



Environmental Assessment

For Linc Energy Operations, Inc.

EA# DOI-BLM-AK010-2014-0002-EA

Preparing Office: Arctic Field Office

Project Title/Type of Action: **2013/2014 Delineation Drilling Program
Application Permit to Drill/ Sundry Notice**

Serial/Lease/Case File Number: **AA081726, AA084141**

Land Use Plans/Acts:

**Northeast National Petroleum Reserve-Alaska Supplemental Integrated Activity Plan/Environmental Impact Statement (SIAP/EIS) dated 2008;
National Petroleum Reserve-Alaska Integrated Activity Plan Environmental Impact Statement (IAP/EIS) dated November 2012
Colville River Special Area Management Plan 2008**

Applicant: **Linc Energy Operations, Inc.**

Address: **3000 C Street, Suite 103
Anchorage, Alaska 99503**

Date: **December 18, 2013**

Lands Involved: **Proposed access routes inside the NPR-A totaling approximately 8 miles to drill sites, storage sites, and water supply lakes. Also proposed are three drill sites and temporary use of 5 water supply lakes on federal land in the NPR-A.**

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Glossary/Acronyms

AAC.....	Alaska Administrative Code
ACEC.....	Area of Critical Environmental Concern
ADEC.....	Alaska Department of Environmental Conservation
ADFG/ADF&G	Alaska Department of Fish and Game
ADNR.....	Alaska Department of Natural Resources
ADOT.....	Alaska Department of Transportation
AFO.....	Arctic Field Office
ANILCA.....	The Alaska National Interest Lands Conservation Act
AO.....	Authorized Officer
AOGCC.....	Alaska Oil & Gas Conservation Commission
APD.....	Application Permit to Drill
APDES.....	Alaska Pollutant Discharge Elimination System
BLM.....	Bureau of Land Management
BMP.....	Best Management Practice
C-Plan.....	Oil Discharge Prevention and Contingency Plan
CEQ.....	Council of Environmental Quality
CFR.....	Code of Federal Regulations
DMLW.....	Division of Mining, Land and Water
EA.....	Environmental Assessment
EFH.....	Essential Fish Habitat
EIS.....	Environmental Impact Statement
EO.....	Executive Order
EPA.....	Environmental Protection Agency
ESA.....	Endangered Species Act
FLPMA.....	The Federal Land Policy and Management Act
FONSI.....	Finding of No Significant Impact
IAP.....	Integrated Activity Plan
Linc.....	Linc Energy Operations, Inc.
LPV.....	Low Pressure Vehicles
MGP.....	Air Quality Minor Source General Permit
NE.....	Northeast
NEPA.....	National Environmental Policy Act.
NHPA.....	National Historic Preservation Act
NOI.....	Notice of Intent
NPR-A	National Petroleum Reserve in Alaska
NPRPA-	The Naval Petroleum Reserves Production Act of 1976 (PL 94-258)
NPR-4-	The Naval Petroleum Reserve No. 4
NSB.....	North Slope Borough
ODPCP.....	Oil Discharge Prevention and Contingency Plan
PCP.....	Progressive Cavity Pump
PPE.....	Personal Protective Equipment
PF.....	Public Facilities
ROD.....	Record of Decision
ROW.....	Right of Way
SAP.....	Subsistence Advisory Panel

SIAP.....Supplemental Integrated Activity Plan
 SPCC.....Spill Prevention, Control, and Countermeasures Plan
 TAPS.....Trans-Alaska Pipeline System
 UIC.....Ukpeagvik Inupiat Corporation
 USDOL.....United States Department of Interior
 USFWS (FWS).....United States Fish & Wildlife Service

Land Descriptions:

Legal Description of Proposed Drilling Pads (Umiat Meridian)

Well Name	BLM Lease Number	Township	Range	Section	Latitude	Longitude
Umiat Well 24	AA081726	1 South	1 West	4	69.378945	152.129462
Umiat Well 25	AA081726	1 South	1 West	4	69.383301	152.156538
Umiat Well 23H	AA084141	1 North	1 West	32	69.394002	152.199281

Legal Description of Proposed Ice Road and Snow Trail (All Umiat Meridian)

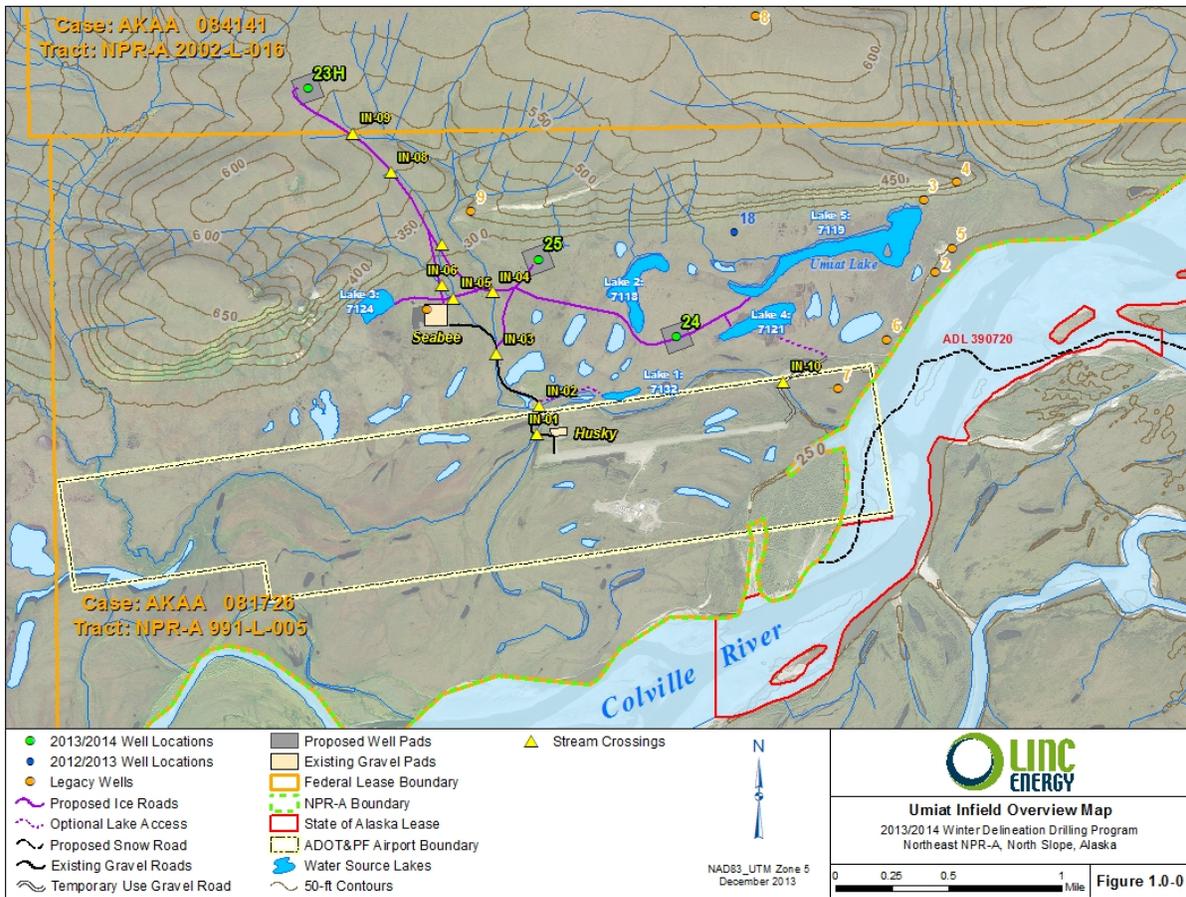
Township	Range	Parcel Ownership	Comments
1 North	14 East	State Land	Start of trail from MP 359
1 North	13 East	State Land	--
1 North	12 East	State Land	--
1 South	12 East	State Land	--
1 North	11 East	State Land	--
1 North	10 East	State Land	--
1 North	9 East	State Land	--
1 North	8 East	State Land	--
1 North	7 East	State Land	--
1 North	6 East	State Land	--
2 North	6 East	State Land	--
2 North	5 East	State Land	--
2 North	4 East	State Land	--
1 North	4 East	State Land/ASRC Land	--
1 North	3 East	State Land/ASRC Land	--
1 North	2 East	ASRC Land	--
1 South	2 East	ASRC Land	--
1 South	1 East	ASRC Land/Private Land/BLM	BLM Lease AA081726 Sec 5 & 6 (No proposed activity)
1 South	1 West	ASRC Land/NPR-A/BLM	Lakes on BLM: 7124,7118,7119, 7121, 7132 BLM Lease AA081726 Proposed Umiat 24 & 25
1 North	1 West	NPR-A BLM	BLM Lease AA084141 Proposed Umiat 23H

Environmental Assessment
Linc Energy Operations, Inc.
EA# DOI-BLM-AK010-2014-0002-EA

1 INTRODUCTION

Linc Energy Operations, Inc. (Linc) has applied for permits and/or posted notices to access and drill on valid oil and gas leases during a one-year winter delineation program in the Northeast (NE) National Petroleum Reserve-Alaska (NPR-A). Linc (the Applicant) has submitted permit applications to Federal and State agencies and the North Slope Borough (NSB) (Table 1.1). Access to the site does not cross lands managed by the Bureau of Land Management (BLM). The proposed drill sites are located at Umiat, Alaska.

Linc is currently proposing to drill at up to three new sites in the NPR-A (Figure 1), with access via packed snow trail and ice road as well as the existing gravel road system in the Umiat area. Use of existing gravel pads and facilities in the Umiat area is also proposed to minimize the footprint of ice construction. The proposed delineation program is a one year program, beginning in late 2013, with the drilling schedule contingent upon permitting and weather.



1.1 Need for Action

The need for the proposed action is for the BLM to fulfill its directive under the Naval Petroleum Reserves Production Act (NPRPA) of 1976, as amended, and the Energy Policy Act of 2005, to regulate oil and gas activity within the NPR-A. The project is needed to provide detailed information regarding potential reserves of oil and gas within the NPR-A, including Umiat which is known to have oil and gas resources and existing infrastructure. A primary need for the project is implicit in the worldwide demand for oil and gas that is accompanied by concern in the U.S. over dependence on foreign oil supplies and associated stability. The project is needed to supplement the diminishing North Slope oil supplies and maintain the efficiency of the Trans-Alaska Pipeline System (TAPS). Revenues from production are needed to support local, State, and national economies.

1.2 Purpose of Action

The purpose for action is for BLM to provide access to and use of public lands within the NPR-A, including Umiat which has known reserves and existing infrastructure, in a manner that protects the natural resources of public lands and prevents unnecessary or undue degradation. The applicant's purpose for the proposed action is to determine whether lease holdings contain economically recoverable oil and gas during a 1-year delineation program.

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

- Access to drilling sites 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 to acquire sufficient subsurface information to satisfy the applicant's economic and exploration performance criteria.
- Compliance with all related requirements of the NPR-A leases, Record of Decision (ROD)s, 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.

1.3 Related Statutes, Regulations, Policies, and Programs

The 2008 Northeast NPR-A Supplemental Integrated Activity Plan/Environmental Impact Statement (USDOI BLM 2008a) and the 2012 NPR-A Integrated Activity Plan/Environmental Impact Statement (BLM 2012) was completed to fulfill the BLM's responsibility to manage lands in the NE Planning Area under the authority of the: NPRPA as amended, Federal Land Policy and Management Act of 1976 (FLPMA), National Environmental Policy Act (NEPA), and the Alaska National Interest Lands Conservation Act (ANILCA). Findings in the SIAP/EIS, IAP/EIS and decisions reflected in the 2008 Northeast NPR-A Record of Decision (USDOI 2008b) and 2013 Record of Decision were based upon an open and collaborative public process, as well as experience with multiple exploration programs completed in the NPR-A. Linc leases

are subject to the USDOJ 2008b ROD and the project is subject to the BMPs from the USDOJ 2013 ROD.

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 USDOJ BLM 2008a and USDOJ BLM 2012. The proposed action is consistent with the 2001 National Energy Policy and the Energy Policy Act of 2005, which address the need for exploration on BLM land, including the NPR-A.

The proposed action is in conformance with the USDOJ (2008a), USDOJ (2012), NPRPA, FLPMA, ANILCA, Endangered Species 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 in the NPR-A¹

Federal Authorizations and Approvals	
Bureau of Land Management (BLM)	<ul style="list-style-type: none"> ▪ Application for Permit to Drill and Surface Use Plan ▪ Sundry Notice ▪ Threatened and Endangered Species Determination ▪ Essential Fish Habitat Assessment (No consultation with National Marine Fisheries Service required) ▪ Alaska National Interest Lands Conservation Act (ANILCA) 810 Evaluation and Findings ▪ Archaeological and Cultural Resources Clearance ▪ Comprehensive Waste Management Plan ▪ Subsistence Plan ▪ Orientation Plan ▪ Weed Plan ▪ Bear Avoidance and Human Encounter/Interaction Plan
Federal Aviation Administration	<ul style="list-style-type: none"> ▪ Determination of No Hazard for Kuukpik#5 (Well 23H, 24, 25) and Umiat Camp Com Tower
U.S. Fish and Wildlife Service (USFWS)	<ul style="list-style-type: none"> ▪ Concurrence on BLM Threatened and Endangered Species Determination
U.S. Environmental Protection Agency (EPA)	<ul style="list-style-type: none"> ▪ Spill Prevention, Control, and Countermeasures Plan (SPCC) (drilling/testing contractor)
State Authorizations and Approvals	
Alaska Department of	<u>Division of Mining, Land and Water (DMLW)</u>

¹ Inside the NPR-A, the Applicant has asked the ADOT&PF for a lease to use State surface lands (with Federal subsurface).

Natural Resources (ADNR)	<ul style="list-style-type: none"> ▪ Temporary Water Use Permits (ice roads and ice pads construction and maintenance, drilling and human use) ▪ Land Use Permit Access
Alaska Department of Fish and Game	<ul style="list-style-type: none"> ▪ Fish Habitat Permits for water extraction/use and stream crossings with fish habitat
Alaska Department of Transportation & Public Facilities (ADOT&PF)	<ul style="list-style-type: none"> ▪ Lease Permit Application Husky Pad
Alaska Oil and Gas Conservation Commission (AOGCC)	<ul style="list-style-type: none"> ▪ Authorization to Drill ▪ Annular Disposal Approval
Alaska Department of Environmental Conservation (ADEC)	<ul style="list-style-type: none"> ▪ Temporary Storage of Drilling Wastes ▪ Drill Cutting Beneficial Reuse Plan ▪ Air Quality Minor Source General Permit (MGP-1) ▪ Oil Discharge Prevention and Contingency Plan (ODPCP) and Certificate of Financial Responsibility ▪ General Permit Notice of Intent (NOI) Alaska Pollutant Discharge Elimination System (APDES) General Permit No. AKG-331000 North Slope Oil and Gas General Permit
North Slope Borough (NSB) Authorizations and Approvals	
North Slope Borough (NSB)	<ul style="list-style-type: none"> ▪ Development Permits (for related elements)
Private Land Owners	
Arctic Slope Regional Corporation/ Alyeska Pipeline Service Company	<ul style="list-style-type: none"> ▪ Surface Access Agreement
Other- Mutual Aid Agreements	
BP Exploration (Alaska), Inc.	<ul style="list-style-type: none"> ▪ Third Party Agreement for use of Grind and Inject Facilities if needed

1.3.3 Related Environmental Analyses

The environmental analyses most closely related to the proposed action are listed in **Appendix B**. All exploration Environmental Assessments (EAs) and associated Findings of No Significant Impact (FONSI) document findings that the project under review was: in compliance with ANILCA Title VIII provisions for protecting subsistence use and access; not likely to adversely affect Essential Fish Habitat (EFH); and not likely to adversely impact listed Threatened and Endangered Species or designated critical habitat.

Council of Environmental Quality (CEQ) Regulation 40 Code of Federal Regulations (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.” This EA is tiered to DOI-BLM-AK010-2013-002-EA,

USDOI 2008a, 2008b, 2012 and 2013 which are incorporated in their entirety by reference in accordance with CEQ Regulation 40 CFR §1502.21.

1.4 Decision to be Made

The BLM will decide whether or not to issue a Permit to Drill and a Sundry Notice to Linc for use of BLM lands near Umiat to conduct oil and gas exploration and drilling.

The decision-maker 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 USDOI BLM (2008b) and (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 November 18, 2013 in the NEPA Register on file at the Arctic Field Office (AFO) EA web site. No public comments have been received through December 18, 2013. Development of the IAPs (USDOI BLM 2008a and USDOI BLM 2012) 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, (USDOI BLM 2008a and USDOI 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 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)
ACEC's	Not Present	
Air Quality	Minimally Impacted	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
Cultural and Paleontological Resources	Minimally Impacted	Archaeological and Cultural Resources Clearance by BLM required under the NHPA. Cultural resources survey was completed. No impacts to cultural resources 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	Not Present	
Fisheries	Potentially Affected	The potential for affecting fish at water source lakes is increased if water use exceeds the standard in BMP B-2d. Protections from other potential impacts provided by 2013 ROD BMPs A-3, A-4, A-5, B-1, B-2, C-2, C-3, C-4, and 2008 ROD Lease Stipulation D-1; additional permit stipulations required by this EA (Section 4.5);

Issue Considered	Determination	Basis of Determination (See Note 1)
		and ADF&G Fish Habitat Permits. EFH assessment finding is <i>not likely to adversely affect</i> .
Floodplains/Wetlands and Riparian Zones	Minimally Impacted	Protections from potential impacts provided by NPRA IAP/EIS ROD 2013: BMPs A-4, A-5, C-2, C-3, 2008 ROD Lease Stipulation D-1 and EO11988 and EO11990
Invasive, Non-native species	Minimal Impact to Not Present	BMP M-2 (NPRA IAP/EIS 2012) will ensure that invasive plants do not become an issue.
Native American Religious Concerns	Not Present	
Recreation	Minimally Impacted	Protection provided by 2013 NPR-A BMPs A-1, A-5, C-2, C-3, C-4, F-1, H-3, I-1, M-2 and 2008 ROD lease stipulation G-1.
Sociocultural Systems	Minimally Impacted	Protection provided by 2013 NPR-A BMPs A-1 – A-5, A-7, A-9, A-12, B-1, B-2, F-1, H-1, H-3, and I-1. EO 12897.
Subsistence	Potentially Affected	Large game could be deflected from areas of activity, but effects are expected to be short-term and minor. Aircraft activity is likely to disturb some hunters. ANILCA 810 Evaluation and Findings by BLM required. Additional protection provided by: 2013 NPR-A BMPs A-1- A-5, A-7, A-9, A-12, B-1, B-2, C-4, F-1, H-1, H-3, and I-1 [See Note 2.]
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-5, A-7, E-9, and E-18 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-5, A-7, E-9, and E-18, from the 2013 ROD
Threatened & Endangered Species Polar Bear	Minimally Impacted	Protection provided by Section 7 of the Endangered Species Act and BMPs A-4 - A-5, A-7, A-8, C-1, F-1, and M-1 from the 2013 ROD. USFWS concurred with the BLM ESA finding of <i>no affect</i> .
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-5, A-7, E-9, E-15, and I-1
Non threatened and endangered mammals	Minimally Impacted	Caribou, grizzly 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 2013 ROD BMPs A-4, A-5, A7, A-8, C-1, F-1, H-3, and M-1.
Vegetation	Minimally Impacted	Protection provided by BMPs C-2 (2012 NPRA Final IAP/EIS 2013 ROD) and 2008 ROD Lease Stipulation D-2.

Issue Considered	Determination	Basis of Determination (See Note 1)
Visual Resource Management	Minimally Impacted	Protection provided by 2013 ROD NPR-A BMPs A-1, A-3, A-4, A-5, C-2, C-3, F-1, I-1, M-2 and 2008 ROD lease stipulation G-1.
Water Resources	Potentially Affected	Protections provided by NPRA IAP/EIS ROD 2013:BMPs A-2 - A-5, A-7, B-1, B-2, C-2,C-3, C-4, 2008 ROD Lease Stipulation D-1
Waste (Hazardous/Solid)	Minimally Impacted	Protection provided by ADEC waste storage permit and the Linc Waste 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-5, A-7.
Wild & Scenic Rivers	Not Present	
Wilderness Characteristics	Minimally Impacted	Protection provided by 2013 ROD NPR-A BMPs A-1, A-4, A-5, C-2, C-3, E-13, F-1, I-1 and M-2.

Key to Table 1.2:

ACEC- Area of Critical Environmental Concern
ADEC – Alaska Department of Environmental Conservation
ADF&G- Alaska Department of Fish and Game
ANILCA- Alaska National Interest Lands Conservation Act
BLM – Bureau of Land Management
BMP- Best Management Practice
C-Plan- Oil Discharge Prevention and Contingency Plan
CFR – Code of Federal Regulations
EA- Environmental Assessment

EFH – Essential Fish Habitat
EIS – Environmental Impact Statement
EO- Executive Order
ESA- Endangered Species Act
IAP- Integrated Activity Plan
NE – Northeast
NHPA – National Historic Preservation Act
NPR-A- National Petroleum Reserve in Alaska
ROD – Record of Decision
SPCC-Spill Prevention, Control, and Countermeasures Plan
USFWS – United States Fish and 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 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: USDOJ BLM Volume 2, Chapter 4; USDOJ BLM 2008a USDOJ BLM 2012, Chapter 4; and laws and regulations as noted.

² Under the required Subsistence Plan, the Applicant will hire subsistence advisors (SAs) who will be familiar with local subsistence activities and will be on-site at all times. SAs will monitor ongoing activities and identify issues that have the potential to impact subsistence.

In summary, BLM resource specialists have identified the following issue for further evaluation in this EA: (1)Fish, (2) Water Quality, (3)Subsistence.

1.6 Public Involvement

Development of USDOJ BLM (2008a) and USDOJ 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.

The Applicant has held community open houses (Table 1.3) in Nuiqsut and Anaktuvuk Pass and met with community leaders in Barrow to discuss issues of public interest. The Applicant has also implemented a Stakeholder Engagement Plan to provide ongoing opportunities for public involvement as the project proceeds.

Table 1.3 Community Meetings Held in Relation to the Proposed Project Area.

Date	Location	Description
September 19, 2013	Wainwright	SAP
July 23, 2013	Barrow	NSB Planning Department
June 12, 2013	Nuiqsut	Leadership Meeting
June 11, 2013	Anaktuvuk Pass	Leadership Meeting
April 2, 2013	Nuiqsut	SAP
January 21, 2013	Anaktuvuk Pass	Leadership Meeting
November 7, 2012	Nuiqsut	Leadership Meeting
November 6, 2012	Barrow	BLM SAP Meeting
October 26, 2012	Barrow	Planning Commission Meeting
June 5, 2012	Pt. Lay	BLM SAP Meeting
April 18, 2012	Barrow	NSB Planning Department
April 18, 2012	Anaktuvuk Pass	Community Meeting
March 9, 2012	Barrow	NSB Mayor Brower
February 9, 2012	Nuiqsut	Community Meeting
November 15, 2011	Fairbanks	BLM SAP Meeting
November 10, 2011	Nuiqsut	Community meeting/Open House
November 10, 2011	Nuiqsut	Leadership Meetings
November 3, 2011	Anaktuvuk Pass	Community Meeting/Open House
November 3, 2011	Anaktuvuk Pass	Leadership Meetings
September 12, 2011	Barrow	NSB Planning Office (Ben Greene, Acting Planning Director)
September 12, 2011	Barrow	NSB Mayor's office – Mayor Itta and staff
August 22, 2011	Anchorage	NSB Chief of staff and special assistant.

Key to Table 1.3

BLM - Bureau of Land Management

NSB – North Slope Borough

SAP – Subsistence Advisory Panel

2. PROPOSED ACTION AND ALTERNATIVES

The proposed project includes delineation drilling at any of three drill sites during a one-year winter program in the NE NPR-A. Linc filed Notices of Staking for three potential wells, which were staked and field inspected, as required by the BLM (see Table 2.1). The Application Permit to Drill for Umiat Well 23H was approved February 28, 2013. Linc has submitted a Sundry Notice (3160-5) proposing to increase the size of the 23H pad and for different access routes to lakes from what was approved in the earlier APD. Activity at the Umiat Well 23H was analyzed in Environmental Assessment DOI-BLM-AK-F010-2013-0002-EA. Access routes and stream crossings have been identified and field examined. Locations of the drill sites and local access routes are depicted on Figure 1.

Table 2.1 Staking and Field Inspection

Drill Site Name	Well Direction/Type	Notice of Staking Date	Field Inspection Date
Umiat Well 25	Horizontal	11/27/2013	9/25/2013
Umiat Well 24	Horizontal	11/27/2013	9/25/2013
Umiat Well 23H	Horizontal	9/28/2012	8/14/2012

2.1 Description of the Proposed Action

The proposed project is described below, with main project components summarized in Table 2.2. The proposed project is similar to exploration programs completed in the NPR-A in previous winter seasons. Details are provided in the Applicant's Plan of Operations, submitted to multiple agencies including the BLM, Alaska Department of Natural Resources (ADNR), and the NSB. The current plan of operations only covers proposed activity for the winter of 2013-2014, any activity past that date would require further analysis.

Table 2.2 Summary of Proposed Project.

Project Component	Program Total
Ice Drill Pads and Wells	Up to three drill pads each approximately 600 ft. × 600 ft.
Access	Approximately 102.9 miles of snow trail (not on BLM), and by air with up to a C-130 Hercules using the 5,000 ft. state gravel airstrip at Umiat. In-field route approximately 8 miles of ice and gravel road
Water requirement	Estimated total of 50.97 million gallons (MG) for the entire project.

2.1.1 Access and Construction

The proposed schedule calls for mobilization and ice construction to begin as soon as required authorizations and weather conditions allow in winter 2013-2014, with drilling expected to begin the end of January. Table 2.3 shows the anticipated schedule for the project.

Table 2.3 Drilling Schedule

	Activity	Start Date ¹	End Date ¹
Ice Road	Construction	12/1/2013 ²	1/14/2014
Snow Road	Build Snow Road	12/1/2013 ²	1/13/2014
Moab	Mobe Equipment	12/11/2013	1/16/2014
Rig Move	To Umiat Well 23H	1/17/2014	1/30/2014
Rig	Drill Umiat Well #23H	1/31/2013	2/23/2014
Well Test Unit	Test Umiat #23H	2/24/2014	3/3/2014
Rig Move	To Umiat #25	2/24/2014	3/9/2014
Rig	Drill Umiat #25	3/10/2014	4/2/2014
Well Test Unit	Test Umiat #25	4/3/2014	4/9/2014
	Demobe	4/3/2013	5/5/2014

Key to Table 2.3

¹Estimated

² Dependant Upon Approval and tundra conditions

Rig – Kuukpik #5

Mobe – Mobilization of equipment

Demobe – Demobilization of equipment

The drill sites are located at Umiat, approximately 70 miles southwest of Nuiqsut and 106 miles southwest of Deadhorse. Packed snow access route and pad construction would begin as soon as permits/approvals are available and weather conditions allow. Access to the drill site area would be provided through a combination of packed snow trails, ice roads, and gravel roads via the ADOT & PF maintained airport at Umiat. Linc has State of Alaska approval for early tundra access from Mile Post (MP) 359 of the Dalton Highway to pre-pack a corridor for the snow trail.

Access for aircraft ranging up to a C-130 Hercules will be provided via the 5,000-foot gravel airstrip at Umiat, managed by the Alaska Department of Transportation and Public Facilities. Mobilization of the majority of the project equipment would occur when tundra travel is permitted by the State of Alaska; however, some equipment may be transported by aircraft to the Umiat airstrip. Existing gravel pads which are accessible from the airport by gravel roads (Seabee pad and the state Husky pad) would be used for material and equipment staging during winter delineation efforts. Crews would likely be transported to and from Umiat by commercial air carrier.

Pre-packing will be used to prepare a trail to the NPR-A boundary. Simultaneously, equipment (Table 2.4) may be transported to Umiat via air so that packed snow trail can be constructed starting from Umiat. The packed snow trail will be constructed from MP 359 of the Dalton Highway (which is MP 52 of the TAPS ROW going south from Prudhoe Bay) to the project area

and connect with gravel roads and ice roads to gravel pads, drill sites, and the airstrip at Umiat within the NPR-A. The packed snow trail would provide access for Low Pressure Vehicles to transport the drill rig, camp, and other equipment. Packed snow trails would be approximately 7.3 meters (24 ft) wide. The total trail route is 101.1 miles long. Of this, the only route on BLM managed lands would be on BLM O&G leases. Linc has requested permission to prepack the ice roads prior to the completion of this EA. Low-pressure ground vehicles (LPVs – e.g., Steiger tractors and Tundra Bears) will be used to transport equipment and personnel to construct ice roads/pads/airstrips during the winter exploration program.

Table 2.4 Potential Vehicles for Proposed Action.

Rig Support Bed Truck	Ice Road Support Water Truck	2 Ice Road Support Tundra Soft Water Buffalo
AF120 Conductor Driller	3 Ice Road Support Cat 730 Ejector Truck	Ice Road Support 160 Motor Grader (or 14H)
Rig Support Welding Truck	Ice Road Support Mechanic Truck	Ice Road Support Case Magnum Trimmer/Snow Blower
Rig Support Bed Truck	2 Ice Road Support Cat 730 Haul Truck	Ice Road Support Volvo 120 Loader, Loader Forks and Bucket
2 Rig Support Winch Truck	Drill Rig Hyster Loader with Spreader	Drill Rig IT 62G Loader, Loader Forks, Bucket, Stinger
Cement Pumping Unit	Crane 50 ton	2 Rig Support Winch Tractor Trailers
Cement Mixing Unit	Rig Support Winch Truck	2 Rig Support Skid Mounted Vac Unit
15 Pickup Trucks	Rig Support Winch Truck Trailers	Drill Rig Pickup; Crew Van
Crew Van	PCP Flushby CoRod Truck	Medic Excursion; Pickup

An ice road would be constructed between active well sites. The ice road would connect drill sites with the Seabee pad and associated gravel roads, and would also provide access from the drill sites to the ADOT&PF managed airport facilities at Umiat. The construction of the ice roads at Umiat would begin prior to the states opening of tundra (BLM does not officially open tundra) by the use of All Terrain Vehicles.

To aid in expediting tundra travel and ice road construction, 12 thermistors were placed at varying intervals along the proposed packed snow trail and in-field ice roads. Only two were placed on BLM managed lands. Data loggers transmit the soil temperature data via satellite and are accessible through a password-protected internet connection.

An ice road would be constructed to connect active well sites, the Seabee Pad, and associated gravel roads, along with access to the ADOT &PF managed airport facilities at Umiat. The ice roads would be approximately 30 ft wide with no shoulders. The minimum thickness of the ice roads would be 4 inches. Any gravel road in need of repair after freeze up would become an ice road to create an appropriate driving surface. Any ice fills required for crossings will be breached before breakup begins. Due to hilly terrain, a snow trail would also be built parallel to the ice road to Umiat Well 23H to allow Steiger access should icy conditions be encountered either during mobilization or demobilization.

Camps to support drilling activities will be located near the Ukpeagvik Inupiat Corporation

(UIC) Camp. The ice pads will be constructed to approximately 600 ft. by 600 ft. Dimensions may be adjusted as necessary to conserve water or accommodate terrain. To conserve water, pads will be made as small as possible while still accommodating the drill rig. The rig will be placed on rig pads and the ice pad under the rig footprint will be a minimum 12 inches thick. Pad thickness may be greater, with pad dimension varying depending on irregularity and slope of the underlying terrain. The minimum ice pad thickness will be 6 inches except under the drill rig which would be 1 1/2 feet thick. The estimated average ice pad thickness ranging from 1 1/2 ft. to 9 ft. An ice berm, approximately 12 in. high, will be constructed at the outside edge of the pad to provide for spill containment.

2.1.2 Water Use

The freshwater requirements for constructing the project features (ice road/pads construction, maintenance, drilling operations, and camp use) are approximately 50.97 MG (Table 2.5) including a 10 percent (%) contingency. Linc plans to utilize water from lakes for this exploration program. The lakes proposed for water withdrawal on BLM lands are listed in Table 2.6. The total amount of proposed water use includes water from sources off BLM managed lands (which is not included in Table 2.5).

Linc has requested approval to harvest ice aggregate from lakes shown on Table 2.6. Approximately 50.31 MG is required for infield use (e.g., ice construction and maintenance), with an additional 0.6 MG required for camp use. Water will not be used for drilling as a mineral oil based mud will be used.

Potable water will be taken from local lakes. One or more lakes will be evaluated for use as a potable water source. Potential potable water sources will be analyzed to ensure drinking water standards are met before water is introduced into the camp's potable water treatment system.

Requested water and ice withdrawal from various lakes are listed in Table 2.7. Linc has stated that they will not remove water from Umiat Lake. They are aware that any water withdrawn from Umiat Lake (RT S07119) will require approval from the AO of the applicant's Lake Monitoring Plan. Linc will withdraw water from lakes permitted by the Alaska Department of Fish and Game in a manner that protects Fisheries resources. The applicant has received Title 41 Fish Habitat Protection Permits from Alaska Department of Fish and Game (ADF&G) and Temporary Water Use Permit applications from Alaska Department of Natural Resources (ADNR). Water pump intakes will be screened with a maximum of 0.25 inch mesh. Water velocity at any given point along the intake structure will not exceed 0.5 ft per second. Linc will inspect the intake screen for damage after each use and prior to each deployment.

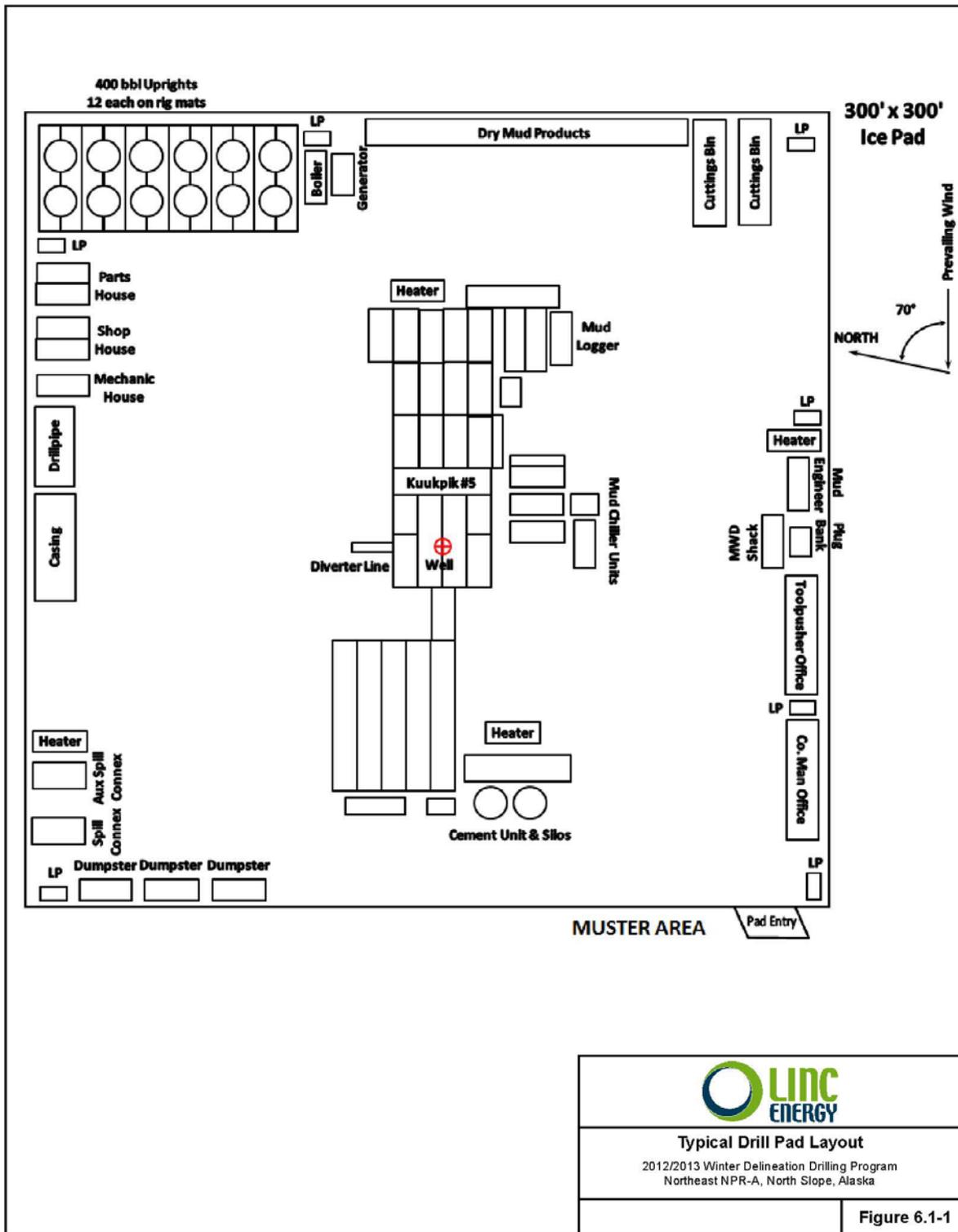


Figure 2: Applicant drawing of Typical Drill Pad Layout.

Table 2.5 Water Requirements

Infield Water Use	Estimated Gallons
Umiat Well 24	11,440,000
Umiat Well 25	8,750,000
Umiat Well 23H	14,140,000
Infield Ice Road	5,920,000
Lake Access Roads	3,000,000
Ice Road Maintenance	2,490,000
Total Construction	45,740,000
+ 10% Contingency	50,310,000
Potable Water Use	Estimated Gallons
Camp Use (Construction Phase)	56,3000
Camp (Drilling)	540,000
Camp Total	596,000
Total + 10% Contingency	656,000
Infield + Potable Water Use	
Grand Total	46,336,000
Grand Total with contingency	50,966,000

Water use quantities requested in the permit applications include ice chips that will be used as ice aggregate for ice road and pad construction. Temporary bench marks were set and existing surface water elevations were measured for lakes RTS07119, RTS07121, RTS07147 and RTS07148, along with 2 lakes not being used for this project (RTS07125 & RTS07128). Water level elevations will be collected from these same lakes after breakup in 2013 to evaluate the effects of water withdrawal. The six lakes are considered to be representative of those in the project area and can be used as the basis for evaluating recharge at other similar lakes.

Stream crossings have been located to avoid adverse impacts on fish habitat. Water crossing locations were determined by field studies, geographic information systems analysis, and evaluation of other environmental factors.

Linc has contracted with Cruz Construction for the construction and maintenance of ice roads and pads. For the crossings, Cruz Construction will drill and record the thickness of ice at each crossing to determine its load capacity. Should the ice at certain crossings not be thick enough for the loading requirements, they will apply water until the necessary thicknesses have been reached. The bridges will be breached in the spring with care taken to not destroy the existing vegetation. The proposed in-field ice roads would cross Seabee Creek and Bearpaw Creek as well as several unnamed streams.

2.1.3 Drilling Operations and Support

The proposed program includes drilling up to three horizontal wells during the 2013/2014 season. All wells drilled this season will be drilled using the Kuukpik #5 drill rig. The planned well design will be similar to that employed in previous North Slope exploration wells and in accordance with a Permit to Drill from the BLM and the Alaska Oil and Gas Conservation

Commission (AOGCC). Due to the exploratory nature of the wells, nearly all information regarding the downhole aspects of the wells are confidential. After drilling and testing is completed, or when the winter season ends, the drill rig will be transported to Deadhorse.

The Well Testing Unit will be mobilized onto the Umiat #23H ice pad after the Kuukpik #5 rig moves off the well. The Well Testing Unit will flow the well and measure and store the produced water/gas/oil. The proposed drilling and testing operations will be used to determine future drilling plans. Testing may include extended flow periods to determine productivity of a well.

A drill camp with the capacity to accommodate up to 100 people was erected near the existing UIC Camp (state land). The camp will be used to support ice road and pad construction as well as drilling activities. Communication will be available via 24 hour telephone service, fax, and internet.

UIC will provide warehouse, equipment storage, and maintenance facilities. The UIC camp will be available for overflow personnel and will provide support to other operators in the region.

Auxiliary facilities include pump houses on lakes used as water sources, and light plants near pump houses and along ice roads.

Fuel will be purchased from the tank farm operated by UIC at the State airstrip. Approximately 8,000 gallons of diesel fuel will be stored on the drill rig and approximately 5,000 gallons of fuel will be stored at the camp site. The rig and camp fuel tanks have built-in containment. The rig fuel tank is inside one of the rig connexes (8 in. × 20 in.) in the support module. The camp fuel tanks are inside two camp buildings along with the generators (9.5ft. × 5.6 ft.).

The drilling pad will include the drilling rig, rig camp buildings, warm storage areas, maintenance buildings, and other equipment necessary to conduct the operations (Figure 3). No reserve pits will be constructed.

2.1.4 Waste Management

Wastes will be handled according to the comprehensive waste management plan required by the BLM under USDOJ BLM 2013 BMP A-2, as summarized below.

Drilling wastes include drilling mud and cuttings. Drilling mud will be separated from cuttings, and each fraction will be disposed of by different methods.

A mineral oil drilling mud system will be used. The drilling mud will be reused during drilling, and will be pulled up with production fluids while performing production tests. Approximately 1600,000 L to 320,000 (1,000 to 2,000 barrels) of drilling mud will be generated from each well. Roughly 50 percent of the drilling mud will be reclaimed for reuse. Approximately 80,000 L to 320,000 L (500 to 2,000 barrels) of waste drilling mud will be generated per well. Waste drilling mud will be temporarily stored on site and will be transported off site for appropriate disposal.

Table 2.6 Water Sources on BLM lands RequestedWater sources on BLM lands for 2013-2014 exploration^a.

Lake ID	Latitude (N) (NAD83)	Longitude (W) (NAD83)	Max Depth (feet)	Surface Area (acres)	Volume (MG)	Sensitive Fish Species Captured	Resistant Fish Species Captured ^b	15% of Water Under 7 ft of Ice (MG)	30% of Water Under 5 ft of Ice (MG)	35% of Total Lake Volume (MG)	Liquid Water Volume Requesting (MG)	Ice Aggregate Volume Requesting (MG)	Requires BLM Approval per NE ROP BMP B-2d
RTS07118	69.38109	152.14035	10.0	16.8	23.02	none	NS	--	0.91	--	0.91	3.69	Y
RTS07119	69.38340	152.10044	8.0	40.0	42.84	none	none	--	--	14.99	--	14.99	N
RTS07121	69.37881	152.11763	4.5	14.4	14.37	none	none	--	--	5.03	--	5.03	N
RTS07124	69.38015	152.18760	5.0	9.1	10.75	none	none	--	--	3.76	3.76 liquid + ice		N
RTS07132	69.37418	152.14346	9.5	2.5	4.47	none	NS	--	0.28	--	0.28	0.43	Y

Key:

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

Notes:^a Source: Renaissance (2007)^b NS = ninespine stickleback**Table 2.7 In-field Stream Crossings on BLM Managed Land**

Ice road stream crossings on BLM lands for 2013-2014 exploration.

Stream Name	Crossing Identifier	Latitude (NAD83)	Longitude (NAD83)	NHD COMID ^a	ADF&G Anadromous Waters Catalog Number
Unnamed tributary to Seabee Creek	IN-02	69.3735	152.1580	72362871	--
Unnamed tributary to Seabee Creek	IN-03	69.3769	152.1657	72362955	--
Unnamed tributary to Seabee Creek	IN-04	69.3808	152.1662	72362875	--
Unnamed tributary to Seabee Creek	IN-05	69.3805	152.1733	72362949	--
Unnamed tributary to Seabee Creek	IN-06	69.3813	152.1753	72362951	--
Unnamed tributary to Seabee Creek	IN-07	69.3839	152.1753	72362955	--
Unnamed tributary to Seabee Creek	IN-08	69.3886	152.1843	72362955	--

Notes:^a National Hydrography Dataset Common Identifier (COMID) for stream segment.

After separation from drilling mud, drill cuttings will be temporarily stored in a metal, leak-proof cuttings box. The cuttings box will be filled to approximately 80 percent full and will be covered when not being filled. Drill cuttings boxes will be placed into secondary containment. Drill cuttings will be hauled off site to an approved disposal location. Approximately 80,000 L (500 barrels) of cuttings will be generated from each well.

Upon completion of activities at the drill sites, the drill pad, including the areas where wastes were stored, will be scraped clean and the affected fraction will be backhauled to an approved disposal location. Temporary storage of drilling waste will be conducted in accordance with a plan prepared and submitted to the ADEC that meets the requirements of 18 Alaska Administrative Code (AAC) 60.430 – Drilling Waste.

Production tests may be performed as needed after production casing is set. Testing may include extended flow periods to determine the productivity of the wells. If necessary, produced fluids will pass through a three-phase flow meter or an adequately sized separator system to prevent oil carryover into the gas stream. All fluids will be held in tanks until testing is completed. After testing, Linc anticipates reinjecting those fluids back into the source well.

UIC will be contracted for disposal of solid, non-burnable waste and solid waste including food waste. UIC will not be contracted for the disposal of drilling-related waste, special wastes (e.g., hazardous waste, batteries, light bulbs), or wastewater. Solid, non-burnable waste will be temporarily stored in large dumpsters located at the drill sites and camp. Solid waste and food waste that could attract wildlife will be stored in the camp covered dumpsters. Wastes will be transferred to UIC on a regular basis for treatment or appropriate disposal at an approved disposal site. No incineration of waste on site is planned.

Special wastes, such as chemicals, recovered spilled materials, batteries, and light bulbs will be stored and disposed of in accordance with regulatory requirements. As required by regulation, the transportation and disposal of hazardous wastes as defined by the Resource Conservation and Recovery Act will be performed by permitted contractors. Used oil may be burned for heat recovery or transferred to UIC for use in heat-recovery burners.

Camp wastewater will be processed through a sewage treatment plant having an ADEC approval to operate. The treatment plant will discharge effluent to the tundra in accordance with APDES General Permit No. AKG-331000. The rig camp will generate about 19,000 L (10,000 gal) per day of domestic wastewater.

2.1.5 Air Emissions

Sources of air emissions from the operation may include rig engines, camp generator engines, steam generators, used oil burners, hot-air heaters, light plants, support equipment (rolling stock), and well test flaring equipment. Linc will use Ultra Low Diesel fuel for the drilling rig and will be operating under MGP-1 for Drilling Rigs and Associated Equipment (18 AAC 50.502). Pickup trucks will use gasoline.

A meteorological air monitoring station was erected in April of 2012. A siting plan was submitted to ADEC for their review and approval. Under current consideration is an ambient air monitor that was approved and installed on state land in April of 2013.

2.1.6 Contingency Plans

Contingency plans are described below.

Oil Discharge Prevention and Contingency Plan (ODPCP or C-Plan)

The Applicant is required to have approved oil spill response measures in place to meet Federal and State requirements. Linc must have a site-specific ODPCP approved by ADEC that is considered sufficient to meet BLM requirements. Information related to immediate response actions, receiving environments, spill clean-up mobilization, response times, and well control are addressed in the ODPCP. The ODPCP encompasses standard response methodology and resources for response. The ODPCP only addresses Linc drilling operations; Linc will not be storing fuel in quantities subject to ODPCP requirements.

Prior to mobilization, Linc will conduct a drill of the plan to ensure that project personnel are knowledgeable regarding roles, responsibilities, and response strategies. The ODPCP will be maintained at the drilling locations and at the Linc corporate offices. The ODPCP will be amended as necessary to reflect any changes in the program that would have a bearing on spill response. The amendments will then be submitted to ADEC for review.

A worst case release (i.e., blowout) is considered to be exceedingly unlikely. The worst case response planning standard for this project is a blowout of 50 barrels of oil per day lasting 15 days, based on a site-specific evaluation of the Umiat field by AOGCC and approval by ADEC. Based on required modeling, which considers prevailing wind direction, a blowout would distribute oil in any of three triangular plumes extending from each well in the direction of the wind. Most of the oil discharged would fall on or close to the drill pad. No modeled blowout trajectory from any well location would reach open water.

No drilling will begin until the well pad is fully constructed and accessible by packed snow trail or ice road; the period of active drilling is subject to seasonal restrictions set in the ODPCP. Linc anticipates ceasing drilling operations on April 15, 2014 to give adequate time to demobilize prior to tundra closing, based on recent historic tundra closure dates.

Spill Prevention Control and Countermeasures (SPCC) Plans

An SPCC Plan provides guidelines for pollution prevention and addresses secondary containment where fuel and hazardous materials are stored in quantities of 1,320 gallons or more. Typically, the drilling and camp contractors have SPCC plans for their fuel storage facilities associated with drilling and refueling operations. The well testing company will have a SPCC plan for its testing tanks.

Waste Management Plan

The applicant is required by USDOJ BLM (2013) (BMP A-2) to submit to the AO for approval a Waste Management Plan for all phases of exploration and development. The Linc plan is summarized in section 2.1.4 Waste Management above.

Hazardous Materials Emergency Contingency Plan

The applicant is required by the USDOJ BLM (2013) (BMP A-3) to have a Hazardous Materials Emergency Contingency Plan. Linc has submitted their plan to the BLM. For hazmat spills or releases, removal and containment will be performed by qualified personnel, while conducting appropriate monitoring and wearing appropriate personal protective equipment (PPE). Spill response equipment including PPE, drums, sorbents, and other resources are maintained in the field. Material Safety Data Sheets are maintained in the field by the Field Environmental Coordinator and Health, Safety Environment Manager.

Wildlife Protection and Encounter Plans

Linc will enforce their current Wildlife and Bear Avoidance Plan. An approved orientation program is required for all personnel working in the NPR-A, to increase awareness of related environmental, social, and cultural concerns. These actions, along with the required Subsistence Plan, provide wildlife protection measures.

Weed Management Plan

The applicant is required by the 2013 IAP/EIS ROD (BMP M-2) to submit to the AO for approval a Weed Management Plan. Linc will wash all vehicles that are driven on the Dalton Highway or used in the summer on the slope.

Other Plans

Linc contractors will prepare a Health, Safety and Environmental (HSE) Plan, and generally, contractors and employees are required to complete an 8-hour North Slope environmental and safety training program provided by the North Slope Training Cooperative; receive a Field Environmental Handbook, the Alaska Safety Handbook, and a North Slope Visitor's Guide. Contractors review the Alaska Safety Handbook and sections on personal protective equipment, camps and safety orientation, hazard communication, Hazardous Waste Operation and Emergency Response Level 1, and Environmental Excellence.

A project orientation will be held at least once per year to address site-specific HSE and cultural concerns and to ensure associated record-keeping requirements are met. Safety briefings will be held as specified by the contractor HSE Plan.

2.1.7 Abandonment and Restoration

After testing, Linc anticipates that the fluids will be injected back into the source well.

At the end of the 2013-2014 drilling season, some or all wells may be temporarily capped with a "Christmas Tree" on top of the well. The Christmas Tree will be completely covered with a thick membrane material and secured to prevent birds from nesting or roosting. Upon completion of delineation activities, all wells will be plugged and abandoned in accordance with applicable BLM and AOGCC regulations. Final site closure will be approved by appropriate agencies.

Surface erosion control measures for Plugging and Abandonment (P &A) wells will initially consist of fertilizing and silt fence until the mound is revegetated.

During the summer, a Linc crew of two will revisit well sites and access routes at least once or more if necessary via helicopter to recover debris that may have been missed during the cessation of winter activities. After final summer cleanup, access routes and well sites will be inspected with the appropriate agencies, typically the BLM, ADNR, and NSB. Further information about summer activities will be submitted prior to activity taking place.

2.1.8 Community Relations

Linc has prepared a Stakeholder Engagement Plan to assist in the identification of potential issues and response actions. Prior to issuing development permits, the NSB solicits public review including State and Federal agencies, local officials, residents, and private property owners in the affected area.

Linc conducted community meetings in Barrow, Nuiqsut and Anaktuvuk Pass to discuss summer field studies and exploratory drilling. In addition, Linc representatives have attended meetings of the Subsistence Advisory Panel (SAP) to hear residents' concerns about potential impacts to subsistence. Linc will continue to keep the public informed about project development.

To date, Linc has addressed key community issues as described below.

Cultural and Paleontological Resources. Road and pad locations were selected to avoid known archaeological and cultural resources and traditional land use sites. Linc conducted a cultural and paleontological resources survey at pad locations and along access corridors. A letter report of survey findings was submitted to the BLM.

Subsistence. The project area is recognized as a subsistence use area for Nuiqsut and Barrow, with Anaktuvuk Pass subsistence use historically ranging to the Colville River. Numerous public meetings and consultations included subsistence discussions have been held (see table 1.3). The Applicant plans to continue consultation with subsistence users and implement mitigation measures, as necessary. A Subsistence Plan and Orientation program will be implemented, as required.

Economic Opportunity. Linc has worked with the NSB and nearby communities to identify local economic opportunities. The Applicant will employ Subsistence Advisors, and puts a priority on obtaining local goods and services (e.g., use of UIC facilities and services).

2.2 Alternatives to the Proposed Action

The NE NPR-A SIAP/EIS of 2008 and the NPR-A IAP/EIS of 2012 evaluated a fairly specific exploration model, developing extensive site-specific stipulations, required operating procedures and best management practices for that concept. The 2008 & 2013 RODs, and the proposed action itself (i.e., drilling a specified number of exploration wells on specific oil and gas leases in the NPR-A) significantly limit alternatives for the location and timing of exploration in the NPR-A. Location of the leases and oil and gas prospects on those leases limits the options for feasible

drill site locations and access routes. Based on limitations imposed by stipulations, BMPs and the flexibility included in the proposed project, only one alternative is considered for detailed evaluation at this time: “no action.”

No-action alternative

With the No-action alternative, exploratory drilling under existing, valid oil and gas leases would not be allowed as proposed. Permit applications to the BLM would be denied, and no in-field access of 8 miles of ice road construction, no ice drill pads, no use of up to 50.97 MG of water (project total) from 5 water supply lakes, no drilling of up to three wells, or drilling support activities on Federal Lands in the NPR-A would be allowed. While this alternative is contrary to the current Administration’s policy and lease rights, analysis is required by NEPA.

2.3 Conformance

The proposed action is in conformance with USDOJ BLM (2008a) and associated ROD (USDOJ BLM 2008b), USDOJ BLM (2012) and associated ROD (USDOJ BLM 2013), 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, EO 11990, and terms of the federal leases.

In USDOJ BLM (2008a) and (2013), the BLM evaluated the direct, indirect, and cumulative effects of winter exploration 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. In the associated RODs (USDOJ BLM 2008b) (USDOJ BLM 2013), several changes were made to those protective measures to address new data, new regulations, and new public concerns.

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 exploration 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.

The proposed project involves conventional methods and procedures for exploration on the North Slope in general, including the NPR-A.

3. AFFECTED ENVIRONMENT

The proposed Linc delineation drilling operations, ice roads, access corridors, and water supply lakes are near Umiat in the NPR-A Planning Area. Environmental characteristics of the general project area have been extensively described in the 2008 NE NPR-A SIAP/EIS (Vol. 1, Chapter 3), 2012 NPR-A IAP/EIS and the 2008 Colville River Special Area Management Plan, which are incorporated by reference, with some site-specific features summarized below.

All drill sites are on Federal oil and gas leases in or close to the Umiat Oil Field that also is within the Colville River Special Area. The general relation of the project area to existing oil and gas fields on the North Slope and TAPS is shown on Figure 3.

Environmental characteristics of the general project area have been extensively described in the USDO I BLM (2008a) (Vol. 1, Chapter 3), and the USDO I BLM (2012) NPR-A IAP/EIS (Vol 1, Chapter 3), to which this analysis is tiered, with some site-specific features described below.

The proposed well 23H is at the same location as proposed for last year. They installed the well cellar in winter 2012-2013. Proposed Wells 25 and 24 are on low lying land and relatively level. Linc staked the site for the proposed Umiat 25 well to avoid medium tall willows.

3.1 Issue 1: Fish

Details on all fish species in the region, including general distributions and life histories, can be found in the USDO I BLM (2012). Fish sampling of the five water source lakes on BLM lands that may be used for the Linc 2013-14 winter operations is documented in Renaissance (2007); only the ninespine stickleback occupy two of these lakes and no fish were captured in the other three lakes (Table 2.6). For consideration of water use limits (BMP B-2), fish in lakes are classified according to their susceptibility to low levels of dissolved oxygen. Alaska blackfish and ninespine stickleback are considered “resistant” due to their greater tolerance to low dissolved oxygen while all other species in the region are considered “sensitive”.

3.2 Issue 2 Water Quality

The waters and sediments of Umiat Lake have been documented to have natural oil seeps. In August 1997, Ecology and Environment Inc. (E&E), in conjunction with field studies in the nearby Test Well No. 3 area, collected three sediment and three surface water samples from Umiat Lake, RTS07119, which were analyzed for diesel-range organics (DRO), residual-range organics (RRO), gasoline-range organics (GRO), volatile organic compounds (VOC), semivolatile 2 organic compounds (SVOC), pesticides, polychlorinated biphenyls (PCB), and metals. Surface water sample analyses excluded RRO but included total recoverable petroleum hydrocarbons (TRPH). Their results indicated elevated petroleum levels (DRO, RRO, and GRO) in the sediment samples collected from the lake (E&E 1998). In August 1998, E&E evaluated the lake water and sediment in Umiat Lake, sampling 10 sediment and surface water locations. Sediments were analyzed for VOCs and SVOCs, and surface water was analyzed for petroleum products (DRO and TRPH), VOCs, and SVOCs. The results for sediment indicated that nine of the 10 samples exceeded ADEC screening criteria for DRO and RRO. In surface water, DRO was detected in six of the 10 samples exceeding the ADEC screening criteria (E&E 1999).

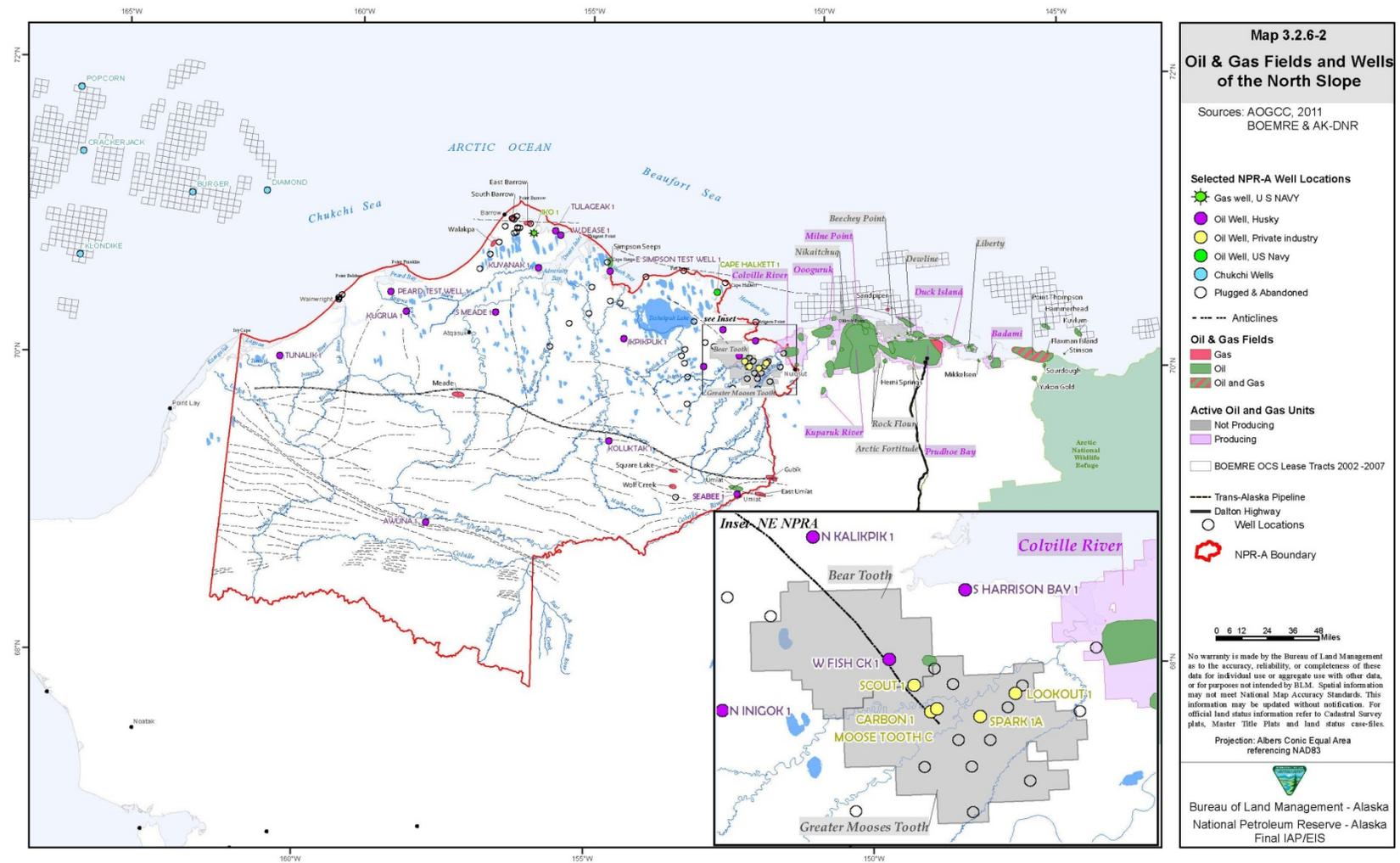


Figure 3 Existing/Proposed Oil & Gas Activities on the North Slope²

² https://www.blm.gov/epl-front-office/projects/nepa/5251/41028/43181/Map_3_2_6_2_oil_gas_fields_units.pdf



Figure 4 Proposed Umiat Well 23H site



Figure 5 Proposed Umiat Well 24



Figure 6 Proposed Umiat Well 25

A 1998 geophysical study of a portion of Umiat Lake located buried ferrous debris in the lake bed. The survey revealed possible drum/debris locations along the east shore of the lake (USDOI BLM 2009). In summer 2009, 270 drums were removed from within the lake and within 200 feet of the shoreline. No soil or sediment removal or treatment was performed; however, samples were collected from locations that showed evidence of potential contamination (ADEC 2012)

3.3 Issue 3: Subsistence

Subsistence can be defined as “hunting, fishing, and gathering for the primary purpose of acquiring traditional food” (USDOI BLM 2012). Subsistence activities are a culture base and provide a sense of identity to the Inupiat people. Subsistence resources supply not only nutritional value, but are also used for clothing, tools, and transportation. Cultural and family ties are preserved through obtaining, sharing, and bartering such resources (USDOI BLM 2012).

A wide range of species are hunted throughout the year in the NPR-A region for local subsistence purposes. These include whale, seal, walrus, bear, birds, caribou, furbearers, small mammals, and fish. Species such as seals, polar bears, and caribou are hunted throughout the entire year in the Barrow area. Fresh and salt-water fish, and small mammals are hunted or trapped in the late spring and summer months. Caribou, whales, walrus are typically hunted or fished in late summer and early fall. Berries and other flora are normally gathered in early to mid-fall.

The proposed project is located within a subsistence area that is very commonly used by Nuiqsut subsistence users, particularly in the fall (by boat on the river during moose hunting) but at any time of year (USDOI BLM 2008a, Map 3-38). Umiat is also within the subsistence use area for Barrow, a community of over 4,500 residents located approximately 200 miles to the northwest of the project area. The Colville River and Umiat area are also used during the winter by furbearer hunters from Anaktuvuk Pass. The primary subsistence use of the area during the proposed project dates will be by residents of Nuiqsut, for the purposes of caribou, small mammal, bird and furbearer hunting. Under ice fishing may also occur during the latter part of the project timeline. Many residents may simply travel through the project area in order to access hunting cabins or camps located outside of the project area. Access during the winter is primarily by snow machine.

4. Environmental Impacts

If authorized, the proposed project would be the 23rd winter exploration drilling program (Appendix B) in the NPR-A since the 1999/2000 winter drilling season. The majority of these drilling programs have been in the NE Planning Area.

Activities proposed by Linc are similar to previously authorized exploration activities in the NPR-A over the past 13 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 exploration 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., USDOI BLM 2008a and USDOI 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 USDOI BLM 2008a and its ROD (USDOI 2008b), USDOI BLM 2012 and its ROD (USDOI BLM 2013). Related discussion of impacts is found in: USDOI 2008a, Vol. 2, Chapter 4.6 (Environmental Consequences of Alternative D, the preferred alternative) and 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 Fish

Proposed Action

The potential for impacts on fish overwintering in water source lakes is increased if water use exceeds the standard in ROP B-2d. For Linc's 2013-2014 winter exploration program in the NPR-A, they are requesting to use ice aggregate at two lakes (RTS07118 and RTS07132) in addition to the maximum liquid water volume typically allowed for use (Table 2.6). This ice aggregate would come from within the 4-ft (and shallower) contour of each lake where ice will become naturally grounded during typical winter conditions, a practice commonly permitted by ADF&G and BLM in conjunction with additional monitoring. As snow removal is not permitted beyond this 4-ft contour, this activity should not contribute to additional lake freeze-down. In the existing areas of oil exploration and development on the Arctic coastal plain, lakes pumped solely for winter exploration activities have recharged in the spring, including at some lakes where additional ice aggregate has been utilized (Streever et al. 2001; URS 2001; Baker 2002; Hinzman et al. 2006 ; Baker 2007; Holland et al. 2008). Additionally, lakes used for winter water sources in the foothills near Umiat were observed to be recharged in the early summer (Hilton and Lilly 2009a) and continued discharging from their outlets in September (Hilton and Lilly 2009b).

Deviation Request BMP B-2d

The BLM has also granted a deviation to BMP B-d during other winter oil and gas operations in the NE NPR-A without a negative outcome. Furthermore, at the two lakes where Linc is requesting an exception to BMP B-2d, ADF&G Division of Habitat is requiring additional work that will help evaluate if the lake water levels recharge in spring. Specifically, each Fish Habitat Permit for the lakes in question states:

“...Ice removal in succeeding years will be contingent upon receipt of information denoting measured recharge of the lake or a developed predictive method to determine if a particular lake has adequate drainage area and recharge capabilities to support sustained use beyond current recommended levels.”

The documentation of winter-pumped lakes recharging in this general region, the successful implementation of an exception to BMP B-2d by the BLM in other years, and the additional monitoring or modeling required by ADF&G support the BLM's decision to grant approval for the use of ice aggregate in addition to maximum liquid water quantities at Lake RTS07118 and Lake RTS07132. This deviation from BLM only pertains to the 2013-14 winter exploration season and consideration for water use in future years beyond the guidelines outlined in BMP B-2 will depend on the results and observations from this season.

No-Action Alternative

Under the No-Action Alternative, LINC would not drill delineation wells on BLM-managed land, in which case there would be no need for water from lakes to construct ice roads and pads. As a result there would be no impacts to fish from oil and gas exploration and drilling, or use of water from the lakes.

4.1.2 Issue 2 Water Quality

Proposed Action

Umiat Lake, RTS07119, having no fish, was permitted for removal of up to 35% of total volume of water. Water removal from this lake has the potential of stirring up sediments and re-distributing them along portions of ice roads and pads. Additionally DDO, RRO or other chemicals may also be present in waters due to natural oil seeps or past contamination from leaking drums or other drilling operations. Past contamination was primarily confined to the northeast portion of the lake adjacent to Legacy Test Well No.3. The applicant does not plan to remove any water from Lake RTS07119 during the 2013-2014 drilling season, which will reduce potential impacts. However, ice removal is expected and active seeps could introduce contaminated ice into the road system and pads surrounding Umiat. Inspection of ice for seeps and discoloration prior to scraping and removal will avoid potential impacts from removing contaminated ice off site.

No-Action Alternative

Under the No-Action Alternative, Linc would not drill delineation wells on BLM-managed land, in which case there would be no need for water from Umiat Lake to construct ice roads and pads. There would not be any impacts to water quality to the lakes at Umiat due to the proposed action by Linc.

4.1.3 Issue 3: Subsistence

Proposed Action

The proposed project involves winter activity in an area with important subsistence value. While the wintertime is not the primary season for subsistence harvesting, it is the principal time period for furbearer harvesting. Other subsistence activities that occur during the winter, and thus could be impacted by the proposed exploratory delineation drilling program, include caribou, small mammal, and bird hunting. These activities are frequently based from subsistence cabin or camp locales, which are accessed during the winter by snow machine. Ice fishing may also occur. The proposed drilling sites, as well as the associated access routes, are located in an area utilized by subsistence harvesters from Nuiqsut, Anaktuvuk Pass, and Barrow. Umiat is located approximately 70 miles southwest of Nuiqsut and activity at Umiat has had and will continue to have disproportionately high impacts on that community. The primary activities associated with the project that could affect subsistence use include aircraft traffic, flaring gas, ice road construction, overland moves, and the delineation drilling and associated camps that will be active for several months.

Local knowledge, as elicited through public testimony at NPR-A Subsistence Advisory Panel (SAP) meetings, indicates that this type of industrial oil activity displaces resources from the area of effect. This displacement can lead to hunters having to travel further to harvest resources. In most cases, these activities are expected to cause only short-term, minor displacement and/or disturbance, usually only the time period in which the construction activity or camps are active.

Mitigation measures that minimize impacts to subsistence use have been adopted by the BLM (USDOI BLM 1998; 2008b), including winter-only exploration, measures that protect fish and wildlife, and consultation requirements by the company with affected communities. Linc has developed a Subsistence Plan that includes the use of local subsistence advisors to identify and help mitigate potential impacts of the proposed project to subsistence use. The plan also includes methods for increased communication between the community and the company.

No-Action Alternative

Under the No-Action Alternative, Linc would not drill three exploratory wells at Umiat and there would be no need for the construction of an ice road, snow road, or drill pads. Other than the concurrently proposed USACE cleanup project at Umiat, significantly less activity would occur within the subsistence use areas for the communities of Nuiqsut, Anaktuvuk Pass, and Barrow. Therefore, little displacement of resources from the area would occur and the amount of aircraft and ice road/snow road traffic would be greatly reduced. Although the main snow road is not on BLM-managed lands, the no-action alternative would include less impact on the regional ecosystem because water would not be removed from lakes to construct ice roads. There would be no impacts to subsistence resulting from ice road construction (other than the removal of the option to use the road to access hunting grounds), overland moves, or the camps associated with the drilling locations.

4.2 Cumulative Effects

The BLM has evaluated the cumulative effects of past, present, and reasonably foreseeable oil and gas 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 USDOI BLM 2008a (Volume 3, Chapter 4, Section 4.7) and USDOI 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 exploration drilling 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 USDOI BLM (2012).

The primary influences in the current analysis include: oil and gas activities; the community of Nuiqsut; and subsistence, research/inventory, and recreation activity, as analyzed in USDOI BLM (2012).

Legacy Wells: The old test wells in the Umiat area are part of the current BLM “Legacy Well” closure program, and are identified as such in this EA. Legacy Wells 2-5 and 9 are within a 1/8 of a mile from the proposed activity (See Figure 1). Wells 6, 7, 8, 10 and 11 are from 1/3 to 2 miles away from the proposed activity. These legacy wells from previous federal activity are listed on the ADEC Contaminated Sites Database; many are also Formerly Used Defense Sites (FUDS).

ADEC Contaminated Sites (CS) staff reviewed and approved a final Focused Feasibility Study (FFS) report for Umiat Wells 3, 4, 6, 7, 8, 10, and 11. The test wells in the FFS all share similar characteristics in that they have either very limited pads or no pads, are surrounded by tundra, and have small volumes of soil that are contaminated with weathered fuel products. Accessing the sites to conduct any cleanup would require helicopter access or winter ice roads. The FFS evaluated treatment of soil at these sites, and concluded with a recommendation for no further action based on lack of risk.³

Beginning in 2009 an ongoing removal action has taken place at Umiat Test Well No. 9. The activity consists of excavating, removing, transporting, and disposing of soils contaminated with polychlorinated biphenyls (PCBs), diesel range organics (DRO), and residual range organics (RRO). Erosion controls will be used, and excavation areas from previous soil excavation and removal projects will be graded at the conclusion of the project. Cleanup of the main drainage channel below the site will be addressed in a future action.⁴ This removal action is ongoing and is expected to continue this winter season.

During the 2013/2014 winter season it is anticipated that the U.S. Army Corps of Engineers (USACE) will continue a removal action at the Legacy Well Umiat Well No. 9. The site is within a 1/8 of a mile from the applicants proposed Infield Ice Road (See Figure 3). Previously the contractor for USACE staged their camp at the Seabee Pad. However, with the Linc proposed activity, it is anticipated that the camp for the removal action could be on state land.

The BLM is in the process of planning Plugging and Abandonment operations and solid waste removal of Umiat 1, 3, 4 and 11 as well as removal at Umiat 8 and 10. The work could start as early as winter 2013-2014 and last several years. It is anticipated that a packed snow trail would be used to access the sites.

Recent Exploration and Drilling: To date, no recent exploration 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 Fish

³ http://www.dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=3078

⁴ http://www.dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=3093

As discussed in the USDOI BLM (2012), restricted winter habitat for fish makes many species highly vulnerable to the impacts of oil and gas exploration. Some local effects may accumulate, but based on federal and state protective measures, effects to fish at the lake population level are not anticipated.

4.2.2 Issue 2 Water Quality

Federal and state restrictions to water quantity and quality withdrawals will insure protection of the biological functionality of Umiat Lake and prevent alteration of adjacent lands due to removal of Umiat Lake ice. Cumulative impacts from the removal of Umiat Lake ice are unlikely to occur if adequate monitoring and properly designed water withdrawal plans are maintained in the future.

4.2.3 Issue 3 Subsistence

BLM protective measures have been applied in the NPR-A during the winter drilling seasons without any significant individual or collective direct, indirect, or cumulative impacts to subsistence resources. Activity levels are expected to be similar in the future, such that cumulative impacts are expected to remain insignificant for both the Proposed Action and the No-Action Alternative. In addition, stipulations and ROPS/BMPs have been developed to avoid the potential for significant restriction of subsistence uses or access to subsistence resources (USDOI BLM 1998, 2008b).

Multi-year winter exploration drilling projects and the potential for concurrent operations within and adjacent to the NPR-A have been discussed with local residents through meetings with the local communities, NSB, regulatory and resource agencies in order to minimize project-specific and cumulative effects to subsistence resources or access.

In addition to winter activities, summer activities including studies, monitoring, and recreational use occur in the NPR-A. These include aircraft support for fish and wildlife studies, as well as inspections of proposed drilling sites and abandonment inspections. Helicopters are frequently used as the basic means of air support. Helicopter activity can result in deflection of wildlife and disturbance to people engaged in subsistence activities. This disturbance is usually localized to the area in which the helicopter is operating, and temporary in nature, in that it only occurs during the period in which the activity is taking place. Fixed wing aircraft are used for local passenger and freight transportation, subsistence, and recreation. Although every effort is made to minimize the effects of aircraft activity, aircraft transportation is crucial to many activities. Summer activities in the NPR-A require separate BLM authorization(s), with associated assessment of potential environmental impact.

From an analysis of past actions, communication with residents and the analyses of impacts to other resources, the most significant cumulative impact of this proposed action would likely be air traffic. Linc plans to continue using Hercules C-130 planes to deliver heavy equipment for road construction to Umiat. The continued or increased use of large aircraft and helicopters in the Umiat /Colville River area will continue to negatively impact subsistence users, primarily those from Nuiqsut. A likely outcome is that hunters will increasingly avoid a larger area around Umiat when possible.

4.3 Residual Impacts

Despite the system of controls in place, and the modern technology and methods proposed, some minor impacts from the proposed action cannot be avoided. The impacts include:

- Temporary surface disturbance by winter drilling at well sites.
- Temporary increase in industrial activity affecting wintertime local tranquility and solitude.
- Temporary minor impacts to tundra from ice roads and pads. Longer-term, but relatively minor, visual impacts from multiple green and/or brown trails along portions of the spur routes to ice pads and water supply lakes.
- Short-term visual and noise impacts of drill rig, camp, traffic, etc.
- Temporary disturbance, with possible displacement of some wildlife, in the area while exploration activities are underway. Possible additive effect on winter wildlife mortality.
- Possible minor, temporary impact on subsistence resources and activities if caribou or other animal movements shift away from places where activity winter occurs.
- Possible loss of some small mammals (e.g., lemmings, voles, and ground squirrels) due to ice road/pad construction and the hardened overland trail. This would be an adverse impact to those individuals lost, but not to any local wildlife population.
- Temporary, localized, minor degradation of air quality and, possibly water quality (oxygen depletion, wastewater disposal, and spills).
- Possible temporary restriction of public access to land around drill sites during active drilling activities to meet air quality requirements and increase public safety.

Residual effects have been broadly evaluated for those areas considered for leasing, leased, and subsequently explored (USDOI BLM 2012, Vol. 4, Section 4.9). With the additional mitigation measures described in Section 4.4, below, the site-specific effects expected from the proposed action are consistent with those previously-discussed impacts, and none of the impacts are expected to be significant for the proposed action.

4.4 Mitigation and Monitoring

In consultation with agencies and local residents, North Slope operators have actively worked to develop winter exploration 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

BLM monitoring measures will involve: 1) the drilling operation, including the drill rig and ancillary facilities, and 2) other surface activities. The former involves geotechnical and engineering considerations such as the presence of hydrogen sulfide gas. The latter includes the movement of equipment, supplies, and personnel to and from the drilling operations and the continuing protection of vegetation, fish, and wildlife habitat, as well as subsistence activities.

The objective of this monitoring program is to ensure that all terms and conditions of the Federal oil and gas leases, the RODs (USDOI BLM 1998b, 2008b, 2013), the NPRPA, and FLPMA (where applicable) are met.

4.5 Additional Mitigation and Monitoring

The BLM will incorporate the following additional mitigation measures into approvals for the Linc Applications to Drill and ROW permit. Linc 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 through the applicable season(s) for the life of this project.
2. Avoid disturbing PCB-contaminated surface soils at and down-gradient of the Umiat Legacy Well No. 9. To guard against any accidental tundra disturbance during ice road construction or overland transport, Linc shall work with Marsh Creek (U.S. Army Corp of Engineers contractor) to determine a safe working distance from the Umiat Legacy Well No. 9. Linc shall e-mail the agreement for working near the site to the BLM with a cc to Marsh Creek.
3. Confer with the BLM to develop a plan to reduce ice thickness of ice drill pads left in place where underlying vegetation is likely to remain covered during the growing season.
4. Monitor condition of the ice roads and terminate use if environmental degradation is observed, and immediately report degradation to the BLM AO.
5. Coordinate the use of ice roads/snow trails at Umiat with Marsh Creek contractor for the U.S. Army Corp of Engineers (USACE). Provide the BLM with a copy of the agreement.
6. 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.
7. The permittee or their contractors shall submit an annual polar bear observation report to the BLM within 60 days of completion of 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.

8. The permittee or their contractors must follow the polar bear interaction guidelines provided in the document titled: “Polar Bear Interaction Guidelines.docm”

The following permit stipulations implement practices that will further reduce the likelihood of impacts to fish habitat and water resources on BLM lands (adapted from Noel et al. 2008). LINC shall:

9.) 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.

10.) Provide the BLM with an as-built of all ice roads, snow trails, and ice pads at the time the infrastructure is completed. Data should be in the form of ESRI shapefile(s) referencing the North American Datum of 1983 (NAD83).

11.) Post a sign on the access road to each lake being utilized as a water source, clearly identifying the lake by its number.

12.) 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.

13.) Immediately cease pumping and notify the BLM within 24 hours if water removal exceeds the volume approved at any lake.

14.) 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.

15.) Provide the BLM with photographs documenting the condition of all ice and snow road 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.

16.) Provide the BLM any data or photographs collected at water source lakes regarding an evaluation of spring recharge.

4.6 Summary of Environmental Consequences

This analysis has considered, tiered from, and incorporated by reference, previous studies and findings on oil and gas winter exploration 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 issue (s) identified in the evaluation of the proposed action for this EA was Issue 1: Fish, Issue 2: Water Quality, and Issue 3: Subsistence. The analysis found that impacts would be short term and localized and that mitigation measures from Section 4.5 and those in Appendix A would adequately reduce any adverse effects to Issues 1-3. The proposed action would not contribute to significant cumulative effects to Issues 1-3 in the proposed project areas. Based on this analysis, it is

concluded that direct, indirect, and cumulative impacts from the proposed action should be relatively minor and short-term, with no significant impacts foreseen.

5 CONSULTATION AND COORDINATION

5.1 Agency Coordination

The preparers of this EA have consulted with the following contacts in setting the scope of analysis and alternatives to be addressed:

USFWS

In preparing its plan of operations, Linc 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.

Linc provided the BLM with permit applications and support documentation that summarize the proposed project and their compliance with applicable stipulations. The BLM has inspected the proposed drill sites and access routes. The BLM and Linc 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, Linc conducted meetings with affected North Slope communities, as described in Section 1.3. Local residents provided Traditional Knowledge at these meetings, which was considered in the project plan and in this EA.

Linc has prepared a Subsistence Plan that presents measures to mitigate potential impacts on subsistence resources and access.

5.3 List Of Preparers

Susan Flora, Environmental Scientist
Richard Kemnitz, Hydrologist
Stacey Fritz, Anthropologist/Subsistence Specialist
Stacie McIntosh, Supervisory Social Scientist
Debbie Nigro, Wildlife Biologist
Roger Sayre, NEPA Specialist
Matthew Whitman, Fish Biologist
Donna Wixon, Natural Resource Specialist
Dave Yokel, Wildlife Biologist

ANILCA Requirements

Section 810 Subsistence Evaluation

This action is not likely to cause any significant restriction to the subsistence resources of the area.

6 REFERENCES

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APPENDIX A

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-5 Best Management Practice

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.

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- roaded 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.

Oil and Gas Exploratory Drilling 2008 NE ROD

D-1 Lease Stipulation

Objectives: Protect fish-bearing rivers, streams, and lakes from blowouts and minimize alteration of riparian habitat.

Requirement/Standard: Exploratory drilling is prohibited in rivers and streams, as determined by the active floodplain, and fish-bearing lakes.

D-2 Lease Stipulation

Objective: Minimize surface impacts from exploratory drilling.

Requirement/Standard: Construction of permanent or gravel oil and gas facilities shall be prohibited for exploratory drilling. Use of a previously constructed road or pad may be permitted if it is environmentally preferred.

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-11 Best Management Practice

Objective: Minimize the take of species, particularly those listed under the Endangered Species Act and BLM Special Status Species, from direct or indirect interaction with oil and gas facilities.

Requirement/Standard:

- h. To reduce the likelihood of birds colliding with communication towers, towers should be located, to the extent practicable, on existing pads and as close as possible to buildings or other structures, and on the east or west side of buildings or other structures if possible. 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. Such markings shall be developed through consultation with the USFWS.

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.

E-18 Best Management Practice

Objective: Avoid and reduce temporary impacts to productivity from disturbance near Steller's and/or spectacled eider nests.

Requirement/Standard: Ground-level activity (by vehicle or on foot) within 200 meters of occupied Steller's and/or spectacled eider nests, from June 1 through August 15, will be restricted to existing thoroughfares, such as pads and roads. Construction of permanent facilities, placement of fill, alteration of habitat, and introduction of high noise levels within 200 meters of occupied Steller's and/or spectacled eider nests will be prohibited. In instances where summer (June 1 through August 15) support/construction activity must occur off existing thoroughfares, USFWS-approved nest surveys must be conducted during mid-June prior to the approval of the

activity. Collected data will be used to evaluate whether the action could occur based on employment of a 200-meter buffer around nests or if the activity would be delayed until after mid-August once ducklings are mobile and have left the nest site. Also, in cases in which oil spill response training is proposed to be conducted within 200 meters of shore in riverine, marine, or inter-tidal areas, the BLM will work with the USFWS to schedule the training at a time that is not a sensitive nesting/brood-rearing period or require that nest surveys be conducted in the training area prior to the rendering a decision on approving the training. The protocol and timing of nest surveys for Steller's and/or spectacled eiders will be determined in cooperation with the USFWS, and must be approved by the USFWS. Surveys should be supervised by biologists who have previous experience with Steller's and/or spectacled eider nest surveys.

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.):

- a. Aircraft shall maintain an altitude of at least 1,500 feet above ground level when within ½ mile of cliffs identified as raptor nesting sites from April 15 through August 15 and an altitude of at least 1,500 feet above ground level when within ½ mile of known gyrfalcon nest sites from March 15 to August 15, unless doing so would endanger human life or violate safe flying practices. Permittees shall obtain information from the BLM necessary to plan flight routes when routes may go near falcon nests.
- 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.
- e. Aircraft used for permitted activities shall maintain an altitude of at least 2,000 feet

above ground level (except for takeoffs and landings) over the Teshekpuk Lake Caribou Habitat Area (Map 2) from May 20 through August 20, unless doing so would endanger human life or violate safe flying practices. Aircraft use (including fixed wing and helicopter) by oil and gas lessees in the Goose Molting Area (Map 2) should be minimized from May 20 through August 20, unless doing so would endanger human life or violate safe flying practices.

- 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.

Oil Field Abandonment (2008 ROD)

G-1 Lease Stipulation

Objective: Ensure the final disposition of the land meets the current and future needs of the public.

Requirement/Standard: Upon abandonment or expiration of the lease, all oil and gas-related facilities shall be removed and sites rehabilitated to as near the original condition as practicable, subject to the review of the AO. The AO may determine that it is in the best interest of the public to retain some or all facilities. Within the Goose Molting Area, the AO, when determining if it is in the best interest of the public to retain a facility, will consider the impacts of retention to molting geese and goose molting habitat.

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.

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

The decisions in subparagraphs K-1(a) and K-1(d) modify Colville River Management Plan Protection 1 by widening the setback in that measure to 2 miles. Protection 1 thus is modified to the following:

Summer Vehicle Tundra Access

L-1 Best Management Practice

Objective: Protect stream banks and water quality; minimize compaction and displacement of soils; minimize the breakage, abrasion, compaction, or displacement of vegetation; protect cultural and paleontological resources; maintain populations of, and adequate habitat for birds, fish, and caribou and other terrestrial mammals; and minimize impacts to subsistence activities. Requirement/Standard: On a case-by-case basis, BLM may permit low- ground-pressure vehicles to travel off of gravel pads and roads during times other than those identified in Best Management Practice C-2a. Permission for such use would only

be granted after an applicant has:

- a. Submitted studies satisfactory to the authorized officer of the impacts on soils and vegetation of the specific low-ground-pressure vehicles to be used. These studies should reflect use of such vehicles under conditions similar to those of the route proposed for use and should demonstrate that the proposed use would have no more than minimal impacts to soils and vegetation.
- b. Submitted surveys satisfactory to the authorized officer of subsistence uses of the area as well as of the soils, vegetation, hydrology, wildlife and fish (and their habitats), paleontological and archaeological resources, and other resources as required by the authorized officer.
- c. Designed and/or modified the use proposal to minimize impacts to the authorized officer's satisfaction. Design steps to achieve the objectives and based upon the studies and surveys may include, but not be limited to, timing restrictions (generally it is considered inadvisable to conduct tundra travel prior to August 1 to protect ground-nesting birds), shifting of work to winter, rerouting, and not proceeding when certain wildlife are present or subsistence activities are occurring. At the discretion of the authorized officer, the plan for summer tundra vehicle access may be included as part of the spill prevention and response contingency plan required by 40 CFR 112 (Oil Pollution Act) and Best Management Practice A-4.

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.

Appendix B Related Environmental Analyses NPR-A Exploration

Environmental Analysis ^a	Decision Document	Related Activity ^b <i>(proposed exploration drilling sites, access route corridors, and water supply associated with the total program, unless otherwise noted)</i>
Northeast National Petroleum Reserve-Alaska Integrated Activity Plan/Environmental Impact Statement. USDO I BLM. August 1998.	Record of Decision, Northeast National Petroleum Reserve-Alaska Integrated Activity Plan/Environmental Impact Statement. BLM, October 1998	Multi-use management of the Northeast NPR-A, including oil and gas leasing, exploration and development
EA: AK-020-00-011. Environmental Assessment, 1999-2000 Winter Exploration Drilling Program in the National Petroleum Reserve-Alaska (NPR-A). USDO I BLM, Alaska, Northern Field Office and Anchorage Field Office. January 2000. [ARCO]	Finding of No Significant Impact and Decision Record AA-081794. Application for Permit to Drill and Right-of-Way. BLM. January 2000	Spark 1, Lookout A, Clover A, Clover B, Moose's Tooth A, Moose's Tooth C, Rendezvous A, and Rendezvous B. 30-mi ice road corridor; 20-mi packed snow trail corridor; 1 ice airstrip/yr; 137 MG water (23 lakes in NPR-A). 3-year program over 5 years
EA: AK-023-01-001. Environmental Assessment, Trailblazer Exploration Drilling Program, 2000-2005, National Petroleum Reserve-Alaska (NPR-A). USDO I BLM, Alaska, Northern Field Office and Anchorage Field Office. November 2000 (minor revision January 2001). [BPX]	Finding of No Significant Impact and Decision Record AA-081752. Application for Permit to Drill and Right-of-Way. BLM. January 2001	Trailblazer A-H. 34-mi ice road corridor; 18-mi packed snow trail corridor; 1 ice airstrip/yr; 525 MG water (52 lakes in NPR-A); 54-mi non-federal offshore ice road. 5-year program
EA: AK 023-01-003. Environmental Assessment, National Petroleum Reserve-Alaska (NPR-A) Exploration Program, Winter Drilling 2000-2006. USDO I BLM, Alaska, Northern Field Office and Anchorage Field Office. December 2000 (minor revision March 2001). [Phillips]	Finding of No Significant Impact and Decision Record AA-081780. Application for Permit to Drill and Right-of-Way. BLM. March 2001	Spark 2, Spark 3, Spark 4, Spark 5, Rendezvous 1, Rendezvous 2, Outlook 1, Oxbow 1, Hunter 1, and Sunrise 2. Up to 5 temporary camp/storage ice pads; 56-mi ice road corridor (+20 mi existing ROW); 0-mi packed snow trail corridor (+20 mi existing ROW); 1 ice airstrip/yr; 500 MG water (83 lakes in NPR-A). 5-year program
EA: AK-023-02-004. Environmental Assessment, National Petroleum Reserve-Alaska (NPR-A) Altamura Prospect Exploration Program. December 2001 (Minor revision January 2002). [Anadarko]	Finding of No Significant Impact and Decision Record AA-081736. Application for Permit to Drill. BLM. January 2002.	Altamura 1 and Altamura 2. 7-mi ice road corridor; 4-mi packed snow trail corridor (+15 mi existing ROW); 1 ice airstrip/yr; 19 MG water (9 lakes in NPR-A). 2-year program
EA: AK-023-02-005. Environmental Assessment, National Petroleum Reserve-Alaska (NPR-A) 2001-2006 Exploration Drilling Program. USDO I BLM, Alaska, Northern Field Office and Anchorage Field Office. December 2001 (Minor revision January 2002). [Phillips]	Finding of No Significant Impact and Decision Record AA-081780. Application for Permit to Drill and Right-of-Way. BLM. January 2002.	Spark 6, Spark 7, Spark 8, Hunter A, Hunter 2, Lookout 2, Mitre 1, Rendezvous 3, Nova 1, Nova 2, Pioneer 1, Grandview 1, Tuvaq 1, Tuvaq 2, and Tuvaq 3. 30-mi ice road (+40 mi existing ROW); 100-mi packed snow trail (+31 mi existing ROW); 2 ice airstrip sites; 120 MG water (14 lakes in NPR-A). 5-year program
EA: AK-023-02-033. Environmental Assessment, Puviaq Storage Site Project, National Petroleum Reserve-Alaska. USDO I BLM, Northern Field Office, Arctic Management Team. March 2002. [CPAI]	Finding of No Significant Impact and Decision Record FF-093572. BLM NPR-A Permit 298401. March 28, 2002.	Access to and rig storage near Puviaq; 1 over-summer ice storage pad; 80-mi packed snow trail corridor. 1-year program
EA: AK-023-03-008. Environmental Assessment. National Petroleum Reserve-Alaska (NPR-A) Exploration Drilling Program, Puviaq #1 and #2 Exploration Wells. USDO I BLM, Alaska, Northern Field Office and Anchorage Field Office. December 2002. [CPAI]	Finding of No Significant Impact and Decision Record AA-081854. Application for Permit to Drill and Right-of-Way. BLM. December 2002.	Puviaq 1 and Puviaq 2. 76-mi ice road corridor; 168 mi packed snow trail corridor (+107 mi existing ROW); one over-summer ice storage pad, 2 ice airstrip sites; 124 MG water (28 lakes in the NPR-A). 2-year program
EA: AK-023-03-027. Environmental Assessment, Storage Ice Pads, USDO I BLM, Northern Field Office, Arctic Management Team. February 2003. [CPAI]	Finding of No Significant Impact and Decision Record FF-093905. Permit 298401. February 2003.	Alternate trail access to and rig storage near Kokoda/Carbon. 11-mi packed snow trail corridor; over-summer ice storage pad. 1-year program
EA: AK-023-03-032. Environmental Assessment, Access To and Drill Stacking at Inigok. USDO I BLM, Northern Field Office, Arctic Management Team. February 2003. [TOTAL E&P USA, Inc.]	Finding of No Significant Impact and Decision Record FF-093906. BLM NPR-A Permit 281001. February 2003.	Access to and rig storage at existing facility at Inigok; 30-mi packed snow trail corridor (+27 mi existing ROW). Access to lease; 6-mi hardened trail corridor. 1-year program
Northwest National Petroleum Reserve-Alaska Final Integrated Activity Plan/Environmental Impact Statement. USDO I BLM. November 2003.	Record of Decision, Northwest National Petroleum Reserve-Alaska Integrated Activity Plan/Environmental Impact Statement.	Multi-use management of the Northwest NPR-A, including oil and gas leasing, exploration and development

Environmental Analysis ^a	Decision Document	Related Activity ^b <i>(proposed exploration drilling sites, access route corridors, and water supply associated with the total program, unless otherwise noted)</i>
EA: AK-023-04-005. Environmental Assessment, National Petroleum Reserve-Alaska (NPR-A) 2003-2008 Exploration Drilling. USDO BLM, Northern Field Office, Arctic Management Team. December 2003. [TOTAL E&P USA]	BLM. January 2004. Finding of No Significant Impact and Decision Record AA-084161. Application for Permit to Drill and Right-of-Way. BLM. December 2003.	Caribou 07-16, Caribou 09-11, Caribou 14-12, Caribou 18-08, Caribou 23-14, Caribou 26-11, Caribou 35-05, and Caribou 35-14. One temporary staging ice pad; 60-mi ice road corridor (+22 mi existing ROW); 31-mi packed snow trail corridor (+ 27 mi existing ROW); corridor; 170 MG water (35 lakes in NPR-A). 5-year program
EA: AK-023-04-004. Environmental Assessment National Petroleum Reserve-Alaska (NPR-A) 2003-2008 Exploration Drilling Program, USDO BLM, Alaska, Northern Field Office and Anchorage Field Office. November 2003 (Minor revision December 2003). [CPAI]	Finding of No Significant Impact and Decision Record AA-084129. Application for Permit to Drill and Right-of-Way. BLM. December 2003.	Kokoda 1, Kokoda 2, Powerline 1, Grandview 2, Carbon 1, Summit 2, and Scout 1. 62-mi ice road corridor (+ 22 mi existing ROW); 5 ice airstrip sites; 92 MG water (12 lakes in NPR-A). 5-year program
Final Environmental Impact Statement. Alpine Satellite Development Plan. USDO BLM, Alaska State Office, in cooperation with U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Coast Guard, and the State of Alaska Anchorage, Alaska. September 2004.	Record of Decision, Final Environmental Impact Statement, Alpine Satellite Development Plan. Prepared by BLM, October 2004.	Production Development
EA: AK-023-05-005. Environmental Assessment National Petroleum Reserve-Alaska (NPR-A) Northeast Planning Area, Winter Exploration Drilling Program. USDO BLM, Alaska, Northern Field Office and Anchorage Field Office. December 2004 [CPAI]	Finding of No Significant Impact and Decision Record AA-081727. Application for Permit to Drill and Right-of-Way. BLM. December 2004.	Kokoda 3, Kokoda 4, Kokoda 5, Noatak 1, Bounty 1, Defiance 1; up to 10 temporary camp/storage ice pads; 26-mi ice road corridor (+84 mi existing ROW); 8-mi packed snow trail corridor (+88 mi existing ROW); 2 ice air strips/yr; 80 MG water (58 lakes in NPR-A). 5-year program
Final Northeast National Petroleum Reserve-Alaska Amended Integrated Activity Plan/Environmental Impact Statement. USDO BLM. January 2005 – remanded for further action	ROD – vacated by federal court	Multi-use management of the Northeast NPR-A, including oil and gas leasing, exploration and development
EA: AK-023-06-003. Environmental Assessment National Petroleum Reserve-Alaska (NPR-A) Northwest Planning Area, Winter Exploration Drilling Program 2005-2007. USDO BLM, Alaska, Fairbanks District Office, Arctic Field Office. December 2005 [FEX]	Finding of No Significant Impact and Decision Record AA-085574. Application for Permit to Drill, 3100.00 and Right-of-Way, 2884.01. BLM. December 2005.	Aklaq 1, Aklaq 1A, Aklaq 2, Aklaq 2A, Aklaq 2B, Aklaqyaaq 1, Amaguq 1; 31-mi ice road corridor; 78-mi packed snow trail corridor (+399 mi existing ROW); 2 ice air strips/year; up to 4 temporary camp/storage ice pads, 85 MG water (28 lakes in NPR-A). 2-year program
EA: AK-023-07-001. Environmental Assessment National Petroleum Reserve-Alaska (NPR-A) Northwest Planning Area, Winter Exploration Drilling Program 2006-2008. USDO BLM, Alaska, Fairbanks District Office, Arctic Field Office. December 2006 [FEX]	Finding of No Significant Impact and Decision Record AA-085574. Application for Permit to Drill, 3100.00 and Right-of-Way, 2884.01. BLM. December 2006.	Aklaq 3, Aklaq 4, Aklaq 5, Aklaq 6, Aklaq 7, Aklaq 7A, Aklaqyaaq 2, Amaguq 2; Uugaq 1; 62 -mi new access corridor, 2ice air strips/year; 113 MG water (34 lakes in NPR-A). 2-year program
EA: AK-023-07-002. Environmental Assessment National Petroleum Reserve-Alaska (NPR-A) Northeast Planning Area, Winter Exploration Drilling Program 2006-2011. USDO BLM, Alaska, Fairbanks District Office, Arctic Field Office. December 2006. [CPAI]	Finding of No Significant Impact and Decision Record AA-081840. Application for Permit to Drill, and ROWs, FF-092931 and FF-093835. BLM. December 2006.	Noatak-2, Noatak-3, Nugget-1, Nugget-2, Cassin-1, Cassin-2, Cassin-3, Spark DD 9-12; 110-mi new access corridor; 3 ice air strips/year; 201.5 MG water (9 new lakes in NPR-A). 5-year program
EA: AK-023-07-006. Environmental Assessment National Petroleum Reserve-Alaska (NPR-A) Northwest Planning Area, Petro-Canada (Alaska), Inc. Winter Exploration Drilling Program 2007-2009. USDO BLM, Alaska, Fairbanks District Office, Arctic Field Office. April 2007. [PCA]	Finding of No Significant Impact and Decision Record AA-085497. Application for Permit to Drill, and ROWs, FF-095123. BLM. April 2007.	Alaqtqa2 1, Tupaagruk 1, Tupaagruk 2, Tupaagruk 3. 43 miles of new access corridor; 2 ice airstrips/year; 58.8 MG water (22 new lakes in NPR-A). 2-year program
EA: AK-023-08-002. Environmental Assessment National petroleum Reserve-Alaska (NPR-A)	Finding of No Significant Impact and Decision Record AA081726 &	Wells 12, 13, 14, 15, 16, 17, 18, 19, 21, and 22. 7 miles of ROW in NPR-A. 38 miles of access

Environmental Analysis^a	Decision Document	Related Activity^b <i>(proposed exploration drilling sites, access route corridors, and water supply associated with the total program, unless otherwise noted)</i>
Northeast Planning Area, Winter Exploration Drilling Program 2007-2009. USDO BLM, Alaska, Fairbanks District Office, Arctic Field Office.	AA084141. Application for Permit to drill, and ROW FF095270. BLM. December 2007	route on fed lands outside NPR-A. 120MG water (13 new lakes in NPR-A). 2 yr program.
EA: AK-023-2008-007. Environmental Assessment National petroleum Reserve-Alaska (NPR-A) Northeast Planning Area, Winter Exploration Drilling Program 2007-2012. USDO BLM, Alaska, Fairbanks District Office, Arctic Field Office.	Finding of No Significant Impact and Decision Record AA081775, AA081781 & AA081800. Application for Permit to drill, and ROW FF092931. BLM. December 2007	Rendezvous 2, Spark Down Dip 9, Stony Hill. 110 miles of access corridor. 201.5 MG water (17 lakes). 3 ice air strips. 5 Yr program.
Northeast National Petroleum Reserve –Alaska Final Supplemental Integrated Activity Plan/Environmental Impact Statement. USDO BLM. May 2008.	Record of Decision, Northeast National Petroleum Reserve –Alaska Final Supplemental Integrated Activity Plan/Environmental Impact Statement. BLM. July 2008.	Northeast NPR-A Oil & Gas Leasing, exploration and development.
EA: DOI-BLM-LLAKF01000-2009-001. Environmental Assessment National petroleum Reserve-Alaska (NPR-A) Northeast & Northwest Planning Area, Winter Exploration Drilling Program 2008-2012. USDO BLM, Alaska, Fairbanks District Office, Arctic Field Office.	Finding of No Significant Impact and Decision Record AA086604, AA086615, AA086616 & AA086617 Application for Permit to drill, and ROW FF095310. BLM. November 2008.	Wolf Creek #4, Wolf Creek #5, Wolf Creek #6, Tsavorite #1A, Tsavorite #1B., Tsavorite #1C., Tsavorite #1D., Tsavorite #1E, 66 Miles of snow trail, 35 miles in field ice road, 2 ice air strips, 23 lakes in NPR-A. 390 MG water.
EA: DOI-BLM-LLAK01000-2009-0004. Environmental Assessment National petroleum Reserve-Alaska (NPR-A) Northeast Planning Area, Winter Exploration Drilling Program 2008-2013. USDO BLM, Alaska, Fairbanks District Office, Arctic Field Office.	Finding of No Significant Impact and Decision Record AA081785 & AA081779. Application for Permit to drill, and ROW FF092931. BLM. December 2008	Grandview #1 East, Pioneer #1. 27 Miles of new ROW. 26 new lakes. 52.45 MG water
DNA: DOI-BLM-LLAK010-2010-0004. Documentation of Land Use Plan Conformance and NEPA Adequacy, Northeast Planning Area, Winter Exploration Drilling Program Extension. USDO BLM, Alaska, Fairbanks District Office, Arctic Field Office.	AA081726 & AA084141. Application for Permit to drill extension, and ROW FF095270. BLM. February 9, 2010.	Wells 12, 13, 14, 15, 16, 17, 18, 19, 21, and 22. 7 miles of ROW in NPR-A. 38 miles of access route on fed lands outside NPR-A.
EA: DOI-BLM-LLAK010-2011-0001. Environmental Assessment National petroleum Reserve-Alaska (NPR-A) Northeast and Northwest Planning Areas, Well Abandonment Program 2011. USDO BLM, Alaska, Fairbanks District Office, Arctic Field Office.	Finding of No Significant Impact and Decision Record AA085494 & AA085503, AA085517. Application for Permit to drill, and ROW FF095743 and Injection Well FF095766 BLM. January 2011.	Aklaqyaaq #1, Aklaq #2, Aklaq #6. ROW 145.32 miles. 20,000 gallons water.
EA: DOI-BLM-LLAK010-2011-0005. Environmental Assessment National petroleum Reserve-Alaska (NPR-A) Northeast Planning Area, Well Plugging Program 2011. USDO BLM, Alaska, Fairbanks District Office, Arctic Field Office.	Finding of No Significant Impact and Decision Record AA081854. Application for Permit to drill, and ROW FF095631. BLM. February 2011.	Puviaq #1. 98.2 miles of ROW. 20,000 gallons water
National Petroleum Reserve –Alaska Final Integrated Activity Plan/Environmental Impact Statement. USDO BLM. November 2012.	Record of Decision, National Petroleum Reserve –Alaska Final Integrated Activity Plan/Environmental Impact Statement. BLM. February 2013.	NPR-A Oil & Gas Leasing, exploration and development.
EA: DOI-BLM-LLAK010-2013-0001. Environmental Assessment National petroleum Reserve-Alaska (NPR-A) Northeast Planning Area, 1 Yr Winter Exploration Drilling Program 2012-2013. USDO BLM, Alaska, Fairbanks District	Finding of No Significant Impact and Decision Record AA081832, AA081833 & AA091675. Application for Permit to drill, and ROW FF096502. BLM. December 2012.	New Wells Cassin #1, Cassin #6. P&A Carbon 1, Moose’s Tooth C, & Scout 1. 88 Miles of ROW. 21 lakes. 52.45 MG water

Environmental Analysis ^a	Decision Document	Related Activity ^b <i>(proposed exploration drilling sites, access route corridors, and water supply associated with the total program, unless otherwise noted)</i>
Office, Arctic Field Office.		
EA: DOI-BLM-LLAK010-2013-0002. Environmental Assessment National petroleum Reserve-Alaska (NPR-A) Northeast Planning Area, 1 Yr Winter Delineation Drilling Program 2013. USDO IBLM, Alaska, Fairbanks District Office, Arctic Field Office.	Finding of No Significant Impact and Decision Record AA081726 & AA084141. Application for Permit to drill. BLM. January 2013.	New Wells Umiat Well DSP-01, Umiat Well 16, Umiat Well 16H, Umiat Well 18, Umiat Well 19, Umiat Well 23, Umiat Well 23H. 7 Miles of access route on-lease. 5 lakes. 32.16 MG water (with 10% Contingency)
EA: DOI-BLM-LLAK010-2014-0001. Environmental Assessment National petroleum Reserve-Alaska (NPR-A) 1 Yr Winter Exploration Drilling Program 2013. USDO IBLM, Alaska, Fairbanks District Office, Arctic Field Office.	Finding of No Significant Impact and Decision Record AA081784, AA087896 & AA0987852. Application for Permit to drill, and ROW FF096701. BLM. December 2013.	New Wells Rendezvous #3 & Flat Top #1 53 Miles of ROW. 20 lakes. 65.21 MG water