 for further analysis in this EA are discussed below.

4.1.1 Issue 1 Water Quality

Proposed Action

NordAq proposes to store fuel 500 feet from Lake M0654 to comply with BLM BMP A-5. Their proposed airstrip is on Lake M0654 however, and fuel would need to be transported from the plane to the fuel storage location. NordAq requests a deviation from BMP A-5 and would transfer fuel to a fuel sleigh parked adjacent to the plane. A bonding cable would be placed between the plane and the fuel sleigh, and duck ponds would be placed at each end of the transfer line. The fuel will be pumped using a diesel pump, with trained fuelers staged at the nozzle and top hatch of the fuel sleigh. All work will be conducted in accordance with the project-specific SPCC and respective guidelines and transfer checklist.

It is recognized that the BLM ROPs do not allow fuel transfer over waterways; however, in this circumstance there is no feasible option to transfer incoming fuel to the pre-season tank farm without transferring fuel to the fuel sleighs from delivery aircraft on the surface of the lake. Ice can be considered an impermeable barrier to spilled fuel. Duck ponds and two personnel will be used during the transfer process with a spill kit included with each fuel sleigh. Any spill will be reported. An Oil Discharge Prevention and Contingency Plan (ODPCP) has been prepared for this project. The approved plan would be kept on site at all times for guidance in controlling and cleaning up any accidental discharges of fuels, lubricants, or produced fluids. The plan includes immediate response actions, receiving environments, spill cleanup mobilization response times, and well control. At the cessation of the fueling operation, any contamination will be scraped from the ice and transported to Deadhorse for disposal. The fuel

sleighs will be transported using PistenBullys to the pre-season tank farm and transferred using a similar procedure as the aircraft transfer into the double-walled fuel sloops.

The ice airstrip, up to 5,000 ft. in length, would be connected by a 4.5 mile ice road to the Tulimaniq #1 wellsite. The airstrip would be used by medium-small to transport project components, crew, and a portion of the fuel. Most flights traveling to the project site would originate from Anchorage or Fairbanks, with local flights originating from Deadhorse and Barrow as well.

No Action Alternative

Existing backup airstrips near the project site have been identified by NordAq and their condition evaluated for use, if necessary. These air strips include the 4,000 ft. gravel airstrip at Pt Lonely approximately 24 miles east of the well site; and a 1,700 ft. airstrip at Cape Simpson approximately 20 miles northwest of the wellsite. The airstrip at Pt Lonely is under the control of the USAF and use would be coordinated through them. Although useable, these airstrips would complicate logistics of transferring personnel and equipment due to the increased distance from the drill rig and lack of facilities.

4.1.2 Issue 2: Subsistence

Proposed Action

Impacts to subsistence are expected to include localized and temporary disturbance of subsistence resources. Disturbance from movement of equipment and the activities of the camp is likely to be minor. Hunters may tend to avoid the area if they are in search of game, others may end up frequenting the area if the snow trail is useful to them. The snow trails created by the applicant may be used by subsistence hunters during the winter season from Nuiqust to Barrow. No outstanding, long-term, or intense impacts to subsistence are anticipated from the activities. One concern that can be categorized as traditional knowledge about this ROW route is that seafast and lake ice is not as trustworthy as in the past and there have been unusual overflow events on Teshekpuk in recent years.

No Action Alternative

Under the no action alternative, no impacts to subsistence are anticipated.

4.2 Cumulative Effects

Chapter 4 addresses direct, indirect, and cumulative impacts of the Proposed Action and No Action alternative. The BLM has evaluated the cumulative effects of past, present, and reasonably foreseeable winter activities in and around the NPR-A in a series of recent NEPA analyses. This EA tiers to the most recent cumulative impact analysis in the USDOJ BLM 2012 (Volume 4, Chapter 4 Section 4.8). That analysis was based on a timeframe of approximately 1900 through 2100, and a geographic range incorporating the entire North Slope of Alaska and adjacent marine waters. Based on the requirements of 40 CFR 1508.7, and guidance in the Council on Environmental Quality handbook on cumulative effects (CEQ, 1997), this analysis of winter activity considers a narrower temporal and spatial framework (i.e. approximately 30 years

past and future and influences limited to a distance of approximately 21 miles from the access corridor and drilling areas). The causes and impacts of climate change are global in scope, with associated impacts evaluated in USDOJ BLM 2012. The primary influences in the current analysis include: oil and gas activities; subsistence use areas for the communities of Barrow and Nuiqsut; and research/inventory, and recreation activity, as analyzed in USDOJ BLM 2012.

To date, no recent winter activities authorized by the BLM in the NPR-A, individually or in combination, have caused significant direct, indirect, or cumulative adverse impacts to the environment. There have been some minor, short-term, local adverse impacts as a direct result of activities associated with approved winter exploration programs. The small number and minimal severity of the impacts occurring from 1999 to 2013 demonstrates the overall effectiveness of the environmental protections that are applied to winter exploration activities in the NPR-A.

Results of previous analyses that have been incorporated by reference, and considerations of existing and proposed protective measures in the NPR-A, are key factors in limiting the cumulative impacts analysis to the issues listed below. Neither the Proposed Action nor the No-Action Alternative would add substantially to the incremental past, present, and future impacts described below.

4.2.1 Issue 1 Water Quality

No cumulative impacts from the use of the Lake 984 airstrip are foreseen to occur since lake ice will be frozen and easily cleaned up. Any spill occurring during refueling will be cleaned up before breakup and it is not expected for any impacts from this drilling season to accumulate past this season.

4.2.2 Issue 2 Subsistence

Tiering from the 2012 BLM NPR-A IAP, the cumulative effects to subsistence are likely to include reasonably foreseeable limitations on harvester access. These effects will be most impactful for Nuiqsut as they are likely to increase the perception of some Nuiqsut residents that there is a great deal of traffic and activity around the community and increasing activity to the west of the community. Continued activity in the same location could cause longer-term displacement of subsistence resources or subsistence user avoidance of the area and could have cumulative effects on the subsistence uses of owners of nearby camps and cabins.

4.3 Mitigation and Monitoring

In consultation with agencies and local residents, North Slope operators have actively worked to develop winter activity technologies that create minimal impacts to the environment and to local residents. Many of these enhancements, such as ways to reduce damage to tundra, have been incorporated into operational plans, including the proposed project.

The BLM will continue to monitor the following resources as the proposed action is implemented:

1. Access to subsistence use areas and displacement of subsistence resources
2. Cultural resources
3. Tundra/vegetation
4. Fish habitat
5. Lake recharge

The objective of this monitoring program is to ensure that all terms and conditions of the Federal ROW, the NPR-A ROD (USDOI BLM 2013) the NPRPA, and FLPMA (where applicable) are met.

4.4 Additional Mitigation and Monitoring

The BLM will incorporate the following additional mitigation measures into approvals for the NordAq ROW. NordAq shall:

1. Provide the BLM Arctic Field Office with a weekly activities summary report. This report shall include all required reports identified below. The report shall be delivered in digital format every Monday to dwixon@blm.gov and s05mcint@blm.gov, through the applicable season(s) for the life of this project.
2. The permittee will maintain an aircraft log of the following information **for each take off and landing** (which shall be turned in to BLM in **electronic** format in an excel spreadsheet with each item below listed in a separate column No Later Than **30 days after field activity is completed**):
 - Type of Aircraft
 - Aircraft N number
 - Date
 - Time
 - Decimal Degree Format – latitude of takeoff location
 - Decimal Degree Format – longitude of takeoff location
 - Date
 - Time
 - Decimal Degree Format – latitude of landing location
 - Decimal Degree Format – longitude of landing location
3. Support wires associated with communication towers, radio antennas, and other similar facilities, should be avoided to the extent practicable. If support wires are necessary, they should be clearly marked along their entire length to improve visibility to low-flying birds and humans. Such markings shall be developed through consultation with the BLM.
4. The permittee and their contractors must cooperate with the U.S. Fish and Wildlife Service and other designated Federal, State, or local agencies to monitor the impacts of their activities on polar bears.

5. If requested, the permittee or their contractors shall allow a U.S. Fish and Wildlife Service observer access to the activity site to monitor the impacts of the activity on polar bears.
6. Hazing of polar bears is prohibited unless authorized by the U.S. Fish and Wildlife Service, Marine Mammals Office.
7. The permittee and their contractors are required to review educational materials, provided by BLM (document titled: Evidence of polar bear dens.pdf), explaining polar bear denning habitat characteristics in order to enable them to recognize and avoid these areas while traveling and choosing camp sites.
8. All activities are prohibited within 1 mile of known polar bears dens (including those encountered in the course of permitted activities). Locations of known polar bear dens can be obtained from the U.S. Fish and Wildlife Service, Marine Mammals Management Office (contact Craig Perham at 907-786-3810).
9. All observed polar bear dens must be reported to the U.S. Fish and Wildlife Service, Marine Mammals Management Office as soon as possible (907-786-3810).
10. Should occupied dens be identified within one mile of activities, work in the immediate area will cease and the U.S. Fish and Wildlife Service must be contacted (907-786-3810) for guidance before proceeding with activities. The U.S. Fish and Wildlife Service will evaluate these instances on a case-by-case basis and determine the appropriate action.
11. The permittee or their contractors must designate a qualified individual or individuals to observe, record and report effects of the activity on polar bears to the U.S. Fish and Wildlife Service within 24 hours of visual observations (907-786-3810). Evidence of polar bears, such as tracks, carcass, or dens will also be reported.
12. Every polar bear observed shall be recorded on a polar bear observation form. The permittee and their contractors shall obtain this form from the BLM.
13. The permittee or their contractors shall submit an annual polar bear observation report to the BLM within 60 days of completion of the field operation. This report shall contain information on all evidence of polar bears, including active den locations, and the actions taken by the permittee on the adherence of these stipulations.
14. Water use from Lake 654, where no fish have been captured, will be restricted to 20% of the total lake volume. BLM's BMP B-2c typically allows up to 35% of the total lake volume to be utilized when a lake does not support fish. However, since Lake 654 potentially provides summer habitat for ESA-listed spectacled eiders, and considering that the water will be utilized outside of the local watershed that supplies water to that lake, a more restrictive water-use limit is warranted.
15. Provide the BLM with an as-built of all ice roads, snow trails, ice pads, and airstrips within 30 days of when the infrastructure is completed. Data should be in the form of ESRI shapefile(s) referencing the North American Datum of 1983 (NAD83).
16. Provide the BLM with any data collected at ice road or snow (Rolligon) trail stream crossings regarding ice thickness or depth of liquid water during the pioneering stage of construction.
17. Provide the BLM with photographs documenting the condition of all ice and snow trail channel crossings that have been "removed, breached, or slotted" (per ROP C-3) at the end of the winter operation period. Geographic coordinates (latitude/longitude) of a crossing must accompany each set of photos. **ROP C-3 Clarification:** ROP C-3 requires that any "bridges" created at stream crossings be breached or removed before spring

breakup. A stream channel crossing is a "bridge" only if additional layers of snow, ice, and/or liquid water are added to the crossing (not including streambank ramps). If additional layers are added to a crossing, then ROP C-3 applies and the crossing must be breached before spring breakup.

18. Post a sign on the access road to each lake being utilized as a water source, clearly identifying the lake by its number.
19. Maintain a daily record of water removed as liquid or ice aggregate from each lake utilized as a water source and provide the BLM with this record weekly in conjunction with the progress report. A formatted spreadsheet provided by the BLM must be used for reporting.
20. Immediately cease pumping and notify the BLM within 24 hours if water removal exceeds the volume approved at any lake.
21. Notify the BLM within 24 hours of any observation of dead or injured fish on water source intake screens or in the hole being used for pumping. Temporarily cease pumping from that hole until additional preventative measures are taken to avoid further impacts to fish.

4.5 Summary of Environmental Consequences

This analysis has considered, tiered from, and incorporated by reference, previous studies and findings on winter activities on the North Slope and, specifically, in the NPR-A. Also considered were the requirements and restrictions for water withdrawals and fish stream crossings included in Fish Habitat permits. The potential issues identified in the evaluation of the proposed action for this EA were Water Quality and Subsistence. The analysis found that impacts of this specific project would be short term and localized and that mitigation measures in Appendix B and project specific stipulations from Section 4.4 would adequately reduce any adverse effects to Water Quality and Subsistence. Likewise, the analysis also found that mitigation measures would adequately reduce any adverse effects to Water Quality and Subsistence. The proposed action would not contribute to significant cumulative effects to Water Quality in the proposed project areas and as planned is unlikely to contribute to significant cumulative effects to Subsistence. Based on this analysis, it is concluded that direct, indirect, and cumulative impacts to Water Quality and Subsistence from the proposed action should be relatively minor and short-term, with no significant impacts foreseen.

Chapter 5 Consultation and Coordination

5.1 Agency Coordination

In preparing its plan of operations, NordAq conducted a series of meetings with resource agencies, regulatory agencies, and local governments. The proposed project has recently undergone review by the NSB, as well as other State and Federal agencies, as described in Section 1.5.

NordAq provided the BLM with permit applications and support documentation that summarize the proposed project and their compliance with applicable stipulations. The BLM and NordAq

discussed the proposed action as the proposed program was being developed. These discussions will continue as the project progresses.

5.2 Public Coordination

In preparing its plan of operations, NordAq conducted meetings with affected North Slope community residents, as described in Section 1.5. Local residents provided Traditional Knowledge that was considered in the project plan and in this EA.

NordAq has prepared a Plan of Cooperation and Good Neighbor Plan that presents measures to mitigate potential impacts on subsistence resources and access.

5.3 List of Preparers

Table 5.1 List of Preparers

Name	Title	Responsible for the Following Section(s) of this EA:
Rebecca Hile	Environmental Scientist	Air quality, Wastes, solid/human/hazardous
Richard Kemnitz	Hydrologist	Water Resources, Floodplains/wetlands and Riparian Zones
Stacie McIntosh	Supervisory Social Scientist	Cultural and Paleontological Resources
Stacey Fritz	Anthropologist/Subsistence Specialist	Environmental Justice, Native American Concerns, Sociocultural Systems, Subsistence, ANILCA 810
Debbie Nigro	Wildlife Biologist	Table 1.1 sections T&E species spectacled and Steller's eider and polar bear, Section 2.1.7, Section 2.1.9 Wildlife protection and Encounter Plans, Section 4.5 Additional Mitigation and Monitoring stipulations 2 - 14
Matthew Whitman	Fish Biologist	Fisheries
Donna Wixon	Natural Resource Specialist, Project Lead	Lands and Realty Recreation, Wilderness Values, Visual Resource Management
Lon Kelly	Arctic Field Office Manager	Authorized Officer
Dave Yokel	Wildlife Biologist	Table 1.1 section T&E species polar bear, Weeds, mammals and vegetation.

ANILCA Requirements

Section 810 Subsistence Evaluation

The proposed action in and of itself may potentially impact subsistence but will not significantly restrict subsistence uses. No reasonably foreseeable and significant decrease in the abundance of harvestable resources or in the distribution of harvestable resources will result from the proposed action. In the cumulative scenario, reasonably foreseeable limitations on harvester access will result from the proposed action.

Chapter 6 References

- Council on Environmental Quality (CEQ). 1997. Considering Cumulative Effects Under the National Environmental Policy Act. December.
- USDOI BLM. 2012. National Petroleum Reserve-Alaska Integrated Activity Plan Environmental Impact Statement. November.
- USDOI BLM. 2013. National Petroleum Reserve-Alaska Integrated Activity Plan Environmental Impact Statement. Record of Decision. February.

APPENDIX A

Legal Description of Project Area (All Umiat Meridian)

Route from Pt. Lonely to Lake 654

MTP ID	Township	Range	BLM Managed Land Sections	Land Not Managed by BLM	Notes
L-1 (&OS-11)	18 North	5 West	8-36	None	Camp Lonely, Pt. Lonely, Smith River, Former JW Dalton Legacy Well
L-2 (&OS-12)	18 North	6 West	22-36	23-26, 33,34	Beaufort Sea
L-3	17 North	6 West	1-36	2,3,4,5,9,10,11	Okalik Lake, Naluakruk Lake
L-4 (&OS-13)	18 North	7 West	20-36	None	Beaufort Sea
L-5	17 North	7 West	1-36	None	Naluakruk Lake, Boat Creek
L-6 (&P-26)	16 North	7 West	1-36	None	Teshkepuk Lake
L-7 (&P-27)	16 North	8 West	1-36	None	Teshkepuk Lake & Imakrukak Lake
L-8(&P-28 &A-24)	16 North	9 West	1-36	24,25	TH-9,TH-10, Smith Bay

Preferred Route

MTP ID	Township	Range	BLM Managed Land Sections	Non BLM Managed Land Sections	Notes
P-1	13 North	9 East	None	All	Oliktok Pt.
P-2	13 North	8 East	None	All	--
P-3	12 North	8 East	None	All	--
P-4	13 North	7 East	None	All	--
P-5	13 North	6 East	None	All	--
P-6	13 North	5 East	None	All	Harrison Bay
P-7	13 North	4 East	None	All	Harrison Bay
P-8	12 North	4 East	None	All	--
P-9	12 North	3 East	None	All	--
P-10	12 North	2 East	13-36	1-12	--
P-11	13 North	2 East	None	All	TH-16, Harrison Bay
P-12	14 North	2 East	None	All	Harrison Bay
P-13	12 North	1 East	1-36	None	--
P-14	13 North	1 East	1-36	None	TH-14, Harrison Bay
P-15 (& OS-1)	14 North	1 East	7-36	None	TH-15, Harrison Bay
P-16	13 North	1 West	1-36	None	--
P-17 (&OS-2)	14 North	1 West	3-36	None	Kogru River
P-18	13 North	2 West	1-36	None	North Kalikpik Legacy Well Sec 3
P-19a (&OS-3)	14 North	2 West	1-36	None	Kogru River
P-19b	14 North	3 West	1-36	None	TH-13, Kogru River
P-20	13 North	3 West	1-36	None	--
P-21	14 North	4 West	1-36	15,16	TH-12, Teshekpuk Lake
P-22	15 North	4 West	1-36	None	--
P-23	15 North	5 West	1-36	None	Teshekpuk Lake
P-24	15 North	6 West	1-24	None	Teshekpuk Lake
P-25	16 North	6 West	1-36	None	Teshekpuk Lake
P-26 (&L-6)	16 North	7 West	1-36	None	Teshekpuk Lake
P-27 (&L-7)	16 North	8 West	1-36	None	Teshekpuk Lake & Imakrukak Lake
P-28 (&A-24 &L-8)	16 North	9 West	1-36	24,25	TH-9,TH-10, Smith Bay
P-29	17 North	9 West	17-36	None	TH-10, Smith Bay, Ikpikpuk River Delta

Preferred Route over sea ice

MTP ID	Township	Range	BLM Managed Land Sections	Non BLM Managed Land Sections	Notes
OS-1 (&P-16)	14 North	1 East	7-36	None	TH-15, Harrison Bay
OS-2 (&P-17)	14 North	1 West	3-36	None	Kogru River
OS-3 (&P-19a)	14 North	2 West	1-36	None	Kogru River
OS-4	15 North	2 West	1-36	None	Beaufort Sea, Harrison Bay
OS-5	16 North	2 West	1-22, 27-33	None	Beaufort Sea, Harrison Bay/ Cape Halkett Legacy Well Sec 5
OS-6	17 North	1 West	None	All	Arctic Ocean, Beaufort Sea
OS-7	17 North	2 West	3-10, 13, 14-23,26-36	11-13, 24,25,36	Arctic Ocean, Beaufort Sea, Harrison Bay
OS-8	18 North	2 West	31-33	None	Arctic Ocean, Beaufort Sea
OS-9	18 North	3 West	25-36	26,35	Arctic Ocean, Beaufort Sea
OS-10	18 North	4 West	13-36	None	Arctic Ocean, Beaufort Sea
OS-11	18 North	5 West	8-36	None	Camp Lonely, Pt. Lonely, Smith River, Former JW Dalton Legacy Well
OS-12	18 North	6 West	22-36	23-26, 33,34	Beaufort Sea
OS-13	18 North	7 West	20-36	None	Beaufort Sea
OS-14	18 North	8 West	25-27, 34-36	None	Beaufort Sea, Smith Bay Former Drew Pt. Legacy Well

Alternate Route from 2P Pad

MTP ID	Township	Range	BLM Managed Land Sections	Non BLM Managed Land Sections	Notes
A-1	8 North	7 East	None	All	TH-1
A-2	8 North	6 East	None	All	--
A-3	8 North	5 East	None	All	Itkillik River
A-4	8 North	4 East	2-10,18	1-2,10-36	Colville River
A-5	8 North	3 East	1-4, 10-15	3-10, 13-36	TH-2, Colville River, Ocean Pt.
A-6	9 North	3 East	1-36	31-32	Colville River
A-7	9 North	2 East	1-36	35, 36	TH-3, Ublutuoch River, Colville River

A-8	9 North	1 East	1-36	None	--
A-9	10 North	1 East	1-36	None	TH-4, Judy Creek, Fish Creek
A-10	10 North	1 West	1-36	None	TH-5, Fish Creek, Judy Creek
A-11	11 North	1 West	1-36	None	Fish Creek, Kalikpik River, West Fish Creek Legacy Well Sec 2 & 11
A-12	11 North	2 West	1-36	None	TH-6, Kalikpik River
A-13	11 North	3 West	1-36	None	Kalikpik River
A-14	11 North	4 West	1-36	None	Kalikpik River, North Kalkikpik Legacy Well
A-15a	11 North	5 West	1-36	None	TH-7, Kealok Creek
A-15b	12 North	5 West	1-36	None	TH-7, Kealok Creek
A-16	11 North	6 West	1-36	None	TH-7, Kealok Creek
A-17	12 North	6 West	1-36	None	TH-7, Kealok Creek
A-18	12 North	7 West	1-36	None	--
A-18a	12 North	9 West	1-36	None	--
A-19	13 North	7 West	1-36	None	Teshekpuk Lake
A-20	13 North	8 West	1-36	None	TH-8, Unnamed Stream, Teshekpuk Lake
A-20a	13 North	9 West	1-36	None	--
A-21	14 North	8 West	1-36	None	Teshekpuk Lake
A-22	15 North	8 West	1-36	None	Teshekpuk Lake
A-23	15 North	9 West	1-36	7,8,9,21,22,27,28	Miguakiak River
A-24	16 North	9 West	1-36	24,25	TH-9,TH-10, Smith Bay

APPENDIX B

NPR-A 2013 ROD Stipulations and Best Management Practices**Waste Prevention, Handling, Disposal, Spills, Air Quality, and Public Health and Safety*****A-1 Best Management Practice***

Objective: Protect the health and safety of oil and gas field workers and the general public by disposing of solid waste and garbage in accordance with applicable federal, State, and local law and regulations.

Requirement/Standard: Areas of operation shall be left clean of all debris.

A-2 Best Management Practice

Objective: Minimize impacts on the environment from non-hazardous and hazardous waste generation. Encourage continuous environmental improvement. Protect the health and safety of oil field workers and the general public. Avoid human-caused changes in predator populations.

Requirement/Standard: Lessees/permittees shall prepare and implement a comprehensive waste management plan for all phases of exploration and development, including seismic activities. The plan shall be submitted to the authorized officer for approval, in consultation with federal, State, and North Slope Borough regulatory and resource agencies, as appropriate (based on agency legal authority and jurisdictional responsibility), as part of a plan of operations or other similar permit application. Management decisions affecting waste generation shall be addressed in the following order of priority: 1) prevention and reduction, 2) recycling, 3) treatment, and 4) disposal. The plan shall consider and take into account the following requirements:

- a. Methods to avoid attracting wildlife to food and garbage. The plan shall identify precautions that are to be taken to avoid attracting wildlife to food and garbage
- b. Disposal of putrescible waste. Requirements prohibit the burial of garbage. Lessees and permitted users shall have a written procedure to ensure that the handling and disposal of putrescible waste will be accomplished in a manner that prevents the attraction of wildlife. All putrescible waste shall be incinerated, backhauled, or composted in a manner approved by the authorized officer. All solid waste, including incinerator ash, shall be disposed of in an approved waste-disposal facility in accordance with EPA and Alaska Department of Environmental Conservation regulations and procedures. The burial of human waste is prohibited except as authorized by the authorized officer.
- c. Disposal of pumpable waste products. Except as specifically provided, the BLM requires that all pumpable solid, liquid, and sludge waste be disposed of by injection in accordance with EPA, Alaska Department of Environmental Conservation, and the Alaska Oil and Gas Conservation Commission regulations and procedures. On-pad temporary muds and cuttings storage, as approved by Alaska Department of Environmental Conservation, will be allowed as necessary to facilitate annular injection and/or backhaul operations.
- d. Disposal of wastewater and domestic wastewater. The BLM prohibits wastewater discharges or disposal of domestic wastewater into bodies of fresh, estuarine, and marine

water, including wetlands, unless authorized by a National Pollutant Discharge Elimination System or State permit.

A-3 Best Management Practice

Objective: Minimize pollution through effective hazardous-materials contingency planning.

Requirement/Standard: For oil- and gas-related activities, a hazardous materials emergency contingency plan shall be prepared and implemented before transportation, storage, or use of fuel or hazardous substances. The plan shall include a set of procedures to ensure prompt response, notification, and cleanup in the event of a hazardous substance spill or threat of a release. Procedures in the plan applicable to fuel and hazardous substances handling (associated with transportation vehicles) shall consist of best management practices if approved by the authorized officer. The plan shall include a list of resources available for response (e.g., heavy-equipment operators, spill-cleanup materials or companies), and names and phone numbers of federal, State, and North Slope Borough contacts. Other federal and State regulations may apply and require additional planning requirements. All appropriate staff shall be instructed regarding these procedures.

A-4 Best Management Practice

Objective: Minimize the impact of contaminants on fish, wildlife, and the environment, including wetlands, marshes and marine waters, as a result of fuel, crude oil, and other liquid chemical spills. Protect subsistence resources and subsistence activities. Protect public health and safety. Requirement/Standard: Before initiating any oil and gas or related activity or operation, including field research/surveys and/or seismic operations, lessees/permittees shall develop a comprehensive spill prevention and response contingency plan per 40 CFR § 112 (Oil Pollution Act). The plan shall consider and take into account the following requirements:

- a. On-site Clean-up Materials. Sufficient oil-spill-cleanup materials (absorbents, containment devices, etc.) shall be stored at all fueling points and vehicle-maintenance areas and shall be carried by field crews on all overland moves, seismic work trains, and similar overland moves by heavy equipment.
- b. Storage Containers. Fuel and other petroleum products and other liquid chemicals shall be stored in proper containers at approved locations. Except during overland moves and seismic operations, fuel, other petroleum products, and other liquid chemicals designated by the authorized officer that in total exceed 1,320 gallons shall be stored within an impermeable lined and diked area or within approved alternate storage containers, such as over packs, capable of containing 110% of the stored volume. In areas within 500 feet of water bodies, fuel containers are to be stored within appropriate containment.
- c. Liner Materials. Liner material shall be compatible with the stored product and capable of remaining impermeable during typical weather extremes expected throughout the storage period.
- d. Permanent Fueling Stations. Permanent fueling stations shall be lined or have impermeable protection to prevent fuel migration to the environment from overfills and spills.
- e. Proper Identification of Containers. All fuel containers, including barrels and propane

tanks, shall be marked with the responsible party's name, product type, and year filled or purchased.

- f. Notice of Reportable Spills. Notice of any reportable spill (as required by 40 CFR § 300.125 and 18 AAC § 75.300) shall be given to the authorized officer as soon as possible, but no later than 24 hours after occurrence.
- g. Identification of Oil Pans (“duck ponds”). All oil pans shall be marked with the responsible party’s name.

A-7 Best Management Practice

Objective: Minimize the impacts to the environment of disposal of produced fluids recovered during the development phase on fish, wildlife, and the environment.

Requirement/Standard: Discharge of produced water in upland areas and marine waters is prohibited.

A-8 Best Management Practice

Objective: Minimize conflicts resulting from interaction between humans and bears during oil and gas activities.

Requirement/Standard: Oil and gas lessees and their contractors and subcontractors will, as a part of preparation of lease operation planning, prepare and implement bear-interaction plans to minimize conflicts between bears and humans. These plans shall include measures to:

- a. Minimize attraction of bears to the drill sites.
- b. Organize layout of buildings and work sites to minimize human/bear interactions.
- c. Warn personnel of bears near or on work sites and identify proper procedures to be followed.
- d. Establish procedures, if authorized, to discourage bears from approaching the work site.
- e. Provide contingencies in the event bears do not leave the site or cannot be discouraged by authorized personnel.
- f. Discuss proper storage and disposal of materials that may be toxic to bears.
- g. Provide a systematic record of bears on the work site and in the immediate area.

A-9 Best Management Practice

Objective: Reduce air quality impacts.

Requirement/Standard: All oil and gas operations (vehicles and equipment) that burn diesel fuels must use “ultra-low sulfur” diesel as defined by the Alaska Department of Environmental Conservation-Division of Air Quality.

A-12 Best Management Practice

Objective: To minimize negative health impacts associated with oil spills.

Requirement/Standard: If an oil spill with potential impacts to public health occurs, the BLM, in undertaking its oil spill responsibilities, will consider:

- a. Immediate health impacts and responses for affected communities and individuals.
- b. Long-term monitoring for contamination of subsistence food sources.
- c. Long-term monitoring of potential human health impacts.
- d. Perceptions of contamination and subsequent changes in consumption patterns.

- e. Health promotion activities and communication strategies to maintain the consumption of traditional food.

Water Use for Permitted Activities

B-1 Best Management Practice

Objective: Maintain populations of, and adequate habitat for, fish and invertebrates.

Requirement/Standard: Withdrawal of unfrozen water from rivers and streams during winter is prohibited. The removal of ice aggregate from grounded areas ≤ 4 -feet deep may be authorized from rivers on a site-specific basis.

B-2 Best Management Practice

Objective: Maintain natural hydrologic regimes in soils surrounding lakes and ponds, and maintain populations of, and adequate habitat for, fish, invertebrates, and waterfowl.

Requirement/Standard: Withdrawal of unfrozen water from lakes and the removal of ice aggregate from grounded areas ≤ 4 -feet deep may be authorized on a site-specific basis depending on water volume and depth and the waterbody's fish community. Current water use requirements are:

- a. Lakes with sensitive fish (i.e., any fish except ninespine stickleback or Alaska blackfish): unfrozen water available for withdrawal is limited to 15% of calculated volume deeper than 7 feet; only ice aggregate may be removed from lakes that are ≤ 7 -feet deep.
- b. Lakes with only non-sensitive fish (i.e., ninespine stickleback or Alaska blackfish): unfrozen water available for withdrawal is limited to 30% of calculated volume deeper than 5 feet; only ice aggregate may be removed from lakes that are ≤ 5 .
- c. Lakes with no fish present, regardless of depth: water available for use is limited to 35% of total lake volume.
- d. In lakes where unfrozen water and ice aggregate are both removed, the total use shall not exceed the respective 15%, 30%, or 35% volume calculations.
- e. Additional modeling or monitoring may be required to assess water level and water quality conditions before, during, and after water use from any fish-bearing lake or lake of special concern.
- f. Any water intake structures in fish bearing or non-fish bearing waters shall be designed, operated, and maintained to prevent fish entrapment, entrainment, or injury. Note: All water withdrawal equipment must be equipped and must utilize fish screening devices approved by the Alaska Department of Fish and Game, Division of Habitat.
- g. Compaction of snow cover or snow removal from fish-bearing waterbodies shall be prohibited except at approved ice road crossings, water pumping stations on lakes, or areas of grounded ice.

Winter Overland Moves and Seismic Work

The following best management practices apply to overland moves, seismic work, and any similar cross-country vehicle use of heavy equipment on non-road surfaces during the winter season. These restrictions do not apply to the use of such equipment on ice roads after they are

constructed.

C-1 Best Management Practice

Objective: Protect grizzly bear, polar bear, and marine mammal denning and/or birthing locations.

Requirement/Standard:

- a. Cross-country use of heavy equipment and seismic activities is prohibited within ½ mile of occupied grizzly bear dens identified by the Alaska Department of Fish and Game unless alternative protective measures are approved by the authorized officer in consultation with the Alaska Department of Fish and Game.
- b. Cross-country use of heavy equipment and seismic activity is prohibited within 1 mile of known or observed polar bear dens or seal birthing lairs. Operators near coastal areas shall conduct a survey for potential polar bear dens and seal birthing lairs and consult with the USFWS and/or NOAA-Fisheries, as appropriate, before initiating activities in coastal habitat between October 30 and April 15.

C-2 Best Management Practice

Objective: Protect stream banks, minimize compaction of soils, and minimize the breakage, abrasion, compaction, or displacement of vegetation.

Requirement/Standard:

- a. Ground operations shall be allowed only when frost and snow cover are at sufficient depths to protect the tundra. Ground operations shall cease when the spring snowmelt begins (approximately May 5 in the foothills area where elevations reach or exceed 500 feet and approximately May 15 in the northern coastal areas). The exact dates will be determined by the authorized officer.
- b. Low-ground-pressure vehicles shall be used for on-the-ground activities off ice roads or pads. Low-ground-pressure vehicles shall be selected and operated in a manner that eliminates direct impacts to the tundra by shearing, scraping, or excessively compacting the tundra mat. Note: This provision does not include the use of heavy equipment such as front-end loaders and similar equipment required during ice road construction.
- c. Bulldozing of tundra mat and vegetation, trails, or seismic lines is prohibited; however, on existing trails, seismic lines or camps, clearing of drifted snow is allowed to the extent that the tundra mat is not disturbed.
- d. To reduce the possibility of ruts, vehicles shall avoid using the same trails for multiple trips unless necessitated by serious safety or superseding environmental concern. This provision does not apply to hardened snow trails for use by low-ground-pressure vehicles such as Rolligons.
- e. The location of ice roads shall be designed and located to minimize compaction of soils and the breakage, abrasion, compaction, or displacement of vegetation. Offsets may be required to avoid using the same route or track in the subsequent year.
- f. Motorized ground-vehicle use within the Colville River Special Area associated with overland moves, seismic work, and any similar use of heavy equipment shall be minimized within an area that extends 1 mile west or northwest of the bluffs of the Colville River, and 2 miles on either side of the Kogosukruk and Kikiakrorak rivers and tributaries of the Kogosukruk River from April 15 through August 5, with the exception that use will be minimized in the vicinity of gyrfalcon nests beginning March

15. Such use will remain 1/2 mile away from known raptor nesting sites, unless authorized by the authorized officer.

C-3 Best Management Practice

Objective: Maintain natural spring runoff patterns and fish passage, avoid flooding, prevent streambed sedimentation and scour, protect water quality, and protect stream banks.

Requirement/Standard: Crossing of waterway courses shall be made using a low-angle approach. Crossings that are reinforced with additional snow or ice (“bridges”) shall be removed, breached, or slotted before spring breakup. Ramps and bridges shall be substantially free of soil and debris.

C-4 Best Management Practice

Objective: Avoid additional freeze-down of deep-water pools harboring over-wintering fish and invertebrates used by fish.

Requirement/Standard: Travel up and down streambeds is prohibited unless it can be demonstrated that there will be no additional impacts from such travel to over-wintering fish or the invertebrates they rely on. Rivers, streams, and lakes shall be crossed at areas of grounded ice whenever possible.

Facility Design and Construction

E-9 Best Management Practice

Objective: Avoidance of human-caused increases in populations of predators of ground nesting birds.

Requirement/Standard:

- a. Lessee shall utilize best available technology to prevent facilities from providing nesting, denning, or shelter sites for ravens, raptors, and foxes. The lessee shall provide the authorized officer with an annual report on the use of oil and gas facilities by ravens, raptors, and foxes as nesting, denning, and shelter sites.
- b. Feeding of wildlife is prohibited and will be subject to non-compliance regulations.

E-13 Best Management Practice

Objective: Protect cultural and paleontological resources.

Requirement/Standard: Lessees shall conduct a cultural and paleontological resources survey prior to any ground-disturbing activity. Upon finding any potential cultural or paleontological resource, the lessee or their designated representative shall notify the authorized officer and suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer.

E-15 Best Management Practice

Objective: Prevent or minimize the loss of nesting habitat for cliff nesting raptors.

Requirement/Standard:

- a. Removal of greater than 100 cubic yards of bedrock outcrops, sand, and/or gravel from cliffs shall be prohibited.

- b. Any extraction of sand and/or gravel from an active river or stream channel shall be prohibited unless preceded by a hydrological study that indicates no potential impact by the action to the integrity of the river bluffs.

Use of Aircraft for Permitted Activities

F-1 Best Management Practice

Objective: Minimize the effects of low-flying aircraft on wildlife, subsistence activities, and local communities. Requirement/Standard: The lessee shall ensure that aircraft used for permitted activities maintain altitudes according to the following guidelines (Note: This best management practice is not intended to restrict flights necessary to survey wildlife to gain information necessary to meet the stated objectives of the stipulations and best management practices. However, flights necessary to gain this information will be restricted to the minimum necessary to collect such data.):

- b. Aircraft shall maintain an altitude of at least 1,000 feet above ground level (except for takeoffs and landings) over caribou winter ranges from December 1 through May 1, unless doing so would endanger human life or violate safe flying practices. Caribou wintering areas will be defined annually by the authorized officer. The BLM will consult directly with the Alaska Department of Fish and Game in annually defining caribou winter ranges.
- d. Use of aircraft, especially rotary wing aircraft, near known subsistence camps and cabins or during sensitive subsistence hunting periods (spring goose hunting and fall caribou and moose hunting) should be kept to a minimum.
- g. Hazing of wildlife by aircraft is prohibited. Pursuit of running wildlife is hazing. If wildlife begins to run as an aircraft approaches, the aircraft is too close and must break away.
- h. Fixed wing aircraft used as part of a BLM-authorized activity along the coast shall maintain minimum altitude of 2,000 feet when within a ½-mile of walrus haulouts, unless doing so would endanger human life or violate safe flying practices. Helicopters used as part of a BLM-authorized activity along the coast shall maintain minimum altitude of 3,000 feet and a 1-mile buffer from walrus haulouts, unless doing so would endanger human life or violate safe flying practices.
- i. Aircraft used as part of a BLM-authorized activity along the coast and shore fast ice zone shall maintain minimum altitude of 3,000 feet when within 1 mile from aggregations of seals, unless doing so would endanger human life or violate safe flying practices.

Subsistence Consultation for Permitted Activities

H-1 Best Management Practice

Objective: Provide opportunities for participation in planning and decision making to prevent unreasonable conflicts between subsistence uses and other activities.

Requirement/Standard: Lessee/permittee shall consult directly with affected communities using the following guidelines:

- a. Before submitting an application to the BLM, the applicant shall consult with directly affected subsistence communities, the North Slope Borough, and the National Petroleum Reserve-Alaska Subsistence Advisory Panel to discuss the siting, timing, and methods of their proposed operations to help discover local traditional and scientific knowledge, resulting in measures that minimize impacts to subsistence uses. Through this consultation, the applicant shall make every reasonable effort, including such mechanisms as conflict avoidance agreements and mitigating measures, to ensure that proposed activities will not result in unreasonable interference with subsistence activities. In the event that no agreement is reached between the parties, the authorized officer shall consult with the directly involved parties and determine which activities will occur, including the timeframes.
- b. The applicant shall submit documentation of consultation efforts as part of its operations plan. Applicants should submit the proposed plan of operations to the National Petroleum Reserve-Alaska Subsistence Advisory Panel for review and comment. The applicant must allow time for the BLM to conduct formal government-to-government consultation with Native Tribal governments if the proposed action requires it.
- c. A plan shall be developed that shows how the activity, in combination with other activities in the area, will be scheduled and located to prevent unreasonable conflicts with subsistence activities. The plan will also describe the methods used to monitor the effects of the activity on subsistence use. The plan shall be submitted to the BLM as part of the plan of operations. The plan should address the following items:
 1. A detailed description of the activity(ies) to take place (including the use of aircraft).
 2. A description of how the lessee/permittee will minimize and/or deal with any potential impacts identified by the authorized officer during the consultation process.
 3. A detailed description of the monitoring effort to take place, including process, procedures, personnel involved and points of contact both at the work site and in the local community.
 4. Communication elements to provide information on how the applicant will keep potentially affected individuals and communities up-to-date on the progress of the activities and locations of possible, short-term conflicts (if any) with subsistence activities. Communication methods could include holding community meetings, open house meetings, workshops, newsletters, radio and television announcements, etc.
 5. Procedures necessary to facilitate access by subsistence users to the permittees' area of activity or facilities during the course of conducting subsistence activities.
- d. During development, monitoring plans must be established for new permanent facilities, including pipelines, to assess an appropriate range of potential effects on resources and subsistence as determined on a case-by-case basis given the nature and location of the facilities. The scope, intensity, and duration of such plans will be established in consultation with the authorized officer and NPR-A Subsistence Advisory Panel.
- e. Permittees that propose barging facilities, equipment, supplies, or other materials to NPR-A in support of oil and gas activities in the NPR-A shall notify, confer, and coordinate

with the Alaska Eskimo Whaling Commission, the appropriate local community whaling captains' associations, and the North Slope Borough to minimize impacts from the proposed barging on subsistence whaling activities.

- f. Barge operators requiring a BLM permit are required to demonstrate that barging activities will not have unmitigable adverse impacts on the availability of marine mammals to subsistence hunters.
- g. All vessels over 50 ft. in length engaged in operations requiring a BLM permit must have an Automatic Identification System (AIS) transponder system on the vessel.
previously used/occupied

H-3 Best Management Practice

Objective: Minimize impacts to sport hunting and trapping species and to subsistence harvest of those animals.

Requirement/Standard: Hunting and trapping by lessee's/permittee's employees, agents, and contractors are prohibited when persons are on "work status." Work status is defined as the period during which an individual is under the control and supervision of an employer. Work status is terminated when the individual's shift ends and he/she returns to a public airport or community (e.g., Fairbanks, Barrow, Nuiqsut, or Deadhorse). Use of lessee/permittee facilities, equipment, or transport for personal access or aid in hunting and trapping is prohibited.

Orientation Programs Associated with Permitted Activities

I-1 Best Management Practice

Objective: Minimize cultural and resource conflicts.

Requirement/Standard: All personnel involved in oil and gas and related activities shall be provided information concerning applicable stipulations, best management practices, standards, and specific types of environmental, social, traditional, and cultural concerns that relate to the region. The lessee/permittee shall ensure that all personnel involved in permitted activities shall attend an orientation program at least once a year. The proposed orientation program shall be submitted to the authorized officer for review and approval and should:

- a. provide sufficient detail to notify personnel of applicable stipulations and best management practices as well as inform individuals working on the project of specific types of environmental, social, traditional and cultural concerns that relate to the region.
- b. Address the importance of not disturbing archaeological and biological resources and habitats, including endangered species, fisheries, bird colonies, and marine mammals, and provide guidance on how to avoid disturbance.
- c. Include guidance on the preparation, production, and distribution of information cards on endangered and/or threatened species.
- d. Be designed to increase sensitivity and understanding of personnel to community values, customs, and lifestyles in areas in which personnel will be operating.
- e. Include information concerning avoidance of conflicts with subsistence, commercial fishing activities, and pertinent mitigation.
- f. Include information for aircraft personnel concerning subsistence activities and areas/seasons that are particularly sensitive to disturbance by low-flying aircraft. Of special concern is aircraft use near traditional subsistence cabins and campsites, flights

- during spring goose hunting and fall caribou and moose hunting seasons, and flights near North Slope communities.
- g. Provide that individual training is transferable from one facility to another except for elements of the training specific to a particular site.
 - h. Include on-site records of all personnel who attend the program for so long as the site is active, though not to exceed the 5 most recent years of operations. This record shall include the name and dates(s) of attendance of each attendee.
 - i. Include a module discussing bear interaction plans to minimize conflicts between bears and humans.
 - j. Provide a copy of 43 CFR 3163 regarding Non-Compliance Assessment and Penalties to on-site personnel.
 - k. Include training designed to ensure strict compliance with local and corporate drug and alcohol policies. This training should be offered to the North Slope Borough Health Department for review and comment.
 - l. Include training developed to train employees on how to prevent transmission of communicable diseases, including sexually transmitted diseases, to the local communities. This training should be offered to the North Slope Borough Health Department for review and comment.

Endangered Species Act—Section 7 Consultation Process

J. The lease areas may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or to have some other special status. The BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activities that will contribute to the need to list such a species or their habitat. The BLM may require modifications to or disapprove a proposed activity that is likely to adversely affect a proposed or listed endangered species, threatened species, or critical habitat. The BLM will not approve any activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the Endangered Species Act as amended, 16 USC § 1531 et seq., including completion of any required procedure for conference or consultation.

Additional Protections that Apply in Select Biologically Sensitive Areas

K-6 Lease Stipulation/Best Management Practice – Coastal Area Note: This measure would be applied to relevant new leases. On lands unavailable for leasing in the respective alternatives, K-6 would be a best management practice.

Objective: Protect coastal waters and their value as fish and wildlife habitat (including, but not limited to, that for waterfowl, shorebirds, and marine mammals), minimize hindrance or alteration of caribou movement within caribou coastal insect-relief areas; protect the summer and winter shoreline habitat for polar bears, and the summer shoreline habitat for walrus and seals; prevent loss of important bird habitat and alteration or disturbance of shoreline marshes; and prevent impacts to subsistence resources and activities.

Requirement/Standard:

- b. Marine vessels used as part of a BLM-authorized activity shall maintain a 1-

mile buffer from the shore when transiting past an aggregation of seals (primarily spotted seals) using a terrestrial haulout unless doing so would endanger human life or violate safe boating practices. Marine vessels shall not conduct ballast transfers or discharge any matter into the marine environment within 3 miles of the coast except when necessary for the safe operation of the vessel.

- c. Marine vessels used as part of a BLM-authorized activity shall maintain a ½-mile buffer from shore when transiting past an aggregation of walrus using a terrestrial haulout.

General Wildlife and Habitat Protection

M-1 Best Management Practice

Objective: Minimize disturbance and hindrance of wildlife, or alteration of wildlife movements through the NPR-A.

Requirement/Standard: Chasing wildlife with ground vehicles is prohibited. Particular attention will be given to avoid disturbing caribou.

M-2 Best Management Practice

Objective: Prevent the introduction, or spread, of non-native, invasive plant species in the NPR-A.

Requirement/Standard: Certify that all equipment and vehicles (intended for use either off or on roads) are weed-free prior to transporting them into the NPR-A. Monitor annually along roads for non-native invasive species, and initiate effective weed control measures upon evidence of their introduction. Prior to operations in the NPR-A, submit a plan for the BLM's approval, detailing the methods for cleaning equipment and vehicles, monitoring for weeds and weed control.