



**Environmental Assessment**

**for FEX L.P. Inc. NW-NPRA 2011 Well Abandonment Program  
EA# DOI-BLM-LLAK010-2011-0001-EA**

**Preparing Office: Arctic Field Office**

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**Project Title/Type of Action: Well Plugging/Abandonment, Injection Well, NPR-A Right of Way (2884.01)**

**Serial/Lease/Case File Number: Serial #FF095743/FF95766/AA085494, AA085503, AA085517**

**Land Use Plans/Acts:**

**Northwest National Petroleum Reserve-Alaska Integrated Activity Plan/Environmental Impact Statement (IAP/EIS) dated 2003  
Northeast National Petroleum Reserve-Alaska Supplemental Integrated Activity Plan/Environmental Impact Statement (IAP/EIS) dated 2008**

**Applicant: FEX L.P. Inc.**

**Address: 3601 C Street, Suite 370  
Anchorage, Alaska 99503**

**Date: January 18, 2011**

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**Land Description**

Snow trail to wells

Township	Range	Section		
12 North	2 East	1	No BLM Managed Lands	Kuukpik
12 North	3 East	3-6	No BLM Managed Lands	Kuukpik
12 North	4 East	4-6	No BLM Managed Lands	Kuukpik
13 North	2 East	6,7,33-36	No BLM Managed Lands	Kuukpik
13 North	4 East	25-27, 32-34	No BLM Managed Lands	Kuukpik
13 North	5 East	14,29,30	No BLM Managed Lands	State
13 North	6 East	7-12	No BLM Managed Lands	State
13 North	7 East	7,8,9,16,26	No BLM Managed Lands	State
13 North	8 East	13,23,24,26,27.31- 34	No BLM Managed Lands	State & Private
13 North	9 East	5,7,8,18	Oliktok Dewline,	State & Private
13 North	14 West	5-7, 18,19		
13 North	15 West	12,13,24		
14 North	1 East	17-27, 36		
14 North	2 East	30,31	No BLM Managed Lands	Kuukpik
14 North	1 West	7-9,13-18,24		
14 North	2 West	7,8,11-18		
14 North	3 West	12-15,19-23		
14 North	4 West	5,6, 8, 14-17,21-24		Contains Private Inholding
14 North	12 West	5,6,8		
14 North	13 West	1,2,7-11,15-19		Contains Private Inholding
14 North	14 West	10,11,13,14,22, 23,24,26,27,28,32,3 3		
15 North	4 West	30-32		

15 North	5 West	7,8,14-18, 23-25		
15 North	6 West	3,10,12-15,23		
15 North	8 West	2,3,15-21,29		
15 North	9 West	1,12		
15 North	11 West	3,4,5,8,10,11,14,17-19,23,26		
15 North	12 West	12,13,14,19,20,22-24,26-33		
15 North	13 West	36		
16 North	6 West	19,20,28-34		
16 North	7 West	13-15, 19-24		
16 North	8 West	24-26, 34,35		
16 North	9 West	19-25,36		Contains Private Inholding
16 North	10 West	19-24, 29,30		Contains Private Inholding
16 North	11 West	24-34		

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**Glossary/Acronyms**

105C Study- A study conducted in 1977 & 1978 at the direction of the Secretary of the Interior under section 105C of the NPRPA of 1976

- AAC.....Alaska Administrative Code  
 ACEC.....Area of Critical Environmental Concern  
 ADEC..... Alaska Department of Environmental Compliance  
 ADFG/ADF&G .....Alaska Department of Fish and Game  
 AFO.....Arctic Field Office  
 AGL.....Above ground level  
 ANILCA- The Alaska National Interest Lands Conservation Act passed in 1980, modified and established designation of federal lands in Alaska for conservation and wilderness. These lands are managed by the National Park Service, US Fish and Wildlife Service, and US Forest Service.  
 ADNR..... Alaska Department of Natural Resources  
 AO..... Authorized Officer  
 AOGCC.....Alaska Oil and Gas Conservation Commission  
 BLM.....Bureau of Land Management  
 Cat Camp- A cat-camp is the equivalent of a camper. It is a small, typically 2 to 4 person self-contained, ski-mounted unit with sleeping quarters, generator and kitchenette.  
 CFR.....Code of Federal Regulations  
 CRSA.....Colville River Special Area  
 EA.....Environmental Assessment  
 EFH.....Essential Fish Habitat  
 EIS.....Environmental Impact Statement  
 EO.....Executive Order  
 EPA.....Environmental Protection Agency  
 ESA.....Endangered Species Act  
 FEX.....FEX L.P. Inc.  
 FLPMA – The Federal Land Policy And Management Act of 1976 is a Public Law 94-579 passed by Congress October 21, 1976 that gave direction to the way in which the public lands administered by the Bureau of Land Management are managed.  
 IAP.....Integrated Activity Plan  
 Injection Well – Term for use of a well for disposal of produced fluids. For this EA the produced fluids are from the P&A of previously drilled wells.  
 NAD- The North American Datum is the datum used for the geodetic (measurement and representation of the earth) network in North America.  
 NEPA- National Environmental Policy Act. This law, passed in 1969, went into effect on January 1, 1970. It requires all Federal Agencies to disclose the environmental effects of their actions.  
 NPRA- National Petroleum Reserve Alaska, formally named The Naval Petroleum Reserve #4(NPR-4) is an area of more than 23 million acres in the northernmost part of Alaska, and was established by executive order on February 27, 1923.

NOAA.....National Oceanic and Atmospheric Administration  
NPDES .....National Pollutant Discharge Elimination System  
NPRPA- The Naval Petroleum Reserves Production Act of 1976 (PL 94-258), dated April 5, 1976, transferred jurisdiction of NPR-4 to the Secretary of the Interior and renamed it the NPR-A. This act authorized the Secretary to begin further petroleum exploration and closed the NPR-A to all forms of appropriation under the public land laws, including mining and mineral leasing laws.  
NPR-4- The Naval Petroleum Reserve No. 4 was established by Executive Order 3797, dated February 27, 1923.  
P&A- The plugging and abandonment of an oil and gas exploration well.  
USFWS (FWS) .....United States Fish & Wildlife Service

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**Environmental Assessment  
for FEX L.P. Inc. NW-NPRA 2011 Well Abandonment Program  
EA# DOI-BLM-LLAK010-2011-0001-EA**

## **Chapter 1 Introduction**

FEX L.P. Inc. (FEX) has applied for the plugging and abandonment of 3 wells, a Right of Way (ROW) grant and authorization for an injection well, for activity in the National Petroleum Reserve Alaska (NPR-A). FEX (the Applicant) also has submitted permit applications to Federal and State agencies and the North Slope Borough (NSB).

On September 1<sup>st</sup>, FEX submitted relinquishment notices for their NPR-A leases. Three of the FEX lease tracts currently have wells that were previously drilled and were left in a suspended state. FEX proposes the plugging/abandonment of the Aklaqyaaq #1, Aklaq #2 and Aklaq #6 wells. The wells are west of Teshekpuuk Lake and Southwest of Smith Bay. The site locations are:

- Aklaqyaaq #1 Section 23, Township 14 North, Range 14 West, Umiat Meridian  
Latitude 70<sup>0</sup> 33" 21.70640' Longitude 155<sup>0</sup> 25" 35.24906'
- Aklaq #2 Section 29, Township 15 North, Range 12 West, Umiat Meridian  
Latitude 70<sup>0</sup> 37" 36.40901' Longitude 155<sup>0</sup> 02" 21.63606'
- Aklaq #6 Section 25, Township 16 North, Range 11 West, Umiat Meridian  
Latitude 70<sup>0</sup> 42" 43.22879' Longitude 154<sup>0</sup> 36" 39.75061'

Aklaq #2 was drilled in 2006, Aklaqyaaq #1 and Aklaq #6 were drilled in 2007.

On October 1<sup>st</sup>, 2010 FEX requested, that an NPR-A right of way be granted to conduct this work. FEX has contracted with Solsten XP (formerly Fairweather E&P Services, Inc.) to perform well engineering, well work permits, field operations and logistics. Solsten XP subcontracted Marsh Creek, LLC to provide camp operations. All other permit work is being completed by ARCADIS. The applications were filed in accordance with the regulations contained in 43 Code of Federal Regulations (CFR) 2800, 3100 and under the authority in the Naval Petroleum Reserve Production Act of 1976 (NPRPA).

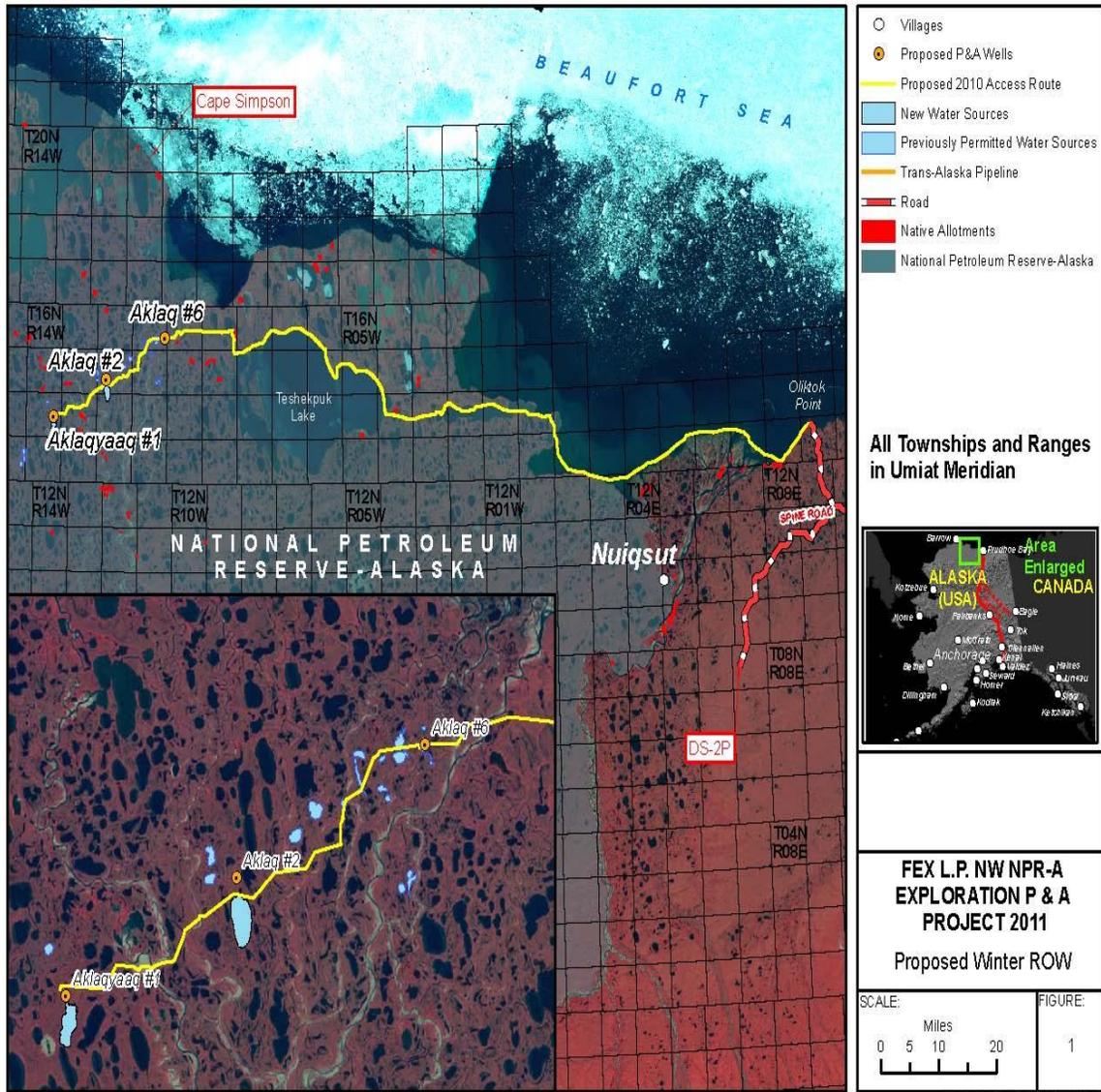


Figure 1: FEX Application Map

## **1.1 Need for Action**

The project is needed to allow FEX to fulfill the federal requirements of relinquishing their lease sites that have previously had drilling activity. If this action is not taken the sites would degrade resulting in environmental pollution.

## **1.2 Purpose of Action**

The specific objectives of this project are to:

- Permanently Plug and Abandon the Aklaq #2, Aklaqyaaq #1 and Aklaq #6 wells.
- Transport and class II injection of drilling fluids into Aklaq #2.
- Transport waste materials to existing North Slope facilities for proper treatment and disposal.
- Process waste drilling fluids on-site for reuse where possible, or transported to an approved facility for injection.
- Reclamation according to regulatory requirements stated in Onshore Oil and Gas Order No. 1 section XII (B) with the objective of removing all surface expression of the former facility and return the site as near as possible to its pre-construction condition.

## **1.3 Laws, regulations, other EAs that influence this EA**

This EA will be based on the findings, management controls, and protective measures of the 2003 NW NPR-A Integrated Activity Plan/Environmental Impact Statement (IAP/EIS) and the 2004 NW NPR-A IAP/EIS ROD, the NE NPR-A Supplemental Integrated Activity Plan/Environmental Impact Statement (SIAP/EIS) and the 2008 NE NPR-A SIAP/EIS ROD, as well as other laws and regulations. The action, as proposed, is consistent with the objectives outlined in these documents and not in conflict with other resources in the area. The proposed use is in conformance with current policy of the Arctic Field Office, BLM.

The proposed action is in conformance with the NW IAP/EIS, NE SIAP/EIS, associated RODs, National Petroleum Reserve Production Act (NPRPA), Federal Land Policy Management Act (FLPMA), Alaska National Interest Lands Conservation Act (ANILCA) Endangered Species Act, Sustainable Fisheries Act, Executive Order (EO) 11988, EO 11990, and terms of the federal leases.

## **1.4 Decision to be made**

The BLM must conduct a project-specific NEPA analysis and determine whether the proposed project should be approved, rejected, or approved with modifications, and if additional mitigation is needed. This EA will be based on the findings, management controls, and protective measures of the 2004 NW ROD, 2008 NE ROD, as well as other laws and regulations. The scope of this EA includes analysis that enables the BLM to select among alternatives that meet the purpose and need, and are within the BLM's jurisdiction (40

Code of Federal Regulations 1506.1(a) (2)). The scope, location, and timing of potential summer monitoring and mitigation are currently undefined, and are subject to future BLM evaluation.

**1.5 Scoping and Issues**

Public notification of the Environmental analysis was announced on December 1, 2010 in the NEPA register on file at the Arctic Field Office Environmental Assessment web site. No public comments have been received through January 14, 2011. Development of the 2003 NW IAP/EIS and 2008 NE IAP/EIS involved extensive input from other Federal agencies, the State, the NSB, thousands of individuals, and many institutions. A number of permits and approvals are required for oil and gas operations. These are described in the 2003 NW IAP/EIS (Vol. 3, Appendix 4) and the 2008 NE IAP/EIS (Vol. 5, Appendix B), many of which are available for public review prior to agency decision-making. **Table 1.1** summarizes permits and approvals associated with the proposed project.

**Table 1.1 Permits and Approvals for Proposed Project in the NPR-A**

<b>Federal Authorizations Requirements and Approvals</b>	
Bureau of Land Management	<ul style="list-style-type: none"> <li>▪ Right-of-Way (ROW) for Tundra Travel Access</li> <li>▪ Right-of-Way (ROW) Injection Well</li> <li>▪ Reclamation Plan</li> <li>▪ Comprehensive Waste Management Plan</li> <li>▪ Subsistence Plan</li> <li>▪ Orientation Program Plan</li> <li>▪ Threatened and Endangered Species Determination</li> <li>▪ Essential Fish Habitat Assessment (No consultation with National Marine Fisheries Service required)</li> <li>▪ Alaska National Interest Lands Conservation Act (ANILCA) 810 Evaluation and Findings</li> <li>▪ Archaeological and Cultural Resources Clearance</li> </ul>
U.S. Fish and Wildlife Service	<ul style="list-style-type: none"> <li>▪ Concurrence on BLM Threatened and Endangered Species Determination Letter of Authorization – Intentional and Incidental Take Polar Bears</li> </ul>
U.S. Environmental Protection Agency	<ul style="list-style-type: none"> <li>▪ Spill Prevention, Control, and Countermeasures Plan (drilling contractor)</li> <li>▪ Exception Notification to operate small incineration unit.</li> </ul>
<b>State Authorizations and Approvals</b>	
Alaska Department of Natural Resources	<p><u>Division of Coastal and Ocean Management</u> Coastal Management Consistency Determination (modification)</p> <p><u>Division of Mining, Land and Water</u></p> <ul style="list-style-type: none"> <li>▪ Temporary Water Use Permits (ice roads and ice pads construction and maintenance, drilling and human use)</li> <li>▪ Land Use Permit Access - renewal</li> </ul>
Alaska Department of Fish and Game	<ul style="list-style-type: none"> <li>▪ Fish Habitat Permits for water extraction/use and stream crossings with fish habitat</li> </ul>
Alaska Oil and Gas Conservation Commission	<ul style="list-style-type: none"> <li>▪ Annular Disposal Approval</li> </ul>
Alaska Department of Environmental Conservation	<ul style="list-style-type: none"> <li>▪ Temporary Storage of Drilling Wastes</li> <li>▪ Air Quality Minor Source General Permit (MGP-1)</li> </ul>

	<ul style="list-style-type: none"> <li>▪ Oil Discharge Prevention and Contingency Plan (ODPCP) and Certificate of Financial Responsibility</li> <li>▪ Grey Water Discharge Authorization or Waste Water Disposal Permit</li> </ul>
<b>Local Government Authorizations and Approvals</b>	
<b>North Slope Borough</b>	<ul style="list-style-type: none"> <li>▪ Development Permits (for related elements)</li> </ul>

BLM guidelines include a list of issues that are addressed, where applicable, in NEPA assessments, (BLM, 2003, BLM 2008). 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**

<b>Resources/Environmental Considerations for Issues and Analysis</b>	<b>Determination</b>	<b>Basis of Determination (See Note )</b>
ACEC's	Not Present	
Air Quality	Minimally Impacted	Protection provided by: State of Alaska Air Non-Point and Mobile Program and regulations (18 AAC 50); and
Cultural and Paleontological Resources	Not Present	Protection provided by: Section 106 of the National Historic Preservation Act, ROP E-13, I-1
Environmental Justice	Not Present	Protection provided by: EO 12898
Fish	Minimally Impacted	Protection provided by: ROP A-4, A-5, B-1, B-2, C-3, C-4; Project-Specific Stipulations; ADFG Fish Habitat Permits.
Flood Plains/Wetlands and Riparian Zones	Minimally Impacted	Protection provided by Permit Stips/ROPs A-4, A-5, C-2, C-3, EO 11988 and EO 11990.
Invasive, Non-native species	Not Present	
Native American Religious Concerns	Not Present	
Recreation	Minimally Impacted	Protection Provided by Stipulations A-1, A-5, C-3, C-4, E-6, F-1, and I-1.
Socialcultural Systems	Not Present	
Subsistence	Minimally Impacted	Protection provided by: ANILCA
Threatened & Endangered Species Spectacled and Steller's eider	Not Present	Protection provided by section 7 of the Endangered Species Act (J), ROP A-4, A-5, E-9
Threatened & Endangered Species Polar Bear	Minimally Impacted	Letter of Authorization for the Incidental and Intentional Take of polar bears issued under sections 101 (a) (4) (A) (c), 109(h) and 112(c) of the Marine Mammal Protection Act. In accordance with section 7 of the Endangered Species Act of 1973, as amended (ESA), issuance of these LOAs also fulfills the requirements for Tier 2 Consultation of the Programmatic Biological Opinion. ROP A-4 - A-8, C-1, C-2, F-2 and permit specific stipulation #3.
Non threatened and endangered birds	Minimally Impacted	Protection provided by ROP A-2a, A-4 – A-6, E-9, E-10, E-9-b

**Table 1.2 Issues Considered in Evaluating Impacts**

<b>Resources/Environmental Considerations for Issues and Analysis</b>	<b>Determination</b>	<b>Basis of Determination (See Note )</b>												
Non threatened and endangered mammals	Minimally Impacted	Protection provided by Permit Stipulations A-4, A-5, A-6, A-7, A-8, C-1, and F-1.												
Vegetation	Minimally Impacted	Protection provided by Permit Stipulations A-4, A-5, A-6, A-7, and C-2.												
Visual Resource Management	Minimally Impacted	Protection Provided by Stipulations A-1, A-3, A-4, A-5, A-6, C-2, C-3, C-4, E-6, and F-1.												
Water Resources	Minimally Impacted	Protection provided by Permit Stips/ROPs A-1, A-3,through A-7, B-1, B-2, C-2, C-3, and C-4												
Waste (Hazardous/Solid)	Minimally Impacted	Protection provided by: EPA SPCC Plan and NPDES permit; State of Alaska regulations 18 AAC 30, 60, 62, 63, 72, and 75; and by Stips/ROPs A-1, and A-3 through A-8												
Wild & Scenic Rivers	Not Present													
Wilderness Characteristics and Wild Lands	Potentially Impacted	See Chapters 3 and 4. Protection provided by ROPS A-1, A-4, A-5, A-6, C-1, C-2, C-3, C-4,E-6,E,-10,E-13,and I-1												
<p><b>Key to Table 1.1:</b></p> <table border="0"> <tr> <td>AAC- Alaska Administrative Code</td> <td>EO- Executive Order</td> </tr> <tr> <td>ACEC- Area of Critical Environmental Concern</td> <td>EPA- Environmental Protection Agency</td> </tr> <tr> <td>ADFG- Alaska Department of Fish and Game</td> <td>ESA- Endangered Species Act</td> </tr> <tr> <td>ANILCA- Alaska National Interest Lands Conservation Act</td> <td>NPDES- National Pollutant Discharge Elimination System</td> </tr> <tr> <td>BLM – Bureau of Land Management</td> <td>ROP- Required Operating Procedure</td> </tr> <tr> <td>EFH – Essential Fish Habitat</td> <td>SPCC- Spill Prevention Control and Countermeasures</td> </tr> </table> <p><b>Potentially Affected:</b> 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.</p> <p><b>Minimally Impacted:</b> 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.</p> <p><b>Not Present:</b> 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.</p>			AAC- Alaska Administrative Code	EO- Executive Order	ACEC- Area of Critical Environmental Concern	EPA- Environmental Protection Agency	ADFG- Alaska Department of Fish and Game	ESA- Endangered Species Act	ANILCA- Alaska National Interest Lands Conservation Act	NPDES- National Pollutant Discharge Elimination System	BLM – Bureau of Land Management	ROP- Required Operating Procedure	EFH – Essential Fish Habitat	SPCC- Spill Prevention Control and Countermeasures
AAC- Alaska Administrative Code	EO- Executive Order													
ACEC- Area of Critical Environmental Concern	EPA- Environmental Protection Agency													
ADFG- Alaska Department of Fish and Game	ESA- Endangered Species Act													
ANILCA- Alaska National Interest Lands Conservation Act	NPDES- National Pollutant Discharge Elimination System													
BLM – Bureau of Land Management	ROP- Required Operating Procedure													
EFH – Essential Fish Habitat	SPCC- Spill Prevention Control and Countermeasures													

**Note:** Determination tiered from: 2003 NW IAP/EIS and 2004 ROD, 2008 NE IAP/EIS; and 2008 NE ROD, and laws and regulations as noted.

In summary, BLM resource specialists have identified the following issue for further evaluation in this EA: Wilderness Characteristics and Wild Lands

**1.6 Public Involvement**

For this project, the applicant consulted with the North Slope Borough Wildlife and Planning departments on September 2, 2010. They attended and presented the proposed action at the Subsistence Advisory Panel meeting in Barrow, Alaska on December 16, 2010.

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## Chapter 2 Alternatives Including the Proposed Action

### 2.1 Introduction

This chapter both describes the alternatives (potential actions) and compares the alternatives in terms of their environmental impacts (from Section 1.5) and their achievement of objectives (from Section 1.2).

### 2.2 Description of Alternatives

#### 2.2.1 Alternative A: No Action

Under No Action, FEX would not plug and abandon the Aklaq #2, Aklaqyaaq #1 and Aklaq #6 wells and not conduct reclamation at the sites. The current situation as described below would continue. The wells were drilled in 2006 and 2007 and currently all have an above ground well head that is encased in visqueen to discourage birds from using it as a nesting site. The covers are temporary and would need to either be replaced or repaired as time goes on. Water is pooling around the well cell. The wells are currently lined with cement casing, plugged with cement and filled with kill-weight fluid.

See Chapter III (Affected Environment) of the NW IAP/EIS for a more detailed profile of the current environmental situation at the sites.

#### 2.2.2 Alternative B: Proposed Action

The proposed action as submitted by the applicant is that of construction, operation, maintenance of an NPR-A right-of-way, an injection well ROW and reclamation at the Aklaq #2, Aklaqyaaq #1 and Aklaq #6 well sites. This project has several aspects including plug and abandonment of the wells and removal of waste. Details are provided in the Applicant's Plan of Operations, submitted to multiple agencies, and on file with the BLM Arctic Field Office. Additional information on winter access can be found in the 2003 NW IAP/EIS (Volume 1, Section IV.A) and 2008 NE IAP/EIS (Volume 2, Chapter 4.2).

##### 2.2.2.1 Access and Construction

The proposed ROW from Oliktok Point to the well sites reaches BLM managed lands at approximately Atigaru Point. This portion of the proposed trail is approximately 110 miles in length with an additional 35.32 miles of route to lakes. The total ROW mileage is approximately 145.32 miles. The applicant may shorten the route on the western edge of Teshekpuk Lake by less than 10 miles. During a meeting with the applicant, BLM and FWS it was suggested that there was no need to dip down as far as they had planned. If the applicant does this it would save some time and money for them.

The camp, equipment and materials would be mobilized on trucks using the existing road system from Deadhorse to Oliktok Point. A designated staging area would be established on

the sea ice adjacent to Oliktok Point. Fuel would not be stored on location at the staging area.

From the staging area the work site access would be accomplished through the use of off-road vehicles pulling a Cat Train Camp and skid sleighs with support equipment following the proposed ROW trail. FEX does not propose to perform any hard packing of snow or ice road or pad construction.

A resupply Cat Camp would travel between Deadhorse and the work sites to provide fuel, ancillary equipment and supplies. The Resupply Cat Camp which would consist of two or more Stiegers, two 2,500 gallon fuel tanks and one survival unit sleigh traveling back and forth between Deadhorse and the work site throughout the project.

Air support would augment the resupply Cat Camp for personnel rotations and perishable items. Air support would be called upon as needed however it is expected that aircraft would be operated approximately every 3 to 4 days. There are no runways proposed for the project. Landing areas would be constructed by either clearing a strip on frozen lake ice by scraping snow off the ice or by gently packing a flat spot in the snow. FEX submitted the required aircraft plan to the BLM.

#### **2.2.2.2 Camp**

The actual layout of the well work pad would depend on weather conditions, terrain and any other factors that might dictate arranging equipment around the wellhead. Each camp would utilize about a 60 by 250 foot space. The camp would be separate from the work pad and consists of a 16 bed camp. There would be no midway camp established on the trail. The proposed equipment is listed below.

- Air Compressor 185 CFM
- Boiler
- Cement/Brine Mixing Unit (50 or 100 bbl mixer)
- Cement Bulk Silos or Bulk Supersacks (7 x 2000 lbs supersacks of permafrost cement)
- Connex – storage, spill kit (8'W x 20' L)
- Connex – with tools, equipment, consumables (8'x20"L)
- Dedicated Storage tanks for Class I fluid wastes
- Dedicated Storage tanks for Class II fluid wastes
- D-7
- Excavator 200 EX with frost bucket and teeth
- Fuel tanks for recovered diesel
- Generator Wacker 85 W or similar
- Groomer
- Guzzler Vaccum unit (with Cat Track trailer) 3,000 gallons
- Heaters (X2) ES 700 Arctic Bear or similar
- Light Plants (X2)

- Loader 966 or similar
- Open Top Tanks (X2) for bleeder fluid – 25 bbl
- Track vehicle or Tucker
- Smart Ash Incinerator
- Steigers - 5
- Wachs Saw (Guillotine Pipe Saw) Super D: Cuts 10” through 24”
- Waste Maker
- Welding Machine

**2.2.2.3 Schedule**

FEX proposes to start their winter activity beginning in January 2011 with the actual well work proposed to take place between January 15 and February 15. FEX proposes to first mobilize at Aklaqyaaq #1 to prepare the site for work to begin. Simultaneously they propose to prepare Aklaq #2 for the injection of annular disposal of wastes from Aklaqyaaq #1. Once the work at Aklaqyaaq #1 is complete FEX would mobilize to Aklaq #6. The annular disposal of wastes from Aklaq #6 would be transported to Aklaq #2 upon the completion of work at Aklaq #6. Aklaq #2 would be the last well to be plugged. Once work is complete at Aklaq #2 FEX would demobilize prior to tundra travel closure back to Deadhorse.

**2.2.2.4 Water Use**

The proposed winter snow trail would travel along the Kogru River and may cross the Miguakiak, Ikpikpuk, Alaktak, and Chip Rivers. FEX would work with ADF&G to ensure only certified water withdrawal screens are used. The screens would be maintained and operated in a manner to ensure intake velocities do not exceed 0.5 feet per second.

FEX estimates that their water needs for the proposed action to be 20,000 gallons (Table 2.1). They currently have Temporary Water Use Permits from the State of Alaska and have requested a new permit for 2 additional lakes (Table 2.2). Water and ice aggregate from lakes permitted may be used for hardening snow packed trails and camp and equipment use. Water would also be used for final well plugging activities at each well site.

**Table 2.1 FEX estimated water use requirements.**

ACTIVITY	TOTAL GALLONS
Aklaqyaaq #1 well abandonment	9,560
Aklaq #6 well abandonment	3,787
Aklaq #2 well abandonment	5,678
Contingency	975
<b>TOTAL ESTIMATED GALLONS:</b>	<b>20,000</b>

Table 2.2 FEX P&A Lake Information

**DOI-BLM-LLAK010-2011-0001-EA**

Lake ID	Location Legal Description (Umiat Meridian)	Latitude (N) (NAD83)	Longitude (W) (NAD83)	Max Depth (feet)	Surface Area (acres)	Fish Species Present	Fish Species Present	15% Under 7 ft of Ice (MG)	30% Under 5 ft of Ice (MG)	Additional Ice Chips
B84143	Sec. 23-26/35, T14N, R14W	70.54233	155.41261	10.8	741.9	LC	--	33.26	--	No
M0516A	Sec. 4-5/32-33, T14/15N, R12W	70.60114	155.02052	17.9	1210.2	BW, LC	--	41.47	--	No
M0613	Sec. 13/18-19/24, T15N, R12/13W	70.64324	155.09660	12.2	169.2	LC	--	3.02	--	No
M0614	Sec. 19/25/30, T15N, R12/13W	70.62943	155.09657	14.2	130.3	NP	--	4.78	--	No
M0618	Sec. 10, T14N, 14W	70.58292	155.46508	8.3	109.4	None	AB	--	11.38	No
M0619	Sec. 7/12-13/18-19/24, T13N, R14/15W	70.48577	155.62594	7.5	488.2	BW, LC	--	0.06	--	No*
M0620	Sec. 24/25, T13N, R15W	70.46150	155.64108	9.2	218.8	None	NS	--	11.64	No
M0628	Sec. 24, T16N, R11W	70.72131	154.61286	12.1	17.0	LC	--	1.29	--	No
M0629	Sec. 25, T16N, R11W	70.70880	154.61491	14.0	21.1	LC	--	1.78	--	No
M0630	Sec. 25/36, T16N, R11W	70.70442	154.59477	13.0	29.6	LC	--	1.23	--	No
M0631	Sec. 23/26/27, T16N, R11W	70.71289	154.67037	23.6	162.8	LC	--	23.36	--	No
M0632	Sec. 26-27/34-35, T16N, R11W	70.70349	154.67915	22.8	189.5	LC	--	13.33	--	No
M0633	Sec. 27/34, T16N, R11W	70.70339	154.70634	24.4	42.5	LC	--	7.99	--	No
M0634	Sec. 28-29/33, T16N, R11W	70.70502	154.75360	26.9	100.2	BW, LC	--	14.67	--	No
M0635	Sec. 3-4, T15N, R11W	70.68560	154.71294	23.4	63.4	None	NS	--	19.65	No
M0636	Sec. 4-5/32-33, T15/16N, R11W	70.68970	154.75930	23.9	127.9	BW, LC	--	5.85	--	No
M0637	Sec. 3, T15N, R11W	70.67877	154.69224	16.8	43.7	None	NS	--	16.7	No
M0638	Sec. 5/8, T15N, R11W	70.67622	154.79886	23.1	43.3	LC	--	6.96	--	No
M0639A	Sec. 1/7/12, T15N, R11/12W	70.66969	154.86483	14.5	175.8	BW, LC	--	1.98	--	No
M0640	Sec. 14, T15N, R12W	70.65603	154.90334	15.4	191.5	LC	--	15.59	--	No
M0641	Sec. 23/26/35, T15N, R11W	70.63029	154.63991	16.4	137.1	BW, LC	--	4.17	--	No
M0642	Sec. 26, T15N, R11W	70.62529	154.66021	12.9	77.4	LC	--	0.67	--	No

Key:

MG = million gallons; -- = not estimated or not required; BW = broad whitefish; LC = least cisco; NP = northern pike; NS = ninespine stickleback; AB = Alaska bla  
Notes:

<sup>a</sup> \*- ice aggregate use approved by ADFG Fish Habitat Permit FH06-III-0313 will not be utilized.

<sup>b</sup> See 4.1.1 Fish for explanation of exception.

Sec – Section, T- Township, R-Range, N-North, W-West, NAD- North American Datum

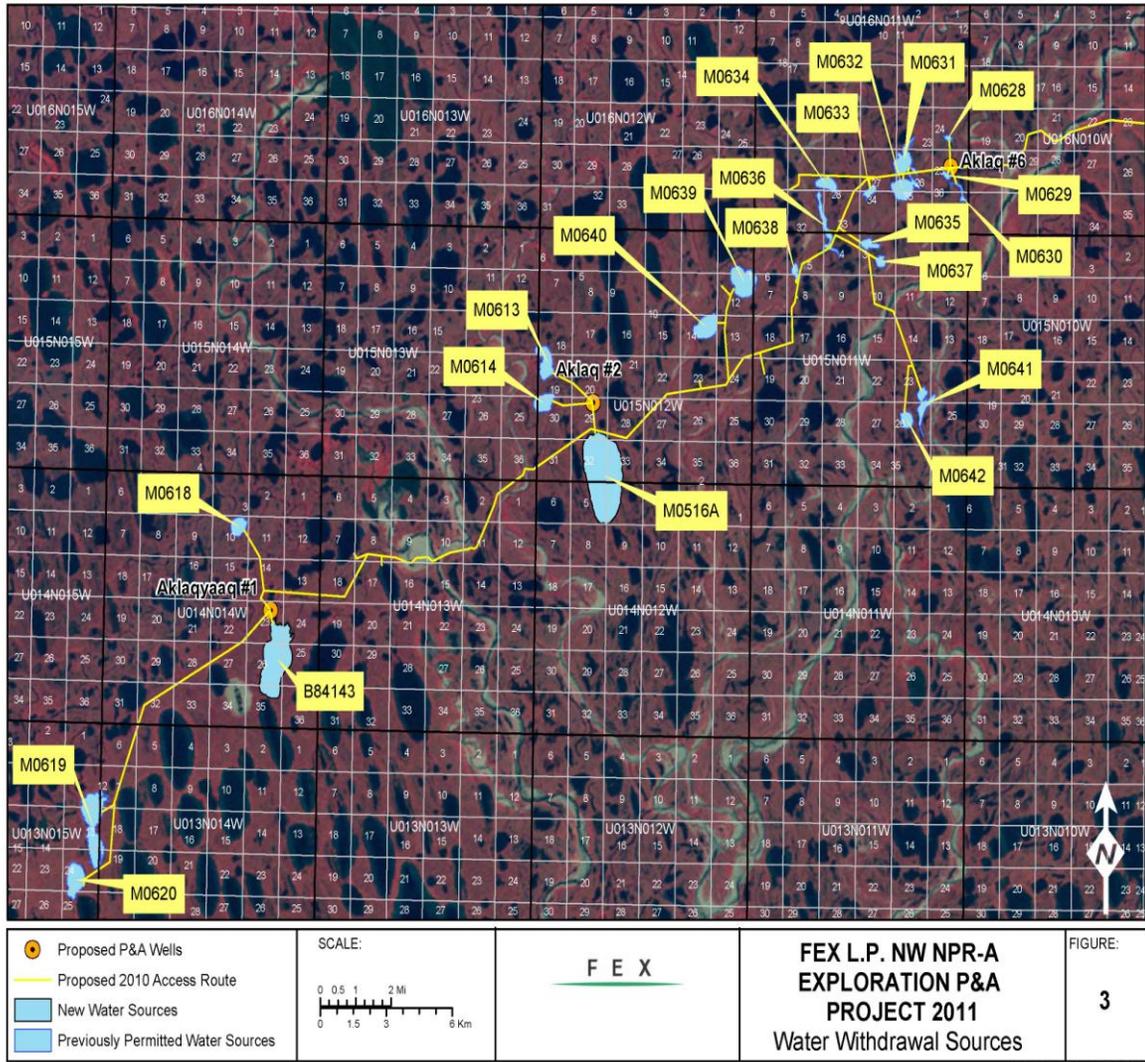


Figure 2 FEX Water Withdrawal Sources Map Submitted by Applicant

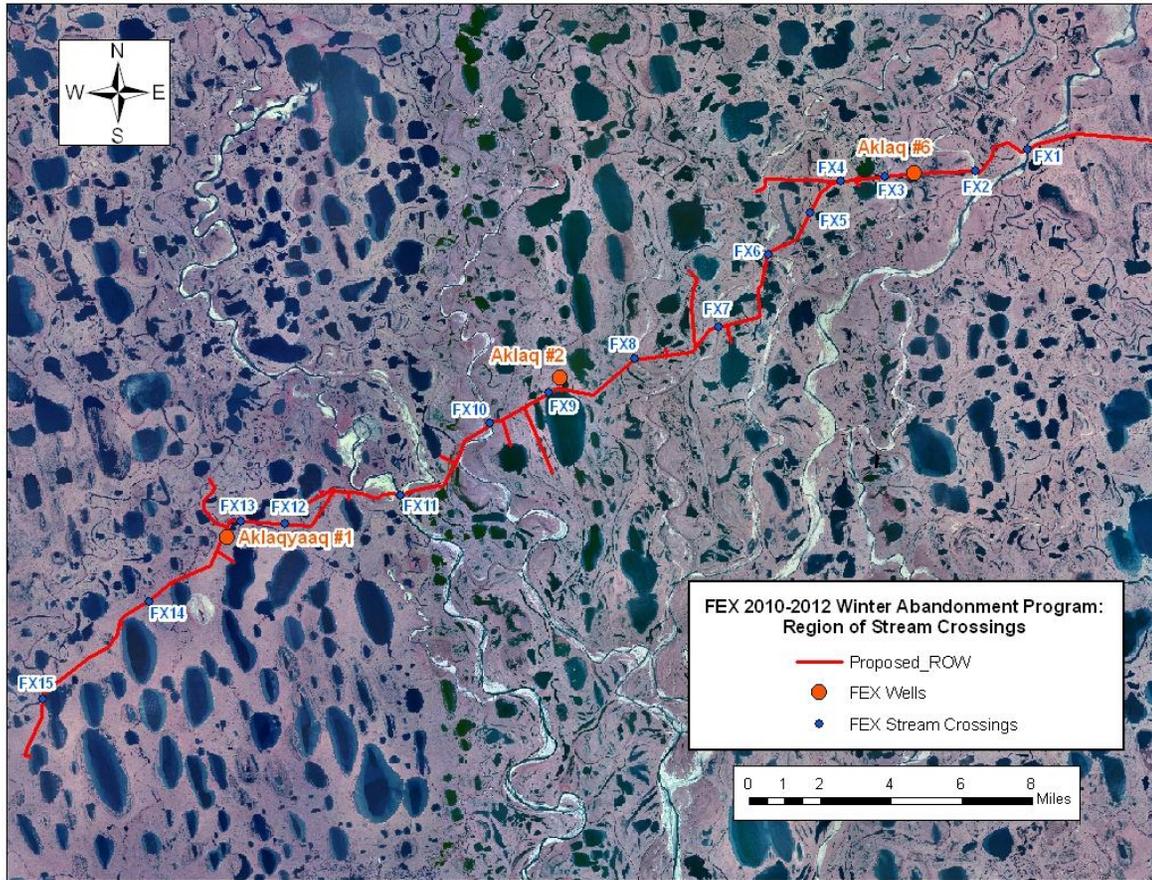


Figure 3 FEX 2011 Stream Crossings Map

Table 2.3 FEX 2011 Stream Crossings Table

Location of stream crossings along the FEX proposed ROW.					
Site ID	Approximate Location		Site ID	Approximate Location	
	Latitude	Longitude		Latitude	Longitude
FX1	70.72227	154.47450	FX9	70.61877	155.04842
FX2	70.71310	154.53832	FX10	70.60558	155.11817
FX3	70.71055	154.64681	FX11	70.57493	155.22423
FX4	70.70845	154.70057	FX13	70.56292	155.41450
FX5	70.69524	154.73647	FX14	70.52885	155.52291
FX6	70.67777	154.78688	FX12	70.56220	155.36184
FX7	70.64718	154.84492	FX15	70.48729	155.64756
FX8	70.63333	154.94616			

### 2.2.2.5 Fuel use

The maximum expected fuel storage at each well site is: a 2,000 gallon fuel station, a 3,000 gallon fuel station and 4 fuel tanks holding 4,800 gallons. The total fuel storage at one time per site would be 24,200 gallons.

### 2.2.2.6 Waste Management

Wastes will be handled according to the comprehensive waste management plan submitted by the applicant as required by the BLM under ROP A-2, which is summarized below.

Garbage, domestic combustible refuse and putrescible waste would be stored on location in approved containers to prevent wildlife access until being incinerated. Solid, non-burnable waste would be deposited in dumpsters or other approved waste containers and backhauled to a permitted facility.

Waste would be temporarily stored and periodically hauled to existing North Slope facilities for proper treatment and disposal. Used oil would be recycled or packaged in drums and hauled to Deadhorse for disposal in an approved recycle facility. Used batteries would be hauled to an approved disposal facility for recycling. All wastes that require transportation to their ultimate disposal location would be labeled, properly contained and stored on site, and manifested prior to transportation.

Waste liquids that cannot be recycled would be injected in Aklaq #2. Solids from the liquid cement rinsate from P&A activities would be transported from well sites and would be disposed of at the Kuparuk Water recycling facility.

Waste drilling fluids would be processed on-site where possible, or transported to a facility for injection in an approved Class II disposal well. An estimated 4,000 gallons of plugging and abandonment wastes from each well may require disposal. Wastewater and drilling wastes would be injected into the annular space of Aklaq #2 prior to plug and abandonment.

The estimated volume of recovered clean diesel from Aklaqyaak #1 and Aklaq #6 is 142 barrels (5,964 gallons). The diesel would be placed in three clearly labeled 2,000 gallon fuel sleighs during P&A activities that are carried out at those wells. The estimated volume of recovered diesel/brine mixture is 60 barrels (2,520 gallons). The diesel/brine mixture would be disposed of down the Aklaq #2 annulus. When operations move to Aklaq #2, the contents of these sleighs would be pumped down the 7" x 9-5/8" annulus in that well. The estimated volume of recovered diesel from Aklaq #2 is 120 barrels (5,042 gallons). After displacement from the well to the fuel sleighs, it would be similarly disposed of down the annulus. Upon project demobilization, the fuel tanks would be cleaned at the Prudhoe Bay CH2MHill wash bay and returned to project operations.

Brine and cement rinsate would be produced during P&A activities. The estimated volume of

waste brine is 280 barrels. This waste stream would be temporarily held in the guzzler vac unit and disposed in the annulus of Aklaq #2.

### **2.2.2.7 Contingency Plans**

FEX would have a number of contingency plans in place. These include an Oil Discharge Prevention and Contingency Plan (C-Plan), an oil spill and hazardous materials Spill Prevention, Control and Countermeasures (SPCC) Plan, and a Bear Interaction Plan.

### **2.2.2.8 Well Abandonment**

FEX has the State and Federal Oil and Gas Bonds required for the proposed plugging and abandonment operations. The well abandonment procedures are outlined in Appendix B of FEXs plan of operations submitted to BLM. The proposed activity would not commence until camp operations have been established, personnel are settled in and all equipment and materials required for the job are onsite. The actual plugging procedure is similar to other plugging and abandoning completed on the North Slope. A BLM State Office Energy Branch employee would be present to observe the procedure. Once the well has been cemented shut they propose to use an excavator around the wellhead to a depth of five feet below tundra level. All casing and tubing would be severed at 4 to 5 feet below tundra level once the cement has set. The original guardrail, cellar, wellhead and severed casing/tubing would be removed and transported to Prudhoe Bay. After photographically documenting the condition of the top of the well the marker plate would be welded on top of the well.

FEX would then back-fill the sites with original soil topping off with five yards of clean gravel from Prudhoe Bay, mounding it over the well to compensate for settling as soil thaws.

### **2.2.2.9 Injection Well**

The operation of plugging and abandoning (P&A) the Aklaq #2, Aklaq #6 and Aklaqyaaq #6 wells would result in the generation of waste fluids. The waste fluids would consist of diesel fuel (originally placed in the wells to keep their contents from freezing) that would be removed from the wells, excess cement used to plug the wells, salt water (“brine”) used during the P&A process and minor amounts of fresh water used during the cementing process. These fluids, as they exit the wells, are classified by the EPA as Class II fluids and may be disposed of down wells that have been issued a permitted to receive such waste streams.

The Aklaq #2 well has been permitted by the AOGCC to receive Class II wastes down an outer annulus between two of its casing strings. The permit carries very specific stipulations about the types of fluids that can be pumped in the annulus as well as pumping rates and pressures permissible.

The Aklaqyaaq #6 well would be abandoned first and the waste fluids would be taken to

Akmaq #2 and disposed of down the permitted annulus there. Akmaq #6 would be the second well to be abandoned and the waste fluids would likewise be disposed of at Akmaq #2. Finally, Akmaq #2 will be abandoned from the inside out. The deep, main wellbore would be abandoned and the waste fluids pumped down the permitted outer annulus. Then that outer annulus would be abandoned by pumping cement down it. All of this would leave all three wells completely plugged and abandoned and little in the line of waste fluids remaining for disposal. Any waste fluids remaining or generated after the P&A of the Akmaq #2 annulus would be transported to Prudhoe Bay for disposal in a permitted well there.

#### **2.2.2.10 Abandonment and Reclamation**

Along with the three wells already mentioned, FEX drilled, plugged and abandoned the Amaguk #2 well in 2006. The proposed reclamation work would include this well along with the Akmaq #2, Akmaq #1 and Akmaq #6 wells.

The objective of the reclamation program is to remove all surface expression of the former facility and return the site as near as possible to its pre-construction condition. Key factors as provided by FEX are to provide adequate thermal protection during work activities at the site to avoid thermokarsting and help facilitate revegetation through natural processes.

The reclamation strategies to ensure that the sites return to as much of a natural undisturbed condition as possible, include:

- Prevent thermokarsting (ponding) by mounding clean gravel at abandoned well sites;
- After P&A activities have been completed at each well, all equipment and supplies would be transported to the staging area at Oliktok;
- Ensure that conditions are such, that natural revegetation will occur at the site;
- Monitoring and compliance site inspections will occur in the summer months of 2011 and 2012 when FEX and BLM personnel will return to the sites to ensure that reclamation is occurring at the former drill sites;
- FEX would prepare a brief letter report after the 2012 site inspections are completed for all four well sites and provide the report to BLM within 30 days of field work completion.

### **2.3 Conformance**

The proposed action is in conformance with the: NE and NW IAP/EISs and associated RODs, 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 the two respective IAP/EISs, the BLM evaluated the direct, indirect, and cumulative effects of winter exploration in the NPR-A. These analyses concluded that the stipulations and ROPs provided adequate protection for surface resources and subsistence activities in both planning areas. In each of the associated RODs, 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 both the NE and the NW Planning Areas over the past 9 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 Officer. In addition to BLM permits, other required authorizations were issued by other Federal and State agencies and the NSB.

The proposed project involves conventional methods and procedures for exploration on the North Slope in general, including the NE and NW NPR-A. Except as noted below, the proposed action has incorporated all of these protective measures.

### **2.3.1 Water Use Exception**

For FEX's 2010-2012 well abandonment program, 22 lakes are proposed for use and already permitted by the State (Table 2.2 FEX P&A Lake Information; Figure 2 FEX Water Withdrawal Sources Map Submitted by Applicant). Of these, four lakes require an exception to ROP B-2a in the 2003 NW IAP/EIS in order to be utilized at the proposed maximum amounts (Table 2.2 FEX P&A Lake Information ). Lakes MO618, M0620, M0635, and M0637 are only inhabited by ninespine stickleback or Alaska blackfish. Current standard guidelines followed by ADFG Fish Habitat Permits and outlined in the 2008 NE IAP/EIS would allow up to 30% of these lake volumes under 5 feet of ice to be utilized. However, ROP B-2a in the 2003 NW IAP/EIS specifies that only 15% of the volume under 7 feet of ice can be taken from these lakes which are greater than 7 feet deep. Since knowledge gained after the completion of the 2003 NW IAP/EIS supports permitting at the level of 30% under 5 feet of ice, with no identifiable impacts to water quality and spring recharge water levels (Baker 2002; Hinzman et al. 2006; Baker 2007; Chambers et al. 2008; Holland et al. 2008), an exception is justified for these lakes. BLM therefore concurs with the State's decision to permit these lakes at those levels.

### **ROP Clarifications**

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

ROP C-4 prohibits travel up and down rivers and streams. It should be clarified that the Kogru River is only a "river" by its placename; in reality its physical form makes it an arm of Harrison Bay. As such, this waterbody is not included as a "river" under the terms of ROP C-4.

## **Chapter 3 Affected Environment**

Environmental characteristics of the general project area have been extensively described in

the 2004 NW NPR-A IAP/EIS, the 2008 NE NPR-A IAP/EIS (Vol. 1, Chapter 3), to which this analysis is tiered, with some site-specific features described below.

Based on the proposed project and the issues analysis in Section 1.5, the following discussion of the affected environment covers Wilderness Characteristics and Wild Lands.

### **3.1 Wilderness Characteristics and Wild Lands**

The NPR-A was evaluated for wilderness characteristics in Section 105(c) studies during 1977 and 1978. Although activities such as oil and gas leasing, subsistence practices, overland moves, excavation, recreation, aircraft use, site clean-ups, and scientific research or monitoring continue in NPR-A, most of the area remains in a natural state as it was during that study. Residents of the area do occupy seasonal dwellings or fish camps and people travel extensively by motorized vehicle over parts of NPR-A, but there are no roads outside the established communities. The overall character of NPR-A (excluding private lands) remains natural, and there are relatively few obvious signs of modern human influence or presence. A visitor to the area or an inhabitant from the settlements in or near the NPR-A can easily find opportunities for solitude (USDO, BLM, 1978). Some areas within NPR-A contain excellent ecological, geological, scientific, educational, scenic, and historical values.

## **Chapter 4 Environmental Impacts**

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., May 2008), this NEPA analysis will focus on impacts due to the project-specific/site-specific differences of the proposed action.

### **4.1 Direct and Indirect Effects**

The proposed action is built on experience gained from decades of similar operations on the North Slope. This EA is tiered from the 2003 NW IAP/EIS and its ROD and the 2008 NE IAP/EIS and its ROD. Related discussion of impacts is found in: 2008 NE IAP/EIS, Vol. 2, Chapter 4.6 (Environmental Consequences of Alternative D, the preferred alternative); and 2003 NW IAP/EIS, Vol. 2, Section V.B (Environmental Consequences of the Preferred Alternative).

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

#### **4.1.1 Wilderness Characteristics and Wild Lands**

Activities associated with the proposed action, including use of temporary structures, vehicles (e.g., Rolligons or low pressure ground vehicles), noise from generators, aircraft, human presence, and associated activity all would have some minimal short-term impact on solitude, or naturalness. These adverse, short-term impacts would be confined primarily to the activity sites (travel routes, camps, etc.) and view shed (i.e., approximately ½ mile in any direction from the sites).

A longer lasting impact from overland moves could occur from "green trails." In addition to the short-term impacts that would result from overland moves a seasonal visual concern could result from greening of vegetation from travel routes. This greening of the vegetation does not necessarily develop wherever ice pads are constructed or snow is compacted but when it does, it can be detectable from the air for 2 to 5 years.

The impacts from the proposed action would have minor to negligible impacts, within a relatively small area. Activities such as winter overland moves and transport of materials have occurred for decades in NPR-A, and are considered as typical winter activities consistent with the current management of these lands. Also typical is the activity of plugging and abandonment of oil and gas exploration wells. These types of activities are consistent with the current laws and regulations, in particular the Naval Petroleum Reserves Production Act of 1976 (NPRPA). Measures to protect the characteristics of these lands, including ROPS A-1, A-4, A-5, A-6, C-1, C-2, C-3, C-4, E-6, E-10, E-13, and I-1 are described in Section 4.3 Mitigation and Monitoring.

#### **4.1.1.1 No Action Alternative**

Under the No Action Alternative the ROW for overland travel and the injection well would not be granted and the plugging and abandonment of the proposed wells by the proponent would not be allowed. Left in the current state there could be a future long term risk of degradation to wilderness characteristics or wild lands if there were to be leakage of oil or contaminants into the environment.. Aircraft use would increase, and there could be higher noise levels in areas near the landing fields. Such impacts would be short term and localized.

## **4.2 Cumulative Effects**

Cumulative impacts result from the incremental addition of past, present, and reasonably foreseeable actions. Each action may be individually minor by itself, but when added to others could become significant over a period of time. ConocoPhillips Alaska has applied for a ROW to plug and abandon exploration well Puviaq #1 this winter. They are using the same route from Oliktok Point to approximately 5 miles from the Aklaq #6 well. They would then go south about 3 miles to their Puviaq well site.

The time frame for the proposed action for the project area is 1977 (designation of NPR-A) to 10 years into the future, assuming that the relatively low level of activity and management would remain at about the same level as present. Due to the limited scope and intensity of the proposed action the geographic area would be limited within 1 mile of the proposed use area. Additional past, present, and future activities in the area include recreation, subsistence, and research and monitoring. While the level of such activities may increase slightly within the next 10 years, there are no development proposals that would substantially add to the current levels. The incremental addition of the proposed action would be short-term and highly localized and would not add to increased cumulative effects.

The proposed action is not anticipated to result in cumulative impacts due to the remoteness of the portion of the area where the activity would occur, the low impact levels associated

with the activity.

#### **4.2.1 Wilderness Characteristics and Wild Lands**

Impacts from temporary trails and disturbance from noise and other activities would be short term, localized, and not accumulate.

#### **4.3 Mitigation and Monitoring**

The stipulations (Appendix A) for the proposed action are a subset of the 2004 NW NPR-A IAP/EIS ROD, the 2008 NE NPR-A SIAP/EIS ROD, and project specific stipulations developed in the NEPA process.

The BLM will incorporate the following additional mitigation measures into approval for the FEX authorizations.

#### **Project Specific Stipulations:**

1. The applicant will file an application to the Arctic Field Office for the summer work required for this project as soon as the information of what work is to be conducted becomes available. The summer work will be authorized separately.
2. The applicant will file weekly progress reports to the Arctic Field Office detailing their surface use of public lands. These reports may be e-mailed to: [Donna.Wixon@ak.blm.gov](mailto:Donna.Wixon@ak.blm.gov), or faxed to 907-474-2386.
3. The applicant shall follow the 13 stipulations contained in the attached document entitled "Polar Bear Stipulations for Winter Authorizations in NPR-A."

The following eight permit stipulations implement practices that will help reduce the likelihood of impacts to fish habitat and water resources (adapted from Noel et al. 2008). FEX shall:

4. At stream or river channel crossings, at the time of snow trail construction *prior to* the addition of any snow, ice, or liquid water, measure the ice thickness and water depth under ice (if not grounded) at a minimum of three (approximately equidistant) points across the channel. Reporting the thickness of ice at each point is required even if it is grounded. Data must be provided to the BLM within one week of collection.
5. At stream or river channel crossings where snow ramps will be built to enter and exit the channel, if snow is to be utilized from within the channel, additional measurements of ice thickness and water depth under ice (if not grounded) must be obtained to characterize the extent of area where snow is to be removed from the ice. Reporting the thickness of ice at each point is required even if it is grounded. Data must be provided to the BLM within one week of collection.

6. Provide the BLM with an as-built of all snow roads and camp locations 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) with a defined projection and supplementary metadata (text or .xml file).
7. Post a sign on the access road to each lake being utilized as a water source, clearly identifying the lake by its number.
8. For each lake utilized as a water source, maintain a daily record of water removed. Provide the BLM with this daily tracking record in conjunction with the weekly progress report. The BLM will provide FEX with a formatted spreadsheet that must be used for the reporting.
9. Notify the BLM within 24 hours if water removal exceeds the volume approved at any lake.
10. Notify the BLM within 24 hours of any observation of dead or injured fish on intake screens or in the hole being used for pumping. Temporarily cease pumping from that hole until discussions with the BLM or ADF&G Division of Habitat result in the application of additional preventative measures to avoid further impacts to fish.
11. Provide the BLM with photographs documenting the condition of all snow road channel crossings and ramps at the end of the winter operation period. Geographic coordinates or channel crossing Site IDs found in the EA must accompany each set of photos.

#### **4.4 SUMMARY OF ENVIRONMENTAL CONSEQUENCES**

The potential issue that identified in the evaluation of the proposed action for this EA was Wilderness Characteristics and Wild Lands. The analysis found that impacts would be short term and localized and that mitigation measures in Appendix A would adequately reduce any adverse effects to Wilderness Characteristics and Wild Lands in the area. Likewise, the analysis also found that mitigation measures would adequately reduce any adverse effects to Wilderness Characteristics and Wild Lands which would also be short term and localized. The proposed action would not contribute to significant cumulative effects to Wilderness Characteristics and Wild Lands in the proposed project areas.

#### **Chapter 5 Consultation and Coordination**

##### **5.1 Agencies, Organization, Persons Consulted**

Public notification of the Environmental analysis will be on file at the Arctic Field Office and

available on the Arctic Field Office Environmental Assessment web site. Employees of FEX and Arcadis attended the public BLM Subsistence Advisory Panel meeting in Barrow, Alaska on December 16, 2010. A copy of the FEX/Arcadis PowerPoint presentation as well as a summary of the meeting and transcript of the meeting are available through the Arctic Field Office's SAP coordinator/subsistence specialist.

## **5.2 List of Preparers**

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

## **ANILCA Requirements**

### **Section 810 Subsistence Evaluation**

This action is not likely to cause any significant restriction to the subsistence resources of the area (see ANILCA section 810 Evaluation within the ROW case file).

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**APPENDIX A: BLM Arctic Field Office Right of Way  
Stipulations/Required Operating Procedures**

**FEX L.P. Oil & Gas Exploration Well Plugging & Abandonment/ROW  
Stipulations Winter 2011**

**Project Specific Stipulations:**

1. The applicant will file an application to the Arctic Field Office for the summer work required for this project as soon as the information of what work is to be conducted becomes available. The summer work will be authorized separately.
2. The applicant will file weekly progress reports to the Arctic Field Office detailing their surface use of public lands. These reports may be e-mailed to: [Donna.Wixon@ak.blm.gov](mailto:Donna.Wixon@ak.blm.gov), or faxed to 907-474-2386.
3. The applicant shall follow the 13 stipulations contained in the attached document entitled "Polar Bear Stipulations for Winter Authorizations in NPR-A."

The following eight permit stipulations implement practices that will help reduce the likelihood of impacts to fish habitat and water resources (adapted from Noel et al. 2008). FEX shall:

4. At stream or river channel crossings, at the time of snow trail construction *prior to* the addition of any snow, ice, or liquid water, measure the ice thickness and water depth under ice (if not grounded) at a minimum of three (approximately equidistant) points across the channel. Reporting the thickness of ice at each point is required even if it is grounded. Data must be provided to the BLM within one week of collection.
5. At stream or river channel crossings where snow ramps will be built to enter and exit the channel, if snow is to be utilized from within the channel, additional measurements of ice thickness and water depth under ice (if not grounded) must be obtained to characterize the extent of area where snow is to be removed from the ice. Reporting the thickness of ice at each point is required even if it is grounded. Data must be provided to the BLM within one week of collection.
6. Provide the BLM with an as-built of all snow roads and camp locations 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) with a defined projection and supplementary metadata (text or .xml file).

7. Post a sign on the access road to each lake being utilized as a water source, clearly identifying the lake by its number.
8. For each lake utilized as a water source, maintain a daily record of water removed. Provide the BLM with this daily tracking record in conjunction with the weekly progress report. The BLM will provide FEX with a formatted spreadsheet that must be used for the reporting.
9. Notify the BLM within 24 hours if water removal exceeds the volume approved at any lake.
10. Notify the BLM within 24 hours of any observation of dead or injured fish on intake screens or in the hole being used for pumping. Temporarily cease pumping from that hole until discussions with the BLM or ADF&G Division of Habitat result in the application of additional preventative measures to avoid further impacts to fish.
11. Provide the BLM with photographs documenting the condition of all snow road channel crossings and ramps at the end of the winter operation period. Geographic coordinates or channel crossing Site IDs found in the EA must accompany each set of photos.

## **Stipulations from the NE 2008 IAP/EIS & NW 2004 IAP/EIS RODs**

### **NE: Waste Prevention, Handling, Disposal, Spills, Air Quality, and Public Health and Safety:**

#### ***A-1 Required Operating Procedure***

Objective: Protect the health and safety of oil 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.

### **NW: A. Waste Prevention, Handling, Disposal; Spills, and Public Safety**

#### **A-1 Required Operating Procedure**

**Objective:** Protect the health and safety of oil field workers and the general public by avoiding the disposal of solid waste and garbage near areas of human activity.

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

#### ***NE: A-3 Required Operating Procedure***

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 applicable to fuel and hazardous substances handling (associated with transportation vehicles) shall consist of Best Management Practices (BMPs) if approved by the AO. 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 NSB contacts. Other Federal and state regulations may apply and require additional planning requirements. All appropriate staff shall be instructed regarding these procedures. In addition contingency plans related to facilities **developed** for oil production shall include requirements to:

- a. provide refresher spill-response training to NSB and local community spill-response teams on a yearly basis,
- b. plan and conduct a major spill-response field-deployment drill annually,
- c. prior to production and as required by law, develop spill prevention and response contingency plans and participate in development and maintenance of the North Slope Subarea Contingency Plan for Oil and Hazardous Substances Discharges/Releases for the National Petroleum Reserve - Alaska operating area. Planning shall include development and funding of detailed (e.g., 1:26,000 scale) environmental sensitivity index maps for the lessee's operating area and areas outside the lessee's operating area that could be affected by their activities. (The specific area to be mapped shall be defined in the lease agreement and approved by the AO in consultation with appropriate resource agencies). Maps shall be completed in paper copy and geographic information system format in conformance with the latest version of the U.S. Department of Commerce, National Oceanic and Atmospheric Administration's Environmental Sensitivity Index Guidelines. Draft and final products shall be peer reviewed and approved by the AO in consultation with appropriate Federal, state, and NSB resource and regulatory agencies.

#### **NW: A-3 Required Operating Procedure**

**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 applicable to fuel and hazardous substances handling (associated with transportation vehicles) may consist of Best Management Practices if approved by the AO. 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 NSB contacts. Other Federal and State regulations may apply and require additional planning requirements. All staff shall be instructed regarding these procedures.

#### **NE: A-4 Required Operating Procedure**

**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 AO 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 AO 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.

#### **NW: A-4 Required Operating Procedure**

**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 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 (OPA). 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 AO in excess of 1,320 gallons in storage capacity, shall be stored within an impermeable lined and diked area or within approved alternate storage containers such as overpacks, capable of containing 110 percent of the stored volume.
- 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 AO as soon as possible, but no later than 24 hours after occurrence.

***NE: A-5 Required Operating Procedure***

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 of small caches (up to 210 gallons) for motor boats, float planes, ski planes, and small equipment, e.g. portable generators and water pumps, will be permitted. The AO may allow storage and operations at areas closer than the stated distances if properly designed to account for local hydrologic conditions.

***NW: A-5 Required Operating Procedure***

**Objective:** Minimize the impact of contaminants from refueling operations on fish, wildlife, and the environment.

**Requirement/Standard:** Refueling of equipment within 500 ft of the active flood plain of any fishbearing waterbody and 100 ft from non-fish-bearing water bodies is prohibited. Small caches (up to 210 gallons) for motorboats float planes, ski planes, and small equipment, e.g. portable generators and water pumps, will be permitted. The AO may allow storage and operations at areas closer than the stated distances if properly designed to account for local hydrologic conditions.

***NE: A-6 Required Operating Procedure***

Objective: Minimize the impact on fish, wildlife, and the environment from contaminants associated with the exploratory drilling process.

Requirement/Standard: Surface discharge of reserve-pit fluids is prohibited.

**NW: A-6 Required Operating Procedure**

**Objective:** Minimize the impact on fish, wildlife, and the environment from contaminants associated with the exploratory drilling process.

**Standard/Requirement:** Surface discharge of reserve-pit fluids is prohibited unless authorized by applicable NPDES, ADEC, and NSB permits (as appropriate) and approved by the AO.

***NE: A-7 Required Operating Procedure***

**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.

**NW: A-7 Required Operating Procedure**

**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:** Procedures for the disposal of produced fluids shall meet the following:

- a) In upland areas, including wetlands, disposal will be by subsurface-disposal techniques. The AO may permit alternate disposal methods if the lessee demonstrates that subsurface disposal is not feasible or prudent and the alternative method will not result in adverse environmental effects.
- b) In marine waters, approval of discharges by the AO will be based on a case-by-case review of environmental factors and consistency with the conditions of an NPDES permit. Discharge of produced fluids will be prohibited at locations where currents and water depths, in combination with other conditions, are not adequate to prevent impacts to known biologically sensitive areas. Alternate disposal methods will require an NPDES permit certified by the State.

***NE: A-8 Required Operating Procedure***

**Objective:** Minimize conflicts resulting from interaction between humans and bears during leasing and associated 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 areas to minimize human/bear interactions.
- c. Warn personnel of bears near or on drill sites and identify proper procedures to be followed.
- d. Establish procedures, if authorized, to discourage bears from approaching the drill 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 site and in the immediate area.
- h. Encourage lessee/permittee to participate and comply with the Incidental Take Program

under the Marine Mammal Protection Act.

**NW: A-8 Required Operating Procedure**

**Objective:** Minimize conflicts resulting from interaction between humans and bears during leasing and associated 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 areas to minimize human/bear interactions.
- c) Warn personnel of bears near or on drill sites and identify proper procedures to be followed.
- d) Establish procedures, if authorized, to deter bears from the drill site.
- e) Provide contingencies in the event bears do not leave the site or cannot be deterred 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 site and in the immediate area.

**NE: Water Use for Permitted Activities:**

***NE: B-1 Required Operating Procedure***

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

**Requirement/Standard:** Water withdrawal from rivers and streams during winter is prohibited.

***NE: B-2 Required Operating Procedure***

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

**Requirement/Standard:** Water withdrawal from lakes may be authorized on a site-specific basis depending on water volume, and depth, and fish population and species diversification.

**Current water withdrawal requirements specify:**

- a. Lakes that are  $\geq 7$  feet with sensitive fish (any fish except ninespine stickleback or Alaska blackfish), water available for withdrawal is limited to 15% of calculated volume deeper than 7 feet; lakes that are between 5 and 7 feet with sensitive fish, water available for withdrawal would be calculated on a case by case basis.
- b. Lakes that are  $\geq 5$  feet with only non-sensitive fish (i.e., ninespine stickleback or Alaska blackfish), water available for withdrawal is limited to 30% of calculated volume deeper than 5 feet.
- c. Any lake with no fish present, regardless of depth, water available for withdrawal is up to 35% as specified within the permit.
- d. A water-monitoring plan may be required to assess draw down and water quality changes before, during, and after pumping any fishbearing lake or lake of special concern.
- e. The removal of naturally grounded ice may be authorized from lakes and shallow rivers on a site-specific basis depending upon its size, water volume, and depth, and fish population

and species diversification.

**f.** Removed ice aggregate shall be included in the 15% or 30% withdrawal limits—whichever is the appropriate case—unless otherwise approved.

**g.** 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 Natural Resources (ADNR).

**h.** Compaction of snow cover or snow removal from fish-bearing water bodies shall be prohibited except at approved ice road crossings, water pumping stations on lakes, or areas of grounded ice.

## **NW: B. Water Use for Permitted Activities**

### **NW: B-1 Required Operating Procedure**

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

**Requirement/Standard:** Water withdrawal from rivers and streams during winter is prohibited.

### **NW: B-2 Required Operating Procedure**

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

**Requirement/Standard:** Water withdrawal from lakes may be authorized on a site-specific basis depending on size, water volume, depth and fish population and species diversification. Current water withdrawal requirements specify:

- a) Water withdrawals from any fish bearing lake 7 feet or deeper shall be limited to 15 percent of the estimated free water volume located beneath the ice.  
In the EA prepared for this authorization it was determined that BLM agreed with the State of Alaska that water withdrawals of 30% under 5 feet of ice would not have identifiable impacts to water quality and spring recharge water levels and is authorized.
- b) Water withdrawals from lakes with depths between 5 and 7 feet that contain only ninespine stickleback and/or Alaska blackfish are limited to up to 30 percent of the under-ice volume.
- c) Water withdrawal may be authorized from any lake if the proponent demonstrates that no fish exist in the lake.
- d) A water-monitoring plan may be required to assess draw down and water quality changes before, during, and after pumping any fish-bearing lake.
- e) The removal of naturally grounded ice may be authorized from lakes and shallow rivers on a sitespecific basis depending upon its size, water volume, depth, and fish population and species diversification.
- f) Removed ice aggregate shall be included in the 15 percent or 30 percent (whichever is the appropriate case) withdrawal limits, unless otherwise approved.
- g) Any water intake structures in fish-bearing waters shall be designed, operated and maintained to prevent fish entrapment, entrainment, or injury.
- h) Compaction of snow cover or snow removal from fish-bearing water bodies shall

be prohibited except at approved ice road crossings, water pumping stations on lakes or areas of grounded ice.

## **NE: Winter Overland Moves and Seismic Work:**

### ***C-1 Required Operating Procedure***

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 ADFG unless alternative protective measures are approved by the AO in consultation with the ADFG.
- b. Cross-country use of heavy equipment and seismic activities is prohibited within 1 mile of known or observed polar bear dens or seal birthing lairs. Operators shall consult with the USFWS and/or NOAA Fisheries, as appropriate, before initiating activities in coastal habitat between October 30 and April 15.

## **NW: C. Winter Overland Moves and Seismic Work**

The following stipulations and ROP's apply to overland moves, seismic work, and any similar crosscountry 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 Required Operating Procedure**

**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 are prohibited within ½ mile of occupied grizzly bear dens identified by Alaska Department of Fish & Game (ADF&G) unless alternative mitigation measures are approved by the AO in consultation with ADF&G.
- b) Cross-country use of heavy equipment and seismic activities are prohibited within 1 mile of known or observed polar bear dens or seal birthing lairs. Operators shall consult with the U.S. Fish and Wildlife FWS (FWS) and/or NOAA Fisheries, as appropriate, before initiating activities in coastal habitat between October 30 and April 15.

### ***NE: C-2 Required Operating Procedure***

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 AO.

**b.** Only low-ground-pressure vehicles shall be used for on-the-ground activities off ice roads or pads. A list of approved vehicles can be obtained from the AO. Limited use of tractors equipped with wide tracks or “shoes” will be allowed to pull trailers, sleighs or other equipment with approved undercarriage. 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 winter 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 CRSA associated with overland moves, seismic work, and any similar use of heavy equipment shall be minimized within the Colville River Raptor, Passerine, and Moose Area 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 ½ mile away from known raptor nesting sites, unless authorized by the AO.

#### **NW: C-2 Required Operating Procedure**

**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 covers 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 ft, and approximately May 15 in the northern coastal areas. The exact dates will be determined by the AO.

b) Only low-ground-pressure vehicles shall be used for on-the-ground activities off ice roads or pads. A list of approved vehicles can be obtained from the AO. Limited use of tractors equipped with wide tracks or "shoes" will be allowed to pull trailers, sleighs, or other equipment with approved undercarriage. (**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 winter 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.

### **ROP C-3 Clarification**

ROP C-3 requires that any “bridges” created at stream crossings be breached or removed before spring breakup. A stream channel crossing should only be considered to be a “bridge” if additional layers of snow, ice, and/or liquid water are added to the crossing (not including streambank ramps). If any additional layers are added to a crossing, then ROP C-3 applies and the crossing must be breached before spring breakup.

#### ***NE: C-3 Required Operating Procedure***

**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. Snow and ice bridges shall be removed, breached, or slotted before spring breakup. Ramps and bridges shall be substantially free of soil and debris. Except at approved crossings, operators are encouraged to travel a minimum of 100 feet from known overwintering fish streams and lakes.

#### **NW: C-3 Required Operating Procedure**

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

**Requirement/Standard:** Crossing of waterway courses shall be made using a low-angle approach. Snow and ice bridges shall be removed, breached or slotted before spring breakup. Ramps and bridges shall be substantially free of soil and debris.

### **ROP C-4 Clarification**

ROP C-4 prohibits travel up and down rivers and streams. It should be clarified that the Kogru River is only a “river” by its placename; in reality its physical form makes it an arm of Harrison Bay. As such, this waterbody is not included as a “river” under the terms of ROP C-4.

#### ***NE: C-4 Required Operating Procedure***

**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 and streams shall be crossed at shallow riffles from point bar to point bar whenever possible.

#### **NW: C-4 Required Operating Procedure**

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

**Requirement/Standard:** Travel up and down stream beds is prohibited. Rivers and streams shall be crossed at shallow riffles from point bar to point bar whenever possible.

## **NW: D. Oil and Gas Exploratory Drilling**

### **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, except where the lessee can demonstrate on a site-specific basis that impacts would be minimal or it is determined that there is no feasible or prudent alternative.

### **D-2 Lease Stipulation**

**Objective:** Minimize surface impacts from exploratory drilling.

**Requirement/Standard:** Exploratory drilling shall be limited to temporary facilities such as ice pads, ice roads, ice airstrips, temporary platforms, etc., unless the lessee demonstrates that construction of permanent facilities such as gravel airstrips, storage pads, and connecting roads is environmentally preferable or necessary to carry out exploration more economically.

### ***NE: E-1 Required Operating Procedure***

**Objective:** Protect subsistence use and access to traditional subsistence hunting and fishing areas and minimize the impact of oil and gas activities on air, land, water, fish and wildlife resources.

**Requirement/Standard:** All roads must be designed, constructed, maintained, and operated to create minimal environmental impacts and to protect subsistence use and access to traditional subsistence hunting and fishing areas. The AO will consult with appropriate Federal, state, and NSB regulatory and resources agencies prior to approving construction of roads. Subject to approval by the AO, the construction, operation and maintenance of oil field roads is the responsibility of the lessee unless the construction, operation, and maintenance of roads are assumed by the appropriate governing entity.

## **NW: E. Facility Design and Construction**

### **E-1 Required Operating Procedure**

**Objective:** Protect subsistence use and access to traditional subsistence hunting and fishing areas, and minimize the impact of oil and gas activities on air, land, water, fish and wildlife resources.

**Requirement/Standard:** All roads must be designed, constructed, maintained and

operated to minimize environmental impacts and to protect subsistence use and access to traditional subsistence hunting and fishing areas. Subject to approval by the AO, the construction, operation and maintenance of oil field roads is the responsibility of the lessee. Note: This provision does not apply to intercommunity or other permanent roads constructed with public funds for general transportation purposes. This preserves the opportunity to plan, design and construct public transportation systems to meet the economic, transportation, and public health and safety needs of the State of Alaska and/or communities within NPR-A.

**NW: E-2 Lease Stipulation**

**Objective:** Protect fish-bearing water bodies, water quality and aquatic habitats.

**Requirement/Standard:** The design and location of permanent oil and gas facilities within 500 feet of fish-bearing or 100 feet of non-fish-bearing water bodies will only be approved on a case-by-case basis if the lessee can demonstrate that impacts to fish, water quality, and aquatic and riparian habitats are minimal. (Note: Also refer to Area-Specific Stipulations and ROP's for Rivers (Stipulation K-1) and Deep Water Lakes (Stipulation K-2).)

**NW: E-3 Lease Stipulation**

**Objective:** Maintain free passage of marine and anadromous fish, and protect subsistence use and access to traditional subsistence hunting and fishing.

**Requirement/Standard:** Causeways and docks are prohibited in river mouths or deltas. Artificial gravel islands and bottom-founded structures are prohibited in river mouths or active stream channels on river deltas. Causeways, docks, artificial islands, and bottom-founded structures shall be designed to ensure free passage of marine and anadromous fish and to prevent significant changes to nearshore oceanographic circulation patterns and water quality characteristics. A monitoring program may be required to address the objectives of water quality and free passage of fish.

***NE: E-6 Required Operating Procedure***

**Objective:** Reduce the potential for ice-jam flooding, impacts to wetlands and floodplains, erosion, alteration of natural drainage patterns, and restriction of fish passage.

**Requirement/Standard:** Stream and marsh crossings shall be designed and constructed to ensure free passage of fish, reduce erosion, maintain natural drainage, and minimize adverse effects to natural stream flow. Note: Bridges, rather than culverts, are the preferred method for crossing rivers. When necessary, culverts can be constructed on smaller streams, if they are large enough to avoid restricting fish passage or adversely affecting natural stream flow.

**NW: E-6 Required Operating Procedure**

**Objective:** Reduce the potential for ice-jam flooding, erosion, alteration of natural drainage patterns, and restriction of fish passage.

**Requirement/Standard:** Stream and marsh crossings shall be designed and constructed to ensure free passage of fish, maintain natural drainage, and minimal

adverse effects to natural stream flow. **Note:** Bridges, rather than culverts, are the preferred method for crossing rivers. When necessary, culverts can be constructed on smaller streams, if they are large enough to avoid restricting fish passage or adversely affecting natural stream flow.

**NW: E-9 Required Operating Procedure**

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

**Requirement/Standard:** 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 AO with an annual report on the use of oil and gas facilities by ravens, raptors and foxes as nesting, denning, and shelter sites.

***NE: E-10 Required Operating Procedure***

**Objective:** Prevention of migrating waterfowl, including species listed under the Endangered Species Act, from striking oil and gas and related facilities during low light conditions.

**Requirement/Standard:** Illumination of all structures between August 1 and October 31 shall be designed to direct artificial exterior lighting inward and downward, rather than upward and outward, unless otherwise required by the Federal Aviation Administration.

**NW: E-10 Required Operating Procedure**

**Objective:** Prevention of migrating waterfowl, including species listed under the Endangered Species Act, from striking oil and gas and related facilities during low light conditions.

**Requirement/Standard:** Except for safety lighting, illumination of higher structures shall be designed to direct artificial exterior lighting inward and downward, rather than upward and outward. All drilling structures, production facilities, and other structures that exceed 20 ft shall be illuminated as outlined above.

***NE: E-13 Required Operating Procedure***

**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 AO and suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the AO.

**NW: E-13 Required Operating Procedure**

**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 AO and suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the AO.

***NE: E-15 Required Operating Procedure***

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

**Requirement/Standard:**

- a. Removal of greater than 100 cubic yards of 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.

**NE: Use of Aircraft for Permitted Activities:*****F-1 Required Operating Procedure***

Objective: Minimize the effects of low-flying aircraft on wildlife, traditional 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 ROP is not intended to restrict flights necessary to survey wildlife to gain information necessary to meet the stated objective of the stipulations and ROPs. **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 (AGL) when within ½ mile of cliffs identified as raptor nesting sites from April 15 through August 15 and 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 AGL (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 are defined by the AO for the winter of 2010-2011 as all of the NPR-A. The AO has consulted directly with the Alaska Department of Fish and Game in defining this caribou winter range.
- c. Land user shall submit an aircraft use plan as part of an oil and gas exploration or development proposal. **The plan shall address strategies to minimize impacts to subsistence hunting and associated activities, including but not limited to the number of flights, type of aircraft, and flight altitudes and routes, and shall also include a plan to monitor flights.** Proposed aircraft use plans should be reviewed by appropriate Federal, state, and Borough agencies. Consultations with these same agencies will be required if unacceptable disturbance is identified by subsistence users. Adjustments, including possible suspension of all flights, may be required by the AO if resulting disturbance is determined to be unacceptable. The number of takeoffs and landings to support oil and gas operations with necessary materials and supplies should be limited to the maximum extent possible. During the design of proposed oil and gas facilities, larger landing strips and storage areas should be considered so as to allow larger aircraft to be employed, resulting in fewer flights to the facility.
- 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 AGL (except for takeoffs and landings) over the Teshekpuk Lake Caribou Habitat Area (Map 1) 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.

## **NW: F. Use of Aircraft for Permitted Activities**

### **F-1 Required Operating Procedure**

**Objective:** Minimize the effects of low-flying aircraft on wildlife, traditional subsistence activities, and local communities.

**Requirement/Standard:** The lessee shall ensure that aircraft used for permitted activities maintain altitudes according to the following guidelines:

a) Aircraft shall maintain an altitude of at least 1,500 ft above ground level (AGL) when within ½ mile of cliffs identified as raptor nesting sites from April 15 through August 15 and 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 BLM necessary to plan flight routes when routes may go near falcon nests.

b) Aircraft shall maintain an altitude of at least 1,000 ft AGL (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 AO. Caribou wintering areas are defined by the AO for the winter of 2010-2011 as all of the NPR-A. The AO has consulted directly with the Alaska Department of Fish and Game in defining this caribou winter range.

c) The number of takeoffs and landings to support oil and gas operations with necessary materials and supplies should be limited to the maximum extent possible. During the design of proposed oil and gas facilities, larger landing strips and storage areas should be considered so as to allow larger aircraft to be employed, resulting in a fewer number of flights to the facility.

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 ft AGL (except for takeoffs and landings) over the Caribou Study Area (Map 91) from June 15 through July 31, unless doing so would endanger human life or violate safe flying practices.

f) Aircraft shall maintain an altitude of at least 2,000 ft AGL (except for takeoffs and landings) over the Caribou Coastal Insect-Relief Areas (Map 91) from June 15 through July 31, unless doing so would endanger human life or violate safe flying practices.

## **NW: G. Oil Field Abandonment**

### **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.

### **NW: H. Subsistence Consultation for Permitted Activities**

"Consultation" may take place by in-person meetings, teleconference, videoconference, and exchange of written documents, e-mail, or other means appropriate to the circumstances. Consultation does not include public meetings that are primarily for the purpose of information distribution, unless it is explained at the beginning of the meeting that there is an open dialogue, and that comments, concerns, or other information are being actively solicited.

### ***NE: H-2 Required Operating Procedure***

**Objective:** Prevent unreasonable conflicts between subsistence activities and geophysical (seismic) exploration.

**Requirement/Standard:** In addition to the consultation process described in ROP H-1 for permitted activities, before applying for permits to conduct geophysical (seismic) exploration, the applicant shall 1) consult with local communities and residents and 2) notify the local Search and Rescue organizations of current and recent seismic surveys. For the purpose of this standard, a potentially affected cabin/campsite is defined as any camp or campsite within the boundary of the area subject to proposed geophysical exploration and/or within 1 mile of actual or planned travel routes used to supply the seismic operations while it is in operation.

- a.** Because of the large land area covered by typical geophysical operations and the potential to impact a large number of subsistence users during the exploration season, the permittee/operator will **notify in writing** all potentially affected long-term cabin and camp users.
- b.** The official recognized list of cabin and campsite users is the NSB's 2001 (or most current) inventory of cabins and campsites.
- c.** A copy of the notification letter and a list of potentially affected users shall also be provided to the office of the appropriate Native Tribal government.
- d.** The AO will prohibit seismic work within 1 mile of any known, long-term, cabin or campsite unless an alternate agreement between the cabin/campsite owner/user is reached through the consultation process and presented to the AO. (Regardless of the consultation outcome, the AO will prohibit wintertime seismic work within 300 feet of a known long-term cabin or campsite.)
- e.** The permittee shall notify the appropriate local Search and Rescue (e.g., Nuiqsut Search and Rescue, Atqasuk Search and Rescue) of their current operational location within the NPR-A on a weekly basis. This notification should include a map indicating the current extent of surface use and occupation, as well as areas previously used/occupied during the course of the operation in progress. The purpose of this notification is to allow hunters up-to-

date information regarding where seismic exploration is occurring, and has occurred, so that they can plan their hunting trips and access routes accordingly. Identification of the appropriate Search and Rescue offices to be contacted can be obtained from the NPR-A Subsistence Advisory Panel.

### **NW: H-2 Required Operating Procedure**

**Objective:** Prevent unreasonable conflicts between subsistence activities and geophysical (seismic) exploration.

**Requirement/Standard:** In addition to the consultation process described above for permitted activities, before applying for permits to conduct geophysical (seismic) exploration, the applicant shall consult with local communities and residents:

- a) Because of the large land area covered by typical geophysical operations and the potential to impact a large number of subsistence users during the exploration season, the permittee/operator will notify, in writing, all potentially affected long-term cabin and camp users.
- b) The official recognized list of cabin and campsite users is the North Slope Borough's 2001 (or most current) inventory of cabins and campsites.
- c) For the purpose of this standard, potentially affected cabins and campsites are defined as any camp or campsite within the boundary of the area subject to proposed geophysical exploration and/or within 1,200 feet of actual or planned travel routes used to supply the seismic operations while it is in operation.
- d) A copy of the notification letter and a list of potentially affected users shall also be provided to the office of the appropriate Native Tribal Government.
- e) Based on that consultation, the AO may prohibit seismic work up to 1,200 feet of any known, longterm, cabin or campsite. Generally, the AO will allow wintertime seismic work to be conducted within 300 feet of a long-term cabin or campsite that is not in use.

### **NE: Orientation Programs Associated with Permitted Activities:**

#### ***I-1 Required Operating Procedure***

**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, ROPs, 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 AO for review and approval and should:**

- a. provide sufficient detail to notify personnel of applicable stipulations and ROPs 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 NSB 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 NSB Health Department for review and comment.

## **NW: I. Orientation Programs Associated with Permitted Activities**

### **I-1 Required Operating Procedure**

**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, required operating procedures, 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 AO for review and approval and should:

a) Provide sufficient detail to notify personnel of applicable stipulations and required operating procedures 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

FF095743/FF095766/  
AA085494/AA085503/AA085517  
2884.01/3132.00

***Finding of No Significant Impact***

Type of Action: Well Plugging/Abandonment, Injection Well, NPR-A Right of Way

Serial Number: FF095743, FF095766, AA085494, AA085503, AA085517

Environmental Assessment Number: DOI-BLM-LLAKF010-2011-0001-EA

Applicant: FEX L.P. Inc.

Address: 3601 C Street, Suite 370  
Anchorage, Alaska 99503

District: Arctic Field Office

Planning Unit: Northwest National Petroleum Reserve-Alaska Integrated Activity  
Plan/Environmental Impact Statement (IAP/EIS) dated 2003  
Northeast National Petroleum Reserve-Alaska Supplemental Integrated  
Activity Plan/Environmental Impact Statement (IAP/EIS) dated 2008

Lands Involved: The lands are described as proposed well plugging and abandonment (P&A) locations within lease tracts with associated access routes. The legal descriptions can be found in the referenced case files. The P&A sites are in the following locations:

Akdaqyaaq #1 Section 23, Township 14 North, Range 14 West, Umiat Meridian  
Latitude 70° 33" 21.70640' Longitude 155° 25" 35.24906'  
Akdaq #2 Section 29, Township 15 North, Range 12 West, Umiat Meridian  
Latitude 70° 37" 36.40901' Longitude 155° 02" 21.63606'  
Akdaq #6 Section 25, Township 16 North, Range 11 West, Umiat Meridian  
Latitude 70° 42" 43.22879' Longitude 154° 36" 39.75061'

### ***Context and Intensity of Environmental Impacts***

Based upon a review of the EA prepared by the Arctic Field Office and the supporting documents, I have determined that the proposed action will not have a significant effect on the quality of the human environment, individually or cumulatively with other actions in the general area. No environmental effects meet the definition of significance as defined at 40 CFR 1508.27. Therefore, an environmental impact statement is not required. We reviewed the context of the proposed action and found that it would not result in any significant effects to resources and values. The mitigation measures and environmental protections would ensure that the Proposed Action would not add significantly to incremental impacts.

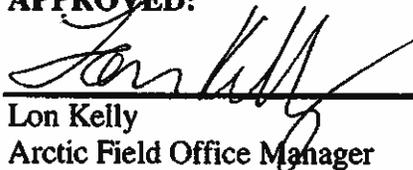
The need for this project is to allow FEX L.P. Inc. to fulfill the federal requirements of relinquishing their lease sites that have previously had drilling activity.

The following factors were considered in the EA to evaluate the significance of this proposal (40 CFR 1508.27): Beneficial and adverse impacts; effects on public health and safety; unique cultural or ecological areas within or near the project area; potentially controversial or uncertain effects; whether the action may establish a precedent for future actions with significant effect; cumulative effects; adverse impacts to important scientific, cultural or historical resources; effects to endangered or threatened species or habitat; or whether the action threatens a violation of federal, state, local or tribal law, regulation or policy imposed for the protection of the environment, where non-federal requirements are consistent with federal requirements:

### ***Monitoring and Mitigation***

BLM will monitor on the ground activities periodically. Mitigation measures will be implemented as described in the attached authorization stipulations.

**APPROVED:**

  
Lon Kelly  
Arctic Field Office Manager

1/18/11  
Date