

ENVIRONMENTAL ASSESSMENT

BLM

National Petroleum Reserve-Alaska (NPR-A) 5-Year Winter Exploration Drilling /Well Testing Program

Arctic Field Office, Alaska

December 2007



It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

EA# AK-023-2008-007

**Environmental Assessment
National Petroleum Reserve-Alaska
5-Year Winter Exploration Drilling/Well Testing Program
EA# AK-023-2008-007
ConocoPhillips Alaska, Inc.**

Preparing Office: Arctic Field Office

Project Title/Type of Action: **National Petroleum Reserve-Alaska (NPR-A)
5-Year Winter Exploration Drilling/Well Testing Program**

Serial/Lease/Case File Number: **AA081775, AA081781, AA081800, FF092931**

Land Use Plan: **Northeast National Petroleum Reserve-Alaska Integrated Activity
Plan/Environmental Impact Statement (IAP/EIS) 10/7/1998**

Applicant: ConocoPhillips Alaska, Inc.

Address: P.O. Box 100360
Anchorage, Alaska 99510-0360

Date: January 8, 2008

Lands Involved:

Proposed access routes inside the NPR-A totaling approximately 24 miles of new Right-of-Way (ROW) to drill sites, storage sites, and plus another 6 miles of access to water supply lakes. Also proposed are one new drill site, one previously approved drill site and one re-entry into a previously drilled well, and temporary use of 9 new water supply lakes on federal land in the NPR-A.

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LIST OF ACRONYMS

AAC.....	Alaska Administrative Code
ACMP.....	Alaska Coastal Management Program
ADEC.....	Alaska Department of Environmental Conservation
ADNR.....	Alaska Department of Natural Resources
ANILCA.....	Alaska National Interest Land Conservation Act
AO.....	(BLM) Authorized Officer
ASDP.....	Alpine Satellite Development Plan
BLM.....	Bureau of Land Management
CEQ.....	Council of Environmental Quality
CFR.....	Code of Federal Regulations
EA.....	Environmental Assessment
EFH.....	Essential Fish Habitat
EIS.....	Environmental Impact Statement
EO.....	Executive Order
EPA.....	U.S. Environmental Protection Agency
ESA.....	Endangered Species Act
FEIS.....	Final Environmental Impact Statement
FLPMA.....	Federal Land Policy and Management Act of 1976
FONSI.....	Finding of No Significant Impact
IAP.....	Integrated Activity Plan
IM.....	Instruction Memoranda
LPV.....	Low-Pressure Vehicle
LUEA.....	Land Use Emphasis Area
NE.....	Northeast
NEPA.....	National Environmental Policy Act
NHPA.....	National Historic Preservation Act
NOS.....	Notice of Staking
NPDES.....	National Pollutant Discharge Elimination System
NPR-A.....	National Petroleum Reserve – Alaska
NPRPA.....	Naval Petroleum Reserve Production Act
NSB.....	North Slope Borough
NW.....	Northwest
ODPCP.....	Oil Discharge Prevention and Contingency Plan
OHMP.....	(ADNR) Office of Habitat Management and Permitting
RMP.....	Resource Management Plan
ROD.....	Record of Decision
ROP.....	Required Operating Procedure
ROW.....	Right of Way
SAP.....	Subsistence Advisory Panel
SPCC.....	Spill Prevention, Control, and Countermeasures
TAPS.....	Trans Alaska Pipeline System
TLH.....	Teshekpuk Lake Caribou Herd
TWUP.....	Temporary Water Use Permit
USDOJ.....	U.S. Department of Interior
VRM.....	Visual Resource Management
WAH.....	Western Arctic Caribou Herd
WO.....	BLM Washington
Office	
WSR.....	Wild and Scenic River

The proposed drilling pad locations are:

Township 10 North Range 02 East Section 21 Umiat Meridian (Spark DD-9)
 Township 09 North Range 02 East Section 06 Umiat Meridian (Rendezvous 2)
 Township 09 North Range 04 East Section 20 Umiat Meridian (Stony Hill)

Table 1. Land Description (BLM Managed Lands)Proposed New **Ice Road** Legal Description (All Umiat Meridian)

Township	Range	Section	Approximate Miles
10 North	02 East	10,11,14-16,19-23,28-32	7
09 North	02 East	5-7	½

Proposed Water Source Access for Proposed New **Ice Road**

Township	Range	Section	Lake	Approximate Miles
10 North	04 East	6,7	L9804	¼
10 North	01 East	26	R0068/M9917	1 ¾
09 North	01 East	12,13	R0066/M0151	¼
09 North	02 East	7,18	R0066/M0151	¼

Already Approved Route of **Ice Road** with New Proposed Lake access

Township	Range	Section	Lake	Approximate Miles
10 North	03 East	9,10	L9818	½
10 North	03 East	1,2	L9822	1
10 North	03 East	2	L9823	1
10 North	03 East	2,3	L9832	½
11 North	03 East	34	L9832	N/A

Proposed New **Winter Trail**:

Township	Range	Section	Approximate Miles
09 North	01 East	1,12	1/2
09 North	02 East	6,7	1
10 North	03 East	1,2,11,12,13,24	3
10 North	04 East	6,7,18,19,30,31	3
09 North	04 East	5,6,7,8,17-20,30	5
09 North	03 East	23-27,33-35	4 1/4
08 North	03 East	2,3	1/4

This Environmental Assessment (EA) has been prepared to meet requirements of the National Environmental Policy Act (NEPA), and to support U.S. Department of Interior (USDO I) Bureau of Land Management (BLM) decision-making on permits required to construct and implement the proposed project. The scope of this EA includes analysis of the effects of the proposed exploration activity and alternatives.

This EA is the most recent in a series of NEPA assessments prepared by the BLM in evaluating potential and proposed oil exploration and development in the NPR-A. Over the past 8 years, the BLM has evaluated the construction and drilling of approximately 100 potential exploration drill sites, and access via approximately 1,150 miles of ice road/trail in the NPR-A. Impacts of these types of activities have also been evaluated in three Integrated Activity Plan (IAP)/Environmental Impact Statements (EIS) for the NPR-A and one EIS for development in the Northeast NPR-A and adjacent Colville River Delta. This EA is tiered off and incorporates relevant portions of these documents as well as previous NPR-A Exploration EAs described in more detail in this document.

1 INTRODUCTION AND BACKGROUND

ConocoPhillips Alaska, Inc. (ConocoPhillips) has applied for permits and/or posted notices to access and drill on valid oil and gas leases during a 5-year winter exploration program in the Northeast (NE) National Petroleum Reserve-Alaska (NPR-A). ConocoPhillips (the Applicant) has submitted permit applications to Federal and State agencies and the North Slope Borough (NSB), including the Bureau of Land Management (BLM) Right-of-Way (ROW) application.

This Environmental Assessment (EA) has been prepared to satisfy the requirements of the National Environmental Policy Act (NEPA) in support of BLM decision-making. This EA considers previous NEPA analyses and findings in the NPR-A, with a focus on proposed exploration drilling activities with access across leases in the NPR-A. See Figure 1 map and table 1 for land description.

In 1998, an Integrated Activity Plan (IAP), with an associated Environmental Impact Statement (EIS), for the NE NPR-A Planning Area was released,¹ followed by a Record of Decision (ROD) adopting the IAP/EIS² The 1998 ROD includes 79 stipulations as prescriptive measures to ensure environmental protection from activities authorized in the NE Planning Area. In 2005, a new IAP/EIS evaluated a proposal to amend the 1998 NE IAP/EIS. A ROD was issued in early 2006, but was later vacated by the court – leaving the 1998 stipulations in force. A Supplement to the 2005 NE Amended IAP/EIS has been released for public review.³

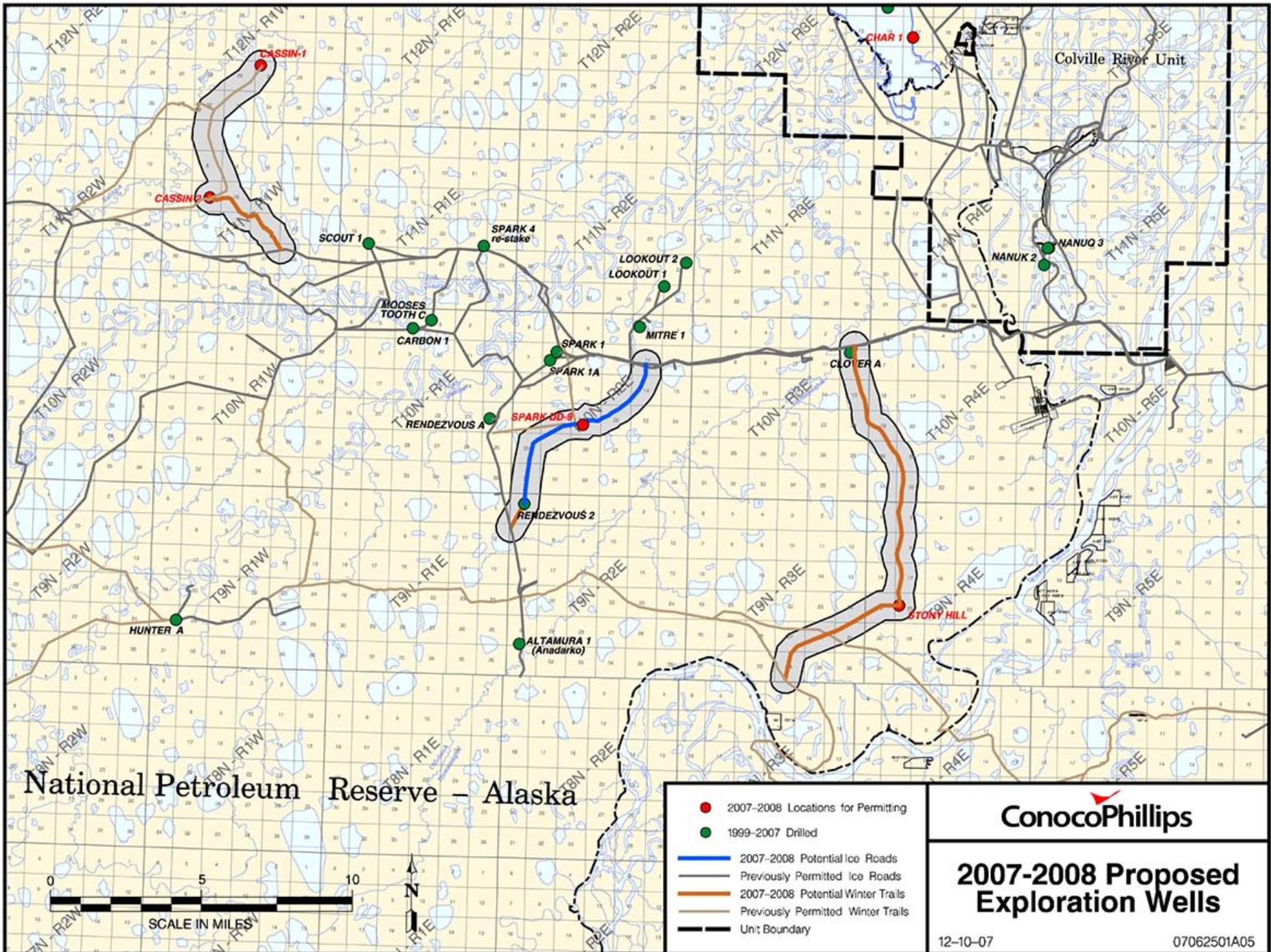
1 USDO I. 1998. Northeast NPR-A /EIS, Vol. 1 and 2.

2 Secretary of the Interior. October 1998. Northeast NPR-A IAP/EIS Record of Decision (ROD), p.1.

3 Secretary of the Interior. August 2007 NE NPR-A Draft Supplemental IAP/EIS.

Proposed Project Map

(See next page)



ConocoPhillips

2007-2008 Proposed Exploration Wells

12-10-07

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In 2003, a final IAP/EIS for the Northwest (NW) NPR-A Planning Area was published,⁴ and in 2004, a ROD was issued, adopting the NW IAP/EIS.⁵ The 2004 ROD includes performance-based environmental protection measures set forth in 11 stipulations and 32 Required Operating Procedures (ROPs) that control activities authorized in the NW Planning Area. While specific environmental safeguards currently in place for the NE and NW NPR-A are different, the level of environmental protection provided is similar.

ConocoPhillips is currently proposing to drill at up to two new sites, (one previously approved⁶), and re-enter to conduct testing at one site(Rendezvous 2)⁷ in the NE NPR-A, with access via new authorizations for packed snow trail and ice road as well as the existing approved snow trails and ice roads. The proposed exploration program is intended to span five winter drilling seasons, beginning in late 2007, with the drilling schedule contingent upon permitting, weather, ongoing data analysis, and funding.

Activities proposed by ConocoPhillips are similar to previously authorized exploration activities in the NPR-A. Since 1999, fourteen winter exploration drilling programs in the NPR-A have been authorized.

1.2 Purpose and Need for the Project

The purpose of the proposed project is to determine whether lease holdings contain economically recoverable oil and gas in a 5-year exploration drilling and well testing program. A primary need for the project is implicit in the worldwide demand for oil and gas that is accompanied by concern in the U.S. over dependence on foreign oil supplies and associated stability. The project is needed to supplement the diminishing North Slope oil supplies and maintain the efficiency of the Trans Alaska Pipeline System (TAPS). Revenues from production are needed to support local, State, and national economies.

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

- Access to drilling sites and water supply lakes in a way that allows for maximum operations during any one winter season in a cost-effective manner, while minimizing environmental impact.
- Drilling to acquire sufficient subsurface information to satisfy the Applicant's economic and exploration performance criteria.
- Testing by the Fracture Gradient Test Method requiring the installation of surface equipment in an array around the well head location.
- Compliance with all related requirements of the NPR-A leases, ROD, and all associated laws, regulations, permits, and approvals.

4 USDOJ. November 2003. Northwest NPR-A Final Integrated Activity Plan/Environmental Impact Statement (IAP/EIS), Vol. 1, 2, and 3.

5 Secretary of the Interior. January 2004. Northwest NPR-A IAP/EIS Record of Decision (ROD), p. 3.

6 Spark Down Dip 9 EA AK023 07 002

7 EA AK023 01 003

1.3 Related Statutes, Regulations, Policies, and Programs

The 1998 IAP/EIS was completed to fulfill the BLM's responsibility to manage lands in the NE Planning Area under the authority of the: Naval Petroleum Reserve Production Act, as amended (NPRPA), Federal Land Policy and Management Act of 1976 (FLPMA), NEPA, Alaska National Interest Lands Conservation Act (ANILCA), and the Wild and Scenic Rivers Act. Findings in the IAP/EIS and decisions reflected in the 1998 ROD were based upon an open and collaborative public process, as well as experience with multiple exploration programs completed in the NPR-A.

1.3.1 Federal Laws and Regulations

The proposed action must comply with numerous Federal laws and Executive Orders (EOs) that apply to activities on public lands – including those listed above. Key Federal, State, and NSB controls associated with the proposed action were described in both the NW IAP/EIS and the 2005 NE Amended IAP/EIS.⁸ The proposed action is consistent with the 2001 National Energy Policy and the Energy Policy Act of 2005, which address the need for exploration on BLM land, including the NPR-A.

1.3.2 Required Permits, Licenses, Authorizations, and Approvals

A number of Federal, State, and local permits and approvals must be obtained before the Applicant can access a drill site and commence drilling. Primary regulatory authorization requirements for the proposed project are listed in **Table 2**. ConocoPhillips also has existing permits and regulatory approvals that may be utilized for this proposal as shown in **Table 3**.

1.3.3 Related Environmental Analyses

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

Council of Environmental Quality (CEQ) Regulation 40 Code of Federal Regulations (CFR) 1502.20 encourages agencies to “tier off their environmental impact statements to eliminate repetitive discussions of the same issues and to focus on the actual issues ripe for decision at each level of environmental review.” This EA is tiered off the 1998 NE IAP/EIS and ROD, which are incorporated in their entirety by reference, and relevant portions of the 2005 NE Amended IAP/EIS, in accordance with CEQ Regulation 40 CFR 1502.21. In 2000 the Arctic Field Office (AFO) completed an EA that included the Rendezvous 2 well.⁹ The AFO also completed an EA that included Spark Down Dip 9 in 2006.¹⁰ This EA is also tiered to both of

⁸ 2003 NW IAP/EIS, Vol. 1, Sec. IIF-1 through IIF-6; Vol. 3, Appendix 4. 2005 NE Amended IAP/EIS, Vol. 1 Chapters 1.7 – 1.9; Vol. 3, App. C.

⁹ 2000 EA AK023 01 003 dated 3/1/2001

¹⁰ 2006 EA AK023 07 002 dated 12/22/2006

these documents.

1.3.4 Land Status

The proposed drill sites are located on NPR-A lease tracts held by ConocoPhillips, in part with Anadarko Petroleum Company, under BLM jurisdiction. Access to drilling areas and water supply lakes requires approximately 30 miles of new access corridor, as well as continued use of ROWs previously authorized by the BLM. The proposed project lies wholly within the NPR-A, inside the boundaries of the NSB. Traditional land use sites (e.g., cabins and campsites) are avoided. The BLM does not authorize use of private property; access over private lands requires authorization of the land owner. Within the NE Planning Area, the BLM has designated areas where special stipulations apply.

Table 2. Permits and Authorizations for Proposed Project in the NPR-A

Federal Authorizations and Approvals	
Bureau of Land Management (BLM)	<ul style="list-style-type: none"> ▪ Right-of-Way (ROW) ▪ Application for Permit to Drill and Surface Use Plan ▪ Threatened and Endangered Species "No Effect" Determination ▪ Essential Fish Habitat Assessment (No consultation with National Marine Fisheries Service required) ▪ ANILCA 810 Evaluation and Findings ▪ Archaeological and Cultural Resources Clearance
Federal Aviation Administration	<ul style="list-style-type: none"> ▪ Airspace and Airstrip Non-Objections if airstrips used
U.S. Fish and Wildlife Service (USFWS)	<ul style="list-style-type: none"> ▪ Concurrence on BLM Threatened and Endangered Species "No Effect" Determination ▪ Letter of Authorization for Incidental Take of Polar Bear Request for Special Use Permit
U.S. Environmental Protection Agency (EPA)	<ul style="list-style-type: none"> ▪ Spill Prevention, Control, and Countermeasures Plan (SPCC) (drilling/testing contractor)
State Authorizations and Approvals	
Alaska Oil and Gas Conservation Commission (AOGCC)	<ul style="list-style-type: none"> ▪ Authorization to Drill ▪
Alaska Department of Environmental Conservation (ADEC)	<ul style="list-style-type: none"> ▪ Temporary Storage of Drilling Wastes ▪ Air Quality Minor Source General Permit (MGP-1) ▪ Authorization for Temporary Storage of Drilling Waste ▪ Oil Discharge Prevention and Contingency Plan (ODPCP) and Certificate of Financial Responsibility
Alaska Department of Natural Resources (ADNR)	Temporary Water Use Permit <ul style="list-style-type: none"> ▪ Fish Habitat Permit (Office of Habitat Management and Permitting)
North Slope Borough (NSB) Authorizations and Approvals	
North Slope Borough (NSB)	<ul style="list-style-type: none"> ▪ Development Permits (for related elements)

Table 3. Existing Permits and Regulatory Approvals

Approval Type	Approval #	Issue Date	Expiration Date
Air Quality Minor General Permit	MPG1	TBD	TBD
Temporary Water Use Permit	TWUP A2006-131 TWUP A2006-132 TWUP A2006-133	12/12/06	12/11/11
Fish Habitat Permits			
BLM ROW Approval	FF092931 & FF093835	11/2007	11/2012
EPA NPDES Wastewater Discharge	AKG-33-000		Open

1.4 Public Involvement

Development of the 1998 NE IAP/EIS, the 2005 NE Amended IAP/EIS, and the 2007 NE Supplemental IAP/EIS involved extensive input from other Federal agencies, the State, the NSB, thousands of individuals, and many institutions.¹¹ The BLM consulted with Federally-recognized tribes, and drafted measures to protect tribal interests. All recent NPR-A exploration/delineation drilling programs have been public-noticed by the BLM, with comments considered.

Federal, State, and local permits have been issued – some with stipulations to mitigate specific issues of concern, including meeting with local communities.

A number of meetings and consultations have been held at Nuiqsut, Barrow, Anaktuvuk Pass, Atqasuk, Point Lay and Wainwright to discuss NPR-A exploration plans. There was also extensive public involvement in the 2004 Alpine Satellites Development Plan (ASDP) Final EIS associated with development in the NE NPR-A and adjacent Colville River Delta.¹² The Applicant has held community open houses in Atqasuk, Nuiqsut, Anaktuvuk Pass, Barrow, and Wainwright. ConocoPhillips has posted its permit applications on an internet web site (www.conocophillips.com/permits) to provide additional opportunities for public input and involvement. The applicant has also implemented a Subsistence Plan to provide ongoing opportunities for public involvement as the project proceeds.

1.5 BLM Decision Process

The BLM's decision on the proposed action will be based on statutory and regulatory authority. Prior to authorizing the proposed project, the BLM must conduct a project-specific NEPA analysis and determine whether the proposed project should be approved, rejected, or modified, and if additional mitigation is needed. This EA will be based on management controls and

11 1998 NE IAP/EIS, Vol. 2, Section V; 2005 NE Amended IAP/EIS, Vol. 2, Chapters 5 and 6.

12 2004 Alpine Satellites Development Plan (ASDP) FEIS Vol. 2, Sec. 5.

protective measures of relevant stipulations in the 1998 ROD , as well as actual experience with exploration activity in the NPR-A and related activities on other federal lands on the North Slope.

Winter exploration programs completed in the NPR-A over the past 8 years have been based on similar plans and methods of operations. Expected effects of associated activities (i.e., overland transport, water use, ice road/pad construction, drilling, other operations and maintenance, and abandonment and restoration) are known. There have been no significant direct, indirect, or cumulative adverse impacts associated with the winter exploration programs recently authorized in the NPR-A. Results of BLM field inspections confirmed there were no significant impacts resulting from the 2006-2007 winter drilling programs.

2. PROPOSED ACTION AND ALTERNATIVES

The proposed project includes exploration drilling at 2 sites and one well testing program at a previously drilled/approved site, during a 5-year winter program in the NE NPR-A. The proposed exploration program will begin in winter 2007-2008, with the drilling schedule contingent upon permitting, weather, ongoing data analysis, and funding. **Table 4** documents the Notices of Staking (NOSs) with field inspections, as required for BLM approval of the ConocoPhillips surface use plan. Along with this years inspection, Rendezvous 2 and Spark Down Dip 9 were previously inspected by the BLM. Access routes have been identified and field examined. Locations of the drill sites and local access routes are depicted on **Figure 1**.

Table 4. Staking and Field Inspection

Drill Site	Notice of Staking date	Field Inspection date
Rendezvous 2	08/23/07	08/11/07 &8/13/2000
Spark Down Dip 9	08/23/07	08/11/07 & 8/24/2006
Stony Hill	11/14/2007	8/11/2007

2.1 Proposed Action

The proposed project is described below, with main project components summarized in **Table 6**. The proposed project is similar to exploration programs completed in the NPR-A during the past 8 winter seasons. Details are provided in the Applicant's Plan of Operations, submitted to multiple agencies including the BLM, Alaska Department of Natural Resources (ADNR), and the NSB.¹³

The proposed project is similar to previous exploration programs that were described in the NE IAP/EISs and completed in the NPR-A during the past eight winter seasons (1999/2000 –

¹³ On file with the BLM, Northern Field Office.

2006/2007). The discussion provided below is tiered off the 1998 NE IAP/EIS and the 2005 NE Amended IAP/EIS for further description of major project components.¹⁴

Table 5. Summary of Proposed Project

Project Component	Program Total
Ice Drill Pads and Wells	Up to three drill pads each approximately 500' x 500'. Multiple wells may be drilled from a single pad.
Construction/drilling support ice pads	A 300' X 300' staging area/remote camp pad will be constructed near each well (approximately 60 people, 40 people at testing sites) & small camps of 30 people for testing
Access	Approximately 30 miles of new access corridor, along with previously approved ROW to drill pads and water supply lakes.
Ice Airstrip	Airstrips up to 5,000 feet long per season on or near lake M9923.
Water requirement	Approximately 15.5 million gallons per drill site; for all 3 project sites,

2.1.1 Access and Construction

The proposed schedule calls for mobilization and ice construction to begin as soon as required authorizations and weather conditions allow in winter 2007/2008, with drilling expected to begin in February 2008.

The drill sites are located approximately 7 to 17 miles southwest of Nuiqsut and 40 miles southwest of Deadhorse. Drill site locations are listed in **Table 6**. These sites are in the same general area as drill sites constructed during ConocoPhillips previous programs in the NPR-A. Approval to drill at any of the proposed sites during the 5-year period was requested to accommodate changes in drilling strategy and funding priorities as new data become available.

¹⁴ 1998 NE IAP/EIS, Vol. 1, Sec. IV.A.1.b ; 2005 NE Amended IAP/EIS, Vol. 1, Sec. 4.21.

Table 6. Drilling Locations (All Federal Land)

Name	BLM Lease Number	Section Location (Umiat Meridian)
Rendezvous 2	AA081781	T9N, R2E, Sec. 6
Spark Down Dip 9	AA081800	T10N, R2E, Sec. 21
Stony Hill	AA-081775	T9N, R4E, Sec. 20

Primary access to the proposed sites will be by winter rolligon trail and/or ice roads. A rolligon route starting from Kuparuk, crossing the Colville River at, or near, Ocean Point is authorized in a pre-existing authorization.

Rolligon units and/or other approved tundra travel vehicles will be used to transport equipment and personnel to construct ice pads/roads/airstrips associated with a particular year's winter exploration program at the sites. Rolligons/ATVs maybe used to pre-pack the ice road or side cast water on the ice road route to expedite the penetration of frost. Ice roads will generally be 25-35 feet wide and 6-inches thick. Depending on drilling rig and vehicle requirements the ice roads may be smaller. Rig mats or other similar items may be used on or in the construction of ice roads at selected locations as necessitated by field conditions encountered during ice road construction or during equipment movement. Such devices will be removed prior to the end of the operating season each year.

The route will be within an approximately 0.5-mile corridor along the alignment depicted on **Figure 1**. This flexibility is needed to accommodate minor rerouting due to field conditions, animal dens, changes in creek crossing characteristics, or other field conditions. ConocoPhillips proposes a total of approximately 30 miles of potential new access corridor with spurs to permitted lakes, off of their existing approved route. The main ice road system begins near Kuparuk drill pad 2L, and extends along the Alpine pipeline westward into NPR-A. Maintenance will generally be accepted North Slope practices that have been developed over time to protect the tundra and support safe operations.

A remote camp and staging area pad may be built at a location near Lake 9817 to facilitate the construction activities of the snow road and ice pad, and provide support during drilling operations. The pad will be approximately 300' by 300'. An ice lay down pad, with dimensions of about 250' by 250', may be built on the west side of the Ublutuocho River in sections 1,2,3,10,11,12 of T10N, R3E or on the west side of the Nigliq Channel in sections 2,3,4 of T10N, R4E or in sections 35,34,33 of T11N, R4E, UM.

An ice airstrip may be constructed to support construction and drilling activities by facilitating transportation to and from the remote camp location. The Airstrip will be designed for use by the Shared Services Otter or CASA and will be approximately 3000' long by 100' wide (Expandable to Herc size or 150' X 5000'). The airstrip may be located on Lake M9923 near the Spark DD9 location. Ice spur roads will form a system connecting drill pads and permitted water sources. Some segments will follow old winter trails existing in the area.

The freshwater requirements for constructing the project features (ice road/pads construction, maintenance, drilling operations, and camp use) are approximately 46.5 MG. ConocoPhillips plan to utilize water from previously approved lakes and new proposed lakes for this exploration program. The new lakes proposed are listed in **Table 7**. ConocoPhillips has requested approval to harvest ice aggregate from lakes shown on **Table 7**.

Potable water will be hauled from an approved source, or taken from local lakes. Potential potable water sources will be analyzed to ensure drinking water standards are met before water is introduced into the camp's potable water treatment system.

Table 7. Proposed New Water Sources

Lake Id	Township	Range	Sections	Surface Area (acres)	Max. Depth (feet)	Calculated Total Lake Volume (MG)	Fish Present	Requested Volume for Removal
L9804	10N	4E	6,7	244.2	5.2	235.95	Yes-R	30% of volume below 5 ft
L9817	10N	3E	10	62.3	9.3	104.88	Yes-R	30% of volume below 5 ft
L9818	10N	3E	9,10	33.1	4	14.36	No	20% of total lake volume
L9822	10N	3E	1,2	15.01	11	26.02	Yes-R	30% of volume below 5 ft
L9823	10N	3E	2	5.7	13.5	12.73	No	20% of total lake volume
L9832	10N/11N	3E	2,3/34	241.5	3	78.7	No	20% of total lake volume
R0061/L9911	9N/10N	1 E	1,2/35,36	559.1	8	1585.78	Yes-R	30% of volume below 5 ft
R0066/M0151	9N	1 E/2E	12,13/7,18	248.19	9.6	508.99	Yes-S	15% of volume below 7 ft
R0068/M9917	10N	1E	26	177.2	9.8	188.6	yes-S	15% of volume below 7 ft

R= Resistent Fish S= Sensitive Fish

2.1.2 Drilling Operations and Support

Auxiliary facilities include camps to support drilling and ice construction, pump houses on lakes used as water sources, and light plants near pump houses and along ice roads. Small camps (housing up to about 30 people) may be utilized on well sites where well testing is conducted with the rig off site. Up to four reservoir penetrations (e.g. two wells and/or sidetracks) may be completed at each drill site.

Drilling camps will have the capability to accommodate up to 60 people at the Stony Hill site, 40 people at the Rendezvous 2 and Spark DD9 site. . Up to approximately 40,000 gallons of diesel fuel will be stored in multiple fuel containers and placed in lined, bermed fuel storage areas. All fuel transfers will follow ConocoPhillips best management practices associated with pollution prevention. Up to 317,000 gallons of crude oil may be stored at each well site that is tested. Communications antennas and satellite dishes will be portable and attached either directly to the camp structures or freestanding on the ground. The actual location of the tower will depend on pad orientation and other factors. Additionally, small camps (i.e. can house up to about 30 people) may be utilized on well sites where well testing operations are conducted with the drilling rig off site.

The proposed program includes up to 6 wells (2 wells and/or sidetracks at each site). The well plan designs will be similar to previous North Slope exploration wells. The actual well designs are included in the Drilling Permits issued by the BLM and the Alaska Oil and Gas Conservation Commission (AOGCC).

The proposed drilling and testing operations will be used to determine future drilling plans in the NPR-A. Testing may include extended flow periods to determine productivity of a well. Produced fluids will pass through an adequately sized separator system to prevent oil carryover into the gas stream. Testing at Rendezvous 2 will be conducted by the Fracture Gradient Test Method requiring the installation of surface equipment in an array around the well head location.

Upon completion of drilling and evaluation operations, all debris will be hauled to an approved disposal site. The ice pads will be chipped or scraped to pick up any spills and the scrapings will be hauled to an approved disposal well. The NPR-A exploration wells will be plugged and abandoned or temporarily/operationally suspended, pending further evaluation. Any well abandonment or suspension plans will be in accordance with applicable BLM and AOGCC regulations, and will be approved prior to enactment.

Drilled wells will be temporarily suspended (capped in place with “Christmas Tree”), or plugged and abandoned prior to end of the 2007-2008 winter drilling season.¹⁵ Final site closure will be approved by the appropriate regulatory agencies.

¹⁵ Drilling process described in 2005 NE Amended IAP/EIS, pp. 4-25 and 4-26.

Data for vertical seismic profiles may be collected in the vicinity of the well.

2.1.3 Waste Management – Non-Drilling Wastes

Solid, non-burnable waste will be deposited in large dumpsters or other suitable containers located at each site. These containers will be back-hauled to the NSB landfill at Prudhoe Bay or taken to the Kuparuk incinerator at the main CPF-1 camp. The food waste that could attract wildlife either will be stored in enclosed conex containers pending periodic hauling or will be hauled each day to a secured disposal site.

Camp wastewater will be either processed through the drilling contractor's wastewater treatment system and discharged in accordance with Arctic General Permit No. AKG-33-0000, or hauled to an approved disposal facility at Alpine or Kuparuk. All treatment systems used will meet the ADEC requirements. The rig camp at each NPR-A well site could generate about 6,500 gpd of domestic wastewater.

2.1.3.2 Disposal of Drilling Waste

Water-based drilling muds will be used which includes additives used to maintain desired drilling fluid properties and density. Excess drilling mud that cannot be reused would be transported to an approved Class II injection well in the Alpine, Kuparuk, or Prudhoe Bay fields, injected down the well prior to P&A operations, or potentially disposed of down an AOGCC-approved annulus by annular injection. Prior to hauling, the cuttings will be stored in an ice-bermed storage cell or tanks at the drill site, and liquids will be temporarily stored in tanks on each ice pad. An average of 20,000 gpd of waste liquid from each well may require disposal, although all efforts to minimize this amount will be undertaken.

Ice-bermed waste storage cells will be constructed on each ice pad for the drill cuttings. This ice cell will be permitted by the ADEC Solid Waste department. Exhibit A4 shows the design of a typical storage area. It is anticipated that up to 20,000 cubic feet of cuttings could be generated drilling the primary well bore and sidetracks. The cell dimensions will be as large as 100 feet x 150 feet x 3 feet, giving a gross volume of 45,000 cubic feet. As previously noted herein, the thickness underneath the temporary drilling waste storage area will be approximately 2 feet. Since there is a State requirement for 2 feet of freeboard the usable storage volume is one third of gross or 15,000 cubic feet for each storage cell. The storage cells may be constructed with smaller dimensions and higher berms, as long as there is 2 feet of freeboard above the cuttings. The volume of wastes placed in each storage cell will be minimized as will snow accumulation in the cell.

Upon completion of activities at the well sites, the ice-bermed drilling waste storage cells will be cleaned of contamination. Material cleaned from these cells will be hauled to Alpine, Prudhoe Bay, or Kuparuk for disposal at an injection well. The cleaned cells will be left in place to melt at the end of the winter season.

2.1.3.3 Disposal of Produced Fluids

Production tests will be performed as needed after production casing is set and cemented. Testing may include extended flow periods to determine the productivity of the well. Produced fluids will pass through an adequately sized separator system to prevent oil carryover into the gas stream. Oil from testing will be held in tanks until the testing is completed. After testing, the oil will either be injected back into the formation from which it was produced or hauled to Alpine or Kuparuk and processed through their facilities. Produced gas will be flared.

2.1.4 Air Emissions

Sources of air emissions from the operation are rig engines, camp generator engines, steam generators, mobile non-road engine and construction equipment, used oil burners, hot-air heaters, light plants, incinerators, and potentially well test flaring equipment. ConocoPhillips has applied for ADEC authorization for the NPR-A exploration locations under Minor General Permit #1(MGP1) for Oil and Gas Drilling Rigs (18 AAC 50.390).

In accordance with the ADEC MGP1 regulations, ConocoPhillips will establish an air exclusion zone 30 meters from the drilling pad edge for the NPR-A exploration drilling program. Details regarding this air exclusion zone and the associated surveillance plan are provided in the ConocoPhillips Air Quality Minor Permit 1 Notifications for the NPR-A exploration drilling program.

2.1.5 Contingency Plans

Contingency plans are described below.

2.1.5a Oil Discharge Prevention and Contingency Plan (ODPCP or C-Plan)

The Applicant is required to have approved oil spill response measures in place to meet Federal and State requirements. ConocoPhillips must have a site-specific ODPCP approved by ADEC that is considered sufficient to meet BLM requirements.¹⁶

The ODPCP will contain information on immediate response actions, receiving environments, spill cleanup, mobilization response times, and well control. The ODPCP encompasses standard response methodology and resources for the response. Additionally, the BLM inspects the wells and pads during construction and drilling.

The Applicant's approved ODPCP, along with approved spill control equipment and supplies will be kept on site. Phone service will be available 24-hours a day at the drilling camp. Renaissance will conduct a drill of the ODPCP to ensure that project personnel are knowledgeable of roles, responsibilities, and response strategies. The ODPCP will be amended, as necessary, to reflect any changes in the program that would have a bearing on spill responses.

A worst case release (i.e., blowout) is considered to be exceedingly unlikely. The worst case

¹⁶ ConocoPhillips ODPCP Plan No. 07-CP-5096 is available for review at ADEC.

response planning standard for this project is a blowout of 5,500 barrels of oil per day lasting 15 days, based on a site-specific evaluation of the field by AOGCC and approval by ADEC. Based on required modeling, which considers prevailing wind direction, a blowout would distribute oil in any of three triangular plumes extending from each well in the direction of the wind. Most of the oil discharged would fall on or close to the drill pad.

No drilling will begin until the well pad is fully constructed and accessible by packed snow trail or ice road; the period of active drilling is subject to seasonal restrictions set in the ODPCP. ConocoPhillips will cease drilling operations prior to the onset of spring breakup to ensure snow cover provides adequate tundra protection.

2.1.5b Spill Prevention Control and Countermeasures (SPCC) Plans

An SPCC Plan provides guidelines for pollution prevention and addresses secondary containment where fuel and hazardous materials are stored in quantities of 1,320 gallons or more. The drilling contractor and the camp operator will have an SPCC Plan for fuel storage facilities, and the well testing contractor will have an SPCC Plan for its testing tanks, where needed.

2.1.5c Wildlife Protection and Encounter Plans

ConocoPhillips has a Bear Avoidance and Human Encounter/Interaction Plan. An approved orientation program is required for all personnel working in the NPR-A, to increase awareness of related environmental, social, and cultural concerns. These actions, along with the required Subsistence Plan, provide wildlife protection measures.

2.1.5d Other Plans

The North Slope operating fields have an Incident Management Team (IMT) which follows the Incident Command System (ICS). The IMT is on call 24-hours per day. Personnel involved in an emergency situation will notify Kuparuk Security at extension 7300 (659-7300), who will direct the IMT to respond. An Environmental Health and Safety Policies and Procedures manual is available on ConocoPhillips intranet web page and Emergency Response Plans are available at the individual facilities.

2.1.6 Operations and Maintenance

The proposed schedule calls for mobilization and ice construction to begin as soon as required authorizations and weather conditions allow, with drilling from ice pads expected to begin in January 2007. Operations and maintenance plans for roads and pads are similar to those previously evaluated and incorporated by reference.¹⁷

2.1.7 Abandonment and Restoration

Upon completion of drilling operations, all equipment and supplies will be removed and ice

¹⁷ ¹⁶ EA: AK-020-00-011, Sec. II.A.1, II.A.3 and II.A.9.

surfaces cleaned. Debris will be hauled to an approved disposal site. Dirty ice will be hauled to an approved disposal well. Ice road and pad sites will be inspected to ensure proper cleanup. When operations are completed, all wells will be plugged and abandoned in compliance with AOGCC and BLM regulations, and the drill rig will be transported out of the project area.. Final site closure will be approved by appropriate agencies.

2.1.8 Community Relations

ConocoPhillips has conducted public meetings to help keep the local residents informed of ConocoPhillips planned exploration drilling activities. To date ConocoPhillips has presented information to the regulatory agencies at its pre-application sessions in Anchorage and in Fairbanks. ConocoPhillips also presented its 2007-2008 winter exploration plans directly to a number of village communities, including; Atqusak, Nuiqsut, Anaktukvuk Pass, Barrow, and Wainwright.

In addition to these activities, ConocoPhillips will be posting its permit applications on an internet web site (www.conocophillips.com/permits/) as has been done in previous years. This action will provide additional opportunities for public input and involvement. The website application viewing notification will be sent to applicable stakeholders.

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

2.2 Possible Future Action

Exploration drilling is the only reliable method of verifying the presence of oil, but drilling may or may not result in discovery of potentially producible resources. If a discovery is made, it typically takes an additional 4 to 10 years for further study, design, and installation of facilities before production can begin. Each phase of decision-making requires additional, site specific environmental review and potential mitigation, as well as additional environmental protection measures.

Previous Oil and Gas Exploration EA's have considered the possibility of future facilities if a discovery were made.¹⁸ There is no new information on this subject.

2.3 Alternatives to the Proposed Action

Based on limitations imposed by lease stipulations, the applicants proposed use of best management practices and the flexibility included in the proposed project, only the no action alternative warrants further detailed consideration at this time.

2.3.1 Alternative –No Action

¹⁸ EA AK-023-07-002, EA AK-023-01-003, EA AK-023-05-005, EA AK-06-003, EA AK-023-08-002

With the no-action alternative, exploratory drilling by ConocoPhillips under existing valid oil and gas lease would not be allowed as proposed. ConocoPhillips permit applications to the BLM would be denied; no access, drilling, or drilling support activities would occur on Federal lands in the NE NPR-A; and no amended access corridor in the NE NPR-A would be allowed.

3. AFFECTED ENVIRONMENT

The proposed ConocoPhillips exploratory drilling operations, ice roads, and ice airstrips are in the NE Planning Area. Access corridors and water supply lakes are also in the NE Planning Areas. Environmental characteristics of the general project area have been extensively described in the 1998 NE IAP/EIS, which are incorporated by reference, with some site-specific features summarized below. No documentation exists at any of the three proposed drill sites indicating that fuel, hazardous wastes spills, or contamination have been identified within the proposed operations area¹⁹.

The proposed drill pads are located approximately 15- 24 miles inland from Harrison Bay, and between 7 to 17 miles west of Nuiqsut. The general relation of the project area to existing oil and gas fields on the North Slope is shown on **Figure 1**.

Drill Site Spark DD 9 is in the Kuukpik Selection Area and all the sites are also near the boundary of the Judy Creek Sensitive Area Consultation zone. All three sites are within the Colville River Special Area. Exploration drilling and associated access is permitted in all of these areas. The proposal does not include any new request for stream crossings. ConocoPhillips will use their existing authorizations for stream crossings. New access route segments cross through the: Colville River Special Area, in the NE NPR-A.²⁰

3.1 Physical Characteristics

Proposed activities will take place on the Arctic Coastal Plain, where temperatures average below freezing for 8 months of the year. A dramatic change to higher temperatures and longer day length occurs during the other 4 months. Annual precipitation is low, averaging 8 inches per year, with more than half falling as snow.

Snow cover is typically established in late September/October and disappears late May/mid-June. Recent changes in weather patterns have reduced the winter exploration season from 208 days (1970) to 103 days (2002).²¹ North Slope air quality meets the National Ambient Air Quality Standards and State of Alaska air quality regulations. Concentrations of regulated air pollutants are far less than the maximum allowable levels.²²

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20 1998 NE ROD, Figure II.C.1.

21 G. Schultz, ADNR. Tundra Access Symposium, sponsored by AOGA, ADNR, and BLM. October 7, 2003.

22 1998 NE IAP/EIS, Vol. 1, p. III-A-53

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

Soil types that exist in the NE Planning Area are described in EA: AK-023-05-005, Section 3.1 (p. 3-1), which is incorporated by reference and summarized herein. Surficial deposits of the general area are marine silts and sands, Aeolian sands, and outwash gravels. Soils are shallow, poorly drained, and constantly wet over permafrost. There are undulating and rolling sand dunes, especially in areas bordering the floodplains of major streams and some larger lakes. Most of the dunes are stabilized by vegetation, though some dunes adjacent to streams are active.

ConocoPhillips has identified eight new lakes for water withdrawal in the NE NPR-A (**Table 7**). The volume of water withdrawal authorized is based on depth and habitat value for fish. Based on available data, water quality of potential sources for this project appear to be within the general ranges of water quality discussed in the 1998 NE IAP/EIS and reviewed by the BLM in previous analyses, which are incorporated by reference. None of the conductivity measurements available for potential water sources exceed 4,000 micromhos (μmhos) per centimeter, which is used as a guideline for water use on tundra.²³

3.2 Biological Resources

Biological resources in the project area within the NPRA are described in both the 2005 NE Amended IAP/EIS and the 1998 NE IAP/EIS,²⁴ as well as in previous BLM assessment documents. Key elements are discussed in more site-specific detail below.

3.2.1 Vegetation, Wetlands and Riparian Zones²⁵

The vegetation for the Northeast NPR-A planning area as a whole consists primarily of dwarf shrubs, herbaceous plants, lichens and mosses, which grow close to the ground. The land-cover of the planning area has been classified by the BLM into seven major (85% accuracy) and 17 minor (75% accuracy) land-cover classes. These classes were distinguished from one another based on their relative composition in terms of percent cover of water, bare ground and plant species. For the entire planning area, approximately 21% is open water, while another 18% (aquatic, flooded and wet classes) has standing water with varying proportions of plant cover. The single most common cover type is tussock cottongrass. The tussock form is common outside of this class as well, because the dwarf shrub class commonly includes tussocks. The distinction between the tussock tundra and dwarf shrub classes is based on the relative proportion of shrubs, a dominant life form. Combining these two classes suggests a total cover by tussocks in the planning area of up to 45%. Non-tussock sedge meadows comprise about 10% of the planning area, and the remaining 6% is a mixture of low shrubs along streams (riparian

²³ G. Schultz, ADNR. Tundra Access Symposium, sponsored by AOGA, ADNR, and BLM. October 7, 2003.

²⁴ 2005 NE Amended IAP/EIS Sec 3.3 1998 NE IAP/EIS, Vol. 1, Sec. III.B.

²⁵ D. Yokel AFO Ea Write Up

zones) and barren areas along sandy streams and exposed lake beds. These percentages can be used as an approximation of the cover types present in the project area.

There are no federally designated threatened or endangered plant species in the project area. Three plant species that are currently on BLM-Alaska's sensitive plant species list, Drummond's bluebell, Alaskan bluegrass and False semaphoregrass, may potentially exist in the project area. All have known location in the Northeast NPR-A planning area, but have never been found in the project area. Alaskan bluegrass has been found near the mouth of Fish Creek, the closest location for any of these species to the project area. Eurasian junegrass and fewflower draba are not on the BLM's sensitive species list, but are considered to be rare and known to occur in the Northeast NPR-A planning area. The distribution of the draba is along the sea coast, but the junegrass grows along sandy stream banks and may occur in the planning area.

The definition of the term "wetland" may vary. Through its National Wetlands Inventory (NWI) program, the USFWS uses ecological characteristics to define wetlands. According to this protocol, the essential attributes of wetlands are the presence of wetland plants (hydrophytes), the presence of wet soils (hydric soils), or soil saturation or flooding. To date, the NWI program has classified little of the National Petroleum Reserve – Alaska. In implementing the Clean Water Act, the US Army Corps of Engineers (USACE) also classified wetlands. According to the USACE, wetlands are those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. The definitions of wetlands used by the two agencies are similar; a comparison of these definitions with the land cover classification for the Northeast NPR-A planning area (above) provides a first order approximation of the amount of the planning area that either agency would classify as wetlands.

With the exception of thaw bulbs under larger lakes and streams, permafrost is continuous under the planning area. Since permafrost forms an impenetrable barrier to water percolation, the soils of the active layer above it remain saturated during summer in all but a few cases. Even "moist tundra" over these saturated soils would be classified as wetlands. Because of the high shrub component, the dwarf and low shrub subclasses are separated from the moist tundra class, but they also exist on saturated tundra and much of the dwarf shrub subclass exists on areas of sedge tussocks. Certain areas of bare sand may not qualify as wetlands; however, the remainder of the planning area would qualify as wetlands. This suggests that more than 95 percent of the planning area would be classified as wetlands by at least one of the three sets of criteria. It can be expected that a large majority of the project area would also be classified as wetlands.

3.2.2 Fish²⁶

Fish found within the area of proposed activity and in the adjacent Colville River include Pacific salmon (primarily pink and chum and rarely chinook), Arctic grayling, Alaska blackfish, Dolly Varden, northern pike, longnose sucker, broad whitefish, humpback whitefish, round whitefish, least cisco, Arctic cisco, Bering cisco, burbot, slimy sculpin, ninespine stickleback. Other species found within the NE NPR-A

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that would be extremely rare if found in the area of exploration are lake trout, threespine stickleback, and Arctic lamprey. Nearly all species may utilize lakes as well as streams and rivers. More specific details on life history and distribution are available in the 1998 NE NPR-A IAP/EIS.

For the purpose determining permitted water volumes to be withdrawn from a lake, fish species are classified as either “resistant” or “sensitive”. Alaska blackfish and ninespine stickleback are considered “resistant” due to their greater tolerance to low dissolved oxygen concentrations (Lewis et al. 1972; Armstrong 1994). Other species are considered “sensitive”. Alaska Department of Natural Resources (ADNR) Office of Habitat Management and Permitting (OHMP) issues lake water withdrawal permits for lakes inhabited by fish. Lakes with sensitive fish species are permitted for 15% of the water volume below 7 feet. Lakes with only resistant fish species are permitted for 30% of the water volume below 5 feet. Removal of ice chips in addition to the permitted liquid water volume may be allowed on a site-specific basis if the permittee agrees to conduct a recharge study. The ADNR Water Management Unit within the Division of Mining, Land, and Water issues lake water withdrawal permits for all lakes, including those with no fish. Fish bearing lakes are permitted following similar guidelines as ADNR OHMP. Fishless lakes are permitted for 20% of the total water volume (liquid water and/or ice chips), although removal of up to 35% may be allowed if the permittee agrees to conduct a recharge study. ConocoPhillips has proposed water withdrawal and/or ice harvesting from 9 lakes under new permits for the NE Planning Area (Table 7). Other lakes may also be utilized, but are under current permits and have been previously evaluated.

3.2.3 Avian Wildlife²⁷

During the winter months of project operation, avian populations of special interest (e.g., eiders, brant, loons, other waterfowl, and shorebirds) are generally absent from the North Slope. The few birds that might be present during winter include owls, ravens, ptarmigan, and possibly gyrfalcon. Steller’s eiders and spectacled eiders are listed as threatened under the ESA. However, neither species is present during winter, is known to be habitat-limited on the North Slope, or has designated critical habitat on the North Slope.

3.2.4 Terrestrial Mammals²⁸

Species of terrestrial mammals that might be present in the project area during winter include caribou, moose, muskox, grizzly bear, polar bear, wolf, wolverine, red fox, arctic fox, weasels and rodents (ground squirrels, voles and lemmings). Of these, moose, muskox and polar bears are least likely to be encountered. Moose tend to concentrate during winter in the tall shrubs along the Colville River, upstream of where the river borders the project area. At present, only one group of muskoxen is known to exist in the Northeast NPR-A, and they were last seen (October, 2007) north of Teshekpuk Lake. The project area is further inland than polar bears normally range from the ocean. Grizzly bears typically hibernate in dens during winter, although individuals could occasionally be encountered in late stages of the project. Dens tend to be along areas of relatively high topographic relief, such as stream and lake banks, sand dunes and pingos. Active grizzly bear dens are known to exist in the vicinity of the Colville River crossings and are avoided by at least ½ mile during overland travel. Caribou generally remain

27 D. Nigro AFO EA Write Up

28 D. Yokel AFO EA Write Up

on their winter ranges until about the end of April, and during the winter of 2007-2008 there are individuals of the Teshekpuk Lake Herd within the project area. In May, the caribou begin to move toward the calving grounds, which are to the northwest of the project area, although bulls and barren cows may remain on the wintering range through most or all of May.

3.3 Socioeconomic Resources

Related socioeconomic resources are described in detail in the 1998 NE IAP/EIS and the 2005 NE Amended IAP/EIS.²⁹ Tiered BLM assessments have focused on additional issues relevant to proposed exploration activity in the NPR-A.³⁰

National energy needs and U.S. dependence on foreign oil are key issues in authorizing exploration. The increasing reliance on foreign-produced oil is a challenge to U.S. security. Damage to Gulf of Mexico production platforms caused by Hurricanes Katrina and Rita in 2005 demonstrated the vulnerability of the Nation's major source of domestic oil and gas.

The current political climate in the world is a continuing issue as other nations increase their own use of oil and gas, which in turn impacts the availability of imported oil and gas resources needed to supplement the domestic supplies of oil and gas. The proposed drilling sites are located in a region considered to have a "high probability for occurrence of economic oil and gas fields."³¹ The proposed action would authorize exploratory drilling on Federal leases issued in this area.

The economies of the State and the NSB are heavily dependent on oil and gas revenues. Economic resources include lease bonuses and rentals, production royalties, corporate income taxes, NSB property taxes, and employment, as previously described and incorporated by reference.³² Residents of Nuiqsut and Barrow use the general drilling area for subsistence, which is also important to the local economy.³³ Subsistence activities, particularly hunting and fishing, are exceedingly important to local residents, who are primarily Iñupiat – the Native people of Alaska's North Slope. These activities are central to the ages-old Iñupiat cultural system, providing critical sustenance for people who reside off Alaska's road network and are not connected to the nation's food distribution system.³⁴

Nuiqsut and Atqasuk have substantial subsistence economies, supplemented by employment in local construction and energy production jobs. Barrow is a regional center and the seat of local government, but also supports a subsistence economy. Primary subsistence resources used by all three communities include caribou, birds, fish, and marine mammals.

29 1998 NE IAP/EIS, Vol. 1, Chapter III.C, the 2005 Amended NE IAP/EIS, Vol. 1, Chapters 3.4.

30 EA: AK-023-07-002, Sec 3.3; EA: AK-023-07-006, Sec 3.3.; EA AK-023-01-003.

31 2003 NW IAP/EIS, Vol. 3, Map 105; 1998 NE IAP/EIS, Vol 1, III-A-29.

32 EA: AK-023-02-005, Sec. III.C.3; 2003 NW IAP/EIS, Vol.1, Sec. III.C.11; EA: AK-023-06-003, Section 3.3; 2005 Amended NE IAP/EIS pg3-69

33 2003 NW IAP/EIS, Vol 3, Map 66.

34 2004 NW ROD, p. 4, 1998 NE IAP/EIS Vol 1 III.c.3-1

Surface and subsurface estates of affected federal lands within the NPR-A are under the jurisdiction of the BLM. The Applicant has located project elements to avoid impacting subsistence resources, cultural resources, historic/prehistoric sites, and cabins/camp sites in the project area. ConocoPhillips and the BLM have consulted with local residents, the NSB, and the NPR-A SAP to ensure that the proposed project does not unreasonably restrict access to subsistence resources and protects cultural and historical sites.

Site investigations by professional archaeologists and coordination with the BLM and NSB have identified archaeological sites in the area, and proposed facility/access locations are sufficiently offset to avoid impacts. Results of the archaeological survey were submitted to the Bureau of Land Management for the required cultural resource clearance.

In addition, bedrock formations in the NPR-A contain a wide variety of plant and animal fossils. However, most *in situ* paleontological resources are deeply buried, and the landscape is snow-covered and frozen 9 months of the year.³⁵

The proposed project area is flat, wet, and remote, with a limited number of private cabins, camps, and former drill sites/drilling support facilities the only developments.³⁶

Visual Resource Management (VRM) classes were not established in the 1998 NE IAP/EIS. At that time, visual resources were described using a 16 scenic-quality rating unit system, based on landform, vegetation, water, color, distinctiveness, and cultural modification, which is incorporated by reference.³⁷ The 1998 ROD did, however assign VRM classes to the Colville River Scenic Area LUEA, which is to be managed for VRM Class I upstream of Umiat and VRM Class II downstream of Umiat, with exceptions allowed for subsistence structures and essential pipeline crossings.³⁸ VRM Class I is the most protected level, with only a low level of change allowed. Class II is not as restrictive; however, neither Class I nor Class II areas are directly associated with the proposed project, because the proposed crossing of the Colville River is downstream of the LUEA boundary.

The project is not associated with a designated Wilderness Area, a designated Wilderness Study Area, or an area under consideration for wilderness recommendations.³⁹ No affected rivers are included in the National Wild and Scenic Rivers System. The Colville River was nominated for inclusion in the Wild and Scenic River (WSR) System in 1980, but no Congressional action was taken. In 1998, it was determined that though the physical characteristics and associated resource values make the River “eligible” for designation, the River has been determined not “suitable” because other land owners within the potential WSR corridor do not support this action, and without their cooperation, management as a WSR would be ineffective.⁴⁰

35 2003 NW IAP/EIS, Vol. 1, p. III-30.

36 NSB Camps and Cabins Map, prepared for NPRA Exploration Bidders, June 2, 2004.

37 1998 NE IAP/EIS. Vol. 1, pp. III-C-54 and 55.

38 1998 NE ROD, p. 5.

39 1998 IAP/EIS, Vol. 1, p. III-C-54 and pp. II-51 and 52.

2003 NW IAP/EIS, Vol. 3, Map 12.

40 1998 IAP/EIS. p.II-3; 1998 NE ROD, Decision, p. 5.

There are no known commercial recreation businesses and no developed commercial or public recreation facilities in the project area. There is limited use of this area for primitive recreation due to the expense and demands of travel to and in the area. Extremely minor-to-no winter recreational use by other than local residents is documented or expected, due to harsh weather, limited daylight, and limited access. Local cabins are sometimes accessed by snowmobile. For the most part, cabins, campsites, and lakes are largely inaccessible until late summer, when wheeled vehicles, boats, and light aircraft are used for access. Inland water bodies also tend to be shallow and isolated, and river/stream channels are shallow and convoluted – conditions which are not conducive to recreational boating.

4 ENVIRONMENTAL IMPACTS

If authorized, the proposed project would be the 15th winter exploration drilling program in the NPR-A since the 1999-2000 winter drilling season; all but the two FEX L.P. Incorporated (FEX) drilling programs have been in the NE Planning Area. Several other programs involving summer storage or alternative overland access also have been evaluated.

All authorized winter exploratory drilling operations have used similar technologies and equipment operating in similar habitats. All have been approved and monitored on the basis of full implementation of relevant restrictions, protective measures, and mitigation set forth in the applicable ROD, as well as State and local permits, and compliance with enforceable standards of the Alaska Coastal Management Program (ACMP) and the NSB Coastal Management Program, where applicable.

Authorizations under the 1998 and 2004 RODs to conduct winter exploration for oil and gas resources in the NPR-A have resulted in no long-term significant impacts to the environment or to access and use of subsistence resources. The requirements and protective measures set forth in the 1998 NE ROD and 2004 NW ROD, in addition to site-specific recommendations and stipulations, have provided sufficient environmental protection to keep environmental impacts to a minimum.

The 1998 ROD provide for granting exceptions to stipulations under a set of strict conditions. WO IM 2008-032 further sets forth guidelines for exceptions and expands and explains the criteria to include modifications and waivers. This option allows the BLM Authorized Officer to consider technical and economic feasibility and potential environmental advantages of alternatives, as long as the alternative fully satisfies the objectives of the stipulation. In making an exception/modification/waiver, the Authorized Officer shall consult with appropriate regulatory and resource agencies.

All proposed operations on federal land would be located in the NE Planning Area. The proposed winter exploration program:

- Incorporates all relevant decisions made in the NE IAP/EIS and ROD.

- Uses techniques and practices that are within the general scope of exploration activities evaluated in the NE IAP/EIS, and the protective measures incorporated in the ROD.
- Reflects the experience gained during similar operations in the NPR-A, on the North Slope on lands managed by the State of Alaska, and on NSB and private lands. A total of 13 wells have been proposed and drilled within a 12mile radius of the proposed drill sites.

4.1 Assumptions

Three assumptions were made in evaluating potential impacts of the proposed action, as discussed below.

Assumption 1: When applied to the proposed action, management decisions and stipulations of the 1998 ROD for activity in the NE NPR-A provide significant protections to surface resources and human uses in the NPR-A.

Rationale: Through careful planning and significant public involvement, resources in the NE NPR-A have been protected, and environmental impacts have been effectively minimized by prohibitions, restrictions, and stipulations applicable to oil and gas exploration activities, and through positive, protective management measures (e.g., Special Areas, LUEAs, and sensitive area designations) described in the 1998 NE ROD.

In this decision, the Secretary of the Interior concluded that all practical means to avoid or minimize environmental harm had been adopted.⁴¹ Despite the multiple controls in place, winter exploration has resulted in several minor impacts during the past 8 years (e.g., fish uptake with water withdrawal, tundra scuffing and minor tundra damage, and willow damage in a few specific locations). These impacts can be mitigated, meaning they can be made less severe, but not always eliminated entirely. Under BLM guidance, information has been shared, operating procedures refined, and new studies initiated to prevent recurrence of these problems. Most of the early problems have been resolved, and ongoing monitoring and reporting requirements support this assumption.

Assumption 2: Impacts associated with the proposed action in the NPR-A are expected to be the same as those previously evaluated in the NE and NW Planning Areas.

Rationale: The proposed activity in the NPR-A comprises winter exploration drilling with associated access (i.e., packed snow trails, ice roads, ice airstrips, and use of existing permanent facilities for staging and storage). Authorized activities have been monitored by the BLM over the past 8 exploration seasons, with no significant impacts observed. Most specifically, the proposed activity represents an extension of ConocoPhillips activity previously evaluated and determined to have no significant impacts.

Also considered is the fact that the BLM has monitored authorized activities located within or adjacent to Special Areas, LUEAs, and sensitive areas that are associated with the proposed

411998 ROD, P. 21.

project. This EA provides a site-specific evaluation of all new elements to confirm this assumption. In addition, continued use of previously authorized winter exploration activities in the project area is evaluated under cumulative impacts, Section 4.4.

Assumption 3: Impact of the proposed action on the marine environment is expected be negligible.

Rationale: At the closest point, the proposed drill sites are approximately 15 miles inland from Harrison Bay. As evaluated in the 1998 IAP/EIS, large spills are unlikely,⁴² and distance, snow/ice cover, surface use restrictions, and response requirements minimize the potential for any spill to reach the marine environment.

4.2 Critical Elements

BLM guidelines for environmental assessment include “Critical Elements” to consider in evaluating project impacts. The EA is not limited to only those strictly described elements and will address other elements specific to the proposed action, as shown in **Table 8** and incorporated in the discussion of project-specific impacts.

4.3 Environmental Consequences

The proposed action is built on experience gained from decades of similar operations on the North Slope. This EA is tiered from the 1998 NE Planning Area IAP/EIS and its ROD, and the 2004 FEIS Alpine Satellite Development Plan and its ROD. More specifically, this EA is tiered from EA: AK-023-06-003, EA: AK-023- 05-005, EA: AK-023-01-003 and EA: AK-023-07-002.

4.3.1 Project-Specific Impacts

This analysis evaluates the potential direct and indirect impacts associated with affected critical elements and other issues of concern specific to the proposed project, as defined and discussed in this section of the EA.

⁴² 1998 NE IAP/EIS, Vol. 1, Sec. IV.G.

Table 8. Elements of this Environmental Assessment

NEPA Critical Elements

Critical Element	Affected? Yes/No	Mitigated? Yes/No
ACEC's	None	
Air Quality	No	
Cultural	No	
Farmland, Prime and Unique	No	
Floodplains	Yes	Yes
Environmental Justice	No	
Native American Religious Concerns	No	
T&E Species	No	
Waste, Hazardous & Solid	Yes	Yes
Water Quality	Yes	yes
Wetland/Riparian	Yes	No
Wild & Scenic Rivers	No	
Wilderness Values	No	

Other Resource Values

Other Resource Values	Affected? Yes/No	Mitigated? Yes/No
Adverse Energy Impact	No	
Fisheries Habitat	Yes	Yes
Land Status	No	
Paleontological	No	
Subsistence	Yes	Yes
Visual Resources	No	
Wildlife Resources (non T&E) Mammals	Yes	No
Wildlife Resources (non T&E) Avian	Yes	No

Project-specific issues have been grouped as follows:

- Air Quality.
- Hazardous Materials, Solid Wastes, and Spills.
- Cultural and Paleontological Resources.
- Disturbance to Floodplains, Wetlands, Riparian Zones and Vegetation.
- Threatened and Endangered Species, Polar Bears, and other Sensitive Wildlife.
- Water Resources and Potential Impacts to Water Quality, Fish, and Waterfowl.
- Colville River Special Area
- Local Land Use and Subsistence.
- Scenery/Wilderness/Primitive Recreation Opportunities.
- Environmental Justice.
- Adverse Energy Impacts.
- Floodplains,

Relevant stipulations that eliminate, reduce, or otherwise mitigate winter exploration related impacts are cited in the following analyses. The analysis also considers the results of 13 winter exploration programs completed over the past 8 years in the NPR-A that confirm the effectiveness of the environmental protection measures applicable to the proposed action. Note that the 14th winter exploration program was also evaluated this winter, and therefore activity has not taken place.

4.3.1a

AIR QUALITY			
Environmental Controls and Mitigation:			
	Stipulation	ROP	Other
1998 NE ROD	None	None	ADEC Permit

Air Quality impacts are derived from emissions associated with drilling and camp operations and transportation. Emissions from exploration drilling operations under an approved ADEC air quality permit will not cause significant deterioration of air quality. Related discussions on air quality issues and potential impacts are incorporated from the 1998 NE IAP/EIS, Vol. 1, Section IV.G.5. Discussion incorporated by reference is addressed below as it pertains to the proposed action.

Analysis of Proposed Action: ConocoPhillips will operate under the ADEC Minor General Permit 1 for oil or gas drilling rigs. A surveillance program is required when the sulfur content of fuel combusted is greater than 0.19 %. ConocoPhillips will enforce an exclusion zone, using methods approved by ADEC and the BLM. Any accidental emission or impact on vegetation, acidification, visibility, or global warming is expected to be short term and minor. The proposed winter exploration operations are similar to those previously evaluated for access with drilling and camp operations in the NPR-A, which were determined to have no long-term or significant effects on air quality.

The proposed Spark DD 9 drill site, the Rendezvous drill site, and the new site – (Stony Hill) are located in close proximity to 13 drill sites previously drilled and evaluated by the BLM and ADEC for potential impacts to air quality. The proposed winter exploration operations at the proposed 3 drill sites are similar to those previously evaluated and authorized by the BLM. Accordingly, it is determined that effects on air quality associated with the proposed project are not expected to be more than minor and short-term.

4.3.1b

HAZARDOUS MATERIALS, SOLID WASTES, AND SPILLS		
Environmental Controls and Mitigation:		
	Stipulation	Other
1998 NE ROD	1-17, 24,28,63,65,70,71	43 CFR 3160; Onshore Order 1; Orientation and Subsistence Protection Plans; ODPCP and SPCC Plan

Discussion Incorporated by Reference: The extent of environmental impacts from an accidental release would depend on the: type of materials spilled, size and location of the spill, underlying substrate, effectiveness of response, and site rehabilitation success. North Slope companies participate in spill drills to improve practices and techniques when responding to an emergency event.

The tundra and all waterbody surfaces should be frozen throughout the project area during the proposed winter exploration activities. Sensitive land and water surfaces are afforded protection from spills by snow and ice cover. In most cases, spills on snow and ice can be effectively cleaned up. Spilled product thawing through the ice/snow or cleanup procedures could result in impacts to water quality and aquatic habitat. Tundra impacts might include soil contamination, vegetation damage, wildlife injury, or surface disturbance from traffic and cleanup activity.

Related discussion is incorporated from the: 1998 NE IAP/EIS, Sections IV.A.2 – IV.A.4; and Sections 4.3 of EA: AK-023-05-005, EA: AK-023-06-003, EA: AK-023-01-003, and EA: AK-023-07-002. Discussion incorporated by reference is addressed below as it pertains to the proposed action.

Analysis of Proposed Action: The proposed action is very similar to previously approved exploration programs in the NPR-A, which were determined to have no significant impacts under similar environmental conditions.⁴³

ConocoPhillips has an ODPCP approved by ADEC, demonstrating the capability to control, contain, and cleanup any expected release. SPCC Plans will be required for ConocoPhillips drilling and testing contractors. The approved ODPCP and SPCC Plans will be accepted by the

⁴³ FONSI AA-081727, December 2004 and FONSI AA-085574, December 2005.

BLM as meeting the lease stipulation for spill planning. ConocoPhillips will comply with all stipulations for fuel and chemical transportation and storage using a combination of existing plans and approvals for spill response, waste handling, tracking, and disposal on the North Slope.

Potential spill sources associated with drilling activities include: minor operational spills (typically less than 10 gallons of diesel or lubricants), major tank failures (e.g. rupture of a 20,000-gallon diesel storage tank or fuel truck), and well blowouts. The greatest potential threat would be from a blowout that continued into breakup, which is considered a very low probability event.

The Spark DD 9 site is within the Kuukpik Withdrawal Area. Winter operations, protective measures listed above, and the Applicants approved ODPCP protect this area from spills. The ODPCP limits the drilling period to better ensure that spill cleanup activities are largely confined to winter conditions.⁴⁴

The BLM has field checked all 3 potential drill sites and determined that impacts would be minimal due to protective environmental stipulations that: (1) restrict drilling in active floodplains, (2) restrict fueling operations near active floodplains and, (3) require exploratory drilling to be completed when waterbodies are frozen and the ground is snow-covered, substantially limiting the potential for impacts from a spill. In addition, the BLM has monitored drilling at 13 wells in the project area that produced no apparent significant adverse impacts.

Based on the Applicant's proposed operations programs, protective measures of the 1998 ROD, and stringent requirements of ADEC and the EPA, no significant impact is expected from drilling operations at any of the three sites.

4.3.1c

CULTURAL AND PALEONTOLOGICAL RESOURCES		
Environmental Controls and Mitigation:		
	Stipulation	Other
1998 NE ROD	24,26,62-65,74	NHPA (SHPO Clearance), Executive Order (EO) 13007, Indian Sacred Sites

Discussion Incorporated by Reference: Previous analyses concluded that during winter when the ground was frozen and there were no surface disturbing activities, subsurface cultural resources were usually safe from disturbance, with little chance that a significant impact to archaeological deposits could occur. Paleontological resources, usually protected by deep burial in permafrost, would also be protected by adequate snow cover. However, there is a somewhat greater risk of damage to cultural resources on the surface if there is inadequate snow cover (e.g., stream bank exposure).

⁴⁴ CONOCOPHILLIPS ODPCP No. 07-CP-5096 is available at ADEC.

Related discussion on this subject is incorporated from the: 1998 NE IAP/EIS, Vol. 1, Sections IV.A.6.b, IV.G.2, and IV.G.12; EA: AK-023- 05-005, p. 4-4; and EA: AK-023-06-003, p. 4-5, EA: AK-023-01-003, p. IV-26, and EA: AK-023-07-002, p.4-6. Discussion incorporated by reference is addressed below as it pertains to the proposed action.

Analysis of Proposed Action: Cultural surveys (air and ground) at proposed drill sites and along access corridors were completed by a qualified professional archaeologist, who also noted paleontological resources. Findings have been submitted to the BLM, but are not identified in this EA due to the sensitive nature of the information. Results of the survey indicate that project activities are not expected to encounter paleontological or cultural resources, including sacred sites.

The proposed action is very similar to previous authorizations in the NE and NW NPR-A Planning Areas, which had no significant impacts to cultural and paleontological resources under similar environmental and operating conditions. Results of cultural resources surveys and proposed use of snow and ice constructioned trails, along with avoidance of sensitive areas, collectively support the conclusion that cultural and paleontological resources have been provided adequate protection, and that no adverse impacts are expected from the proposed action. The proposed action will fully comply with requirements of the NHPA of 1966.

4.3.1d

DISTURBANCE TO FLOODPLAINS, WETLANDS, RIPARIAN ZONES, AND VEGETATION		
Environmental Controls and Mitigation:		
	Stipulation	Other
1998 NE ROD	1,3-16,18- 22,24-28,61- 63,65,67,70	Subsistence Protection, Orientation, EOs 11988 and 11990

Discussion Incorporated by Reference: Applicable stipulations restrict construction of permanent facilities and use of gravel for oil and gas exploration. Several existing permanent facilities are available for staging and storage, and the long periods of below freezing temperatures makes ice construction a feasible alternative. Experience in evaluating and monitoring winter drilling programs in NPR-A since the winter of 1999-2000 has shown that ice pads, ice roads, and hardened trails create few lasting impacts to tundra vegetation, wetlands, floodplains, and riparian zones, while minimizing potential impacts from exploration activity and spills. Ice structures exist only when soils, wetlands, floodplains, and riparian habitat are frozen, resulting in impacts that are typically minor and short term, .e., a few to several years.

The 1998 IAP/EIS and the 2005 NE Amended IAP/EIS⁴⁵ describe reasonably-expected ground disturbance from overland winter travel, ice roads, ice pads, and well cellars as relatively minor and often temporary. Both the 2003 NW IAP/EIS and the 2005 Amended NE IAP/EIS

⁴⁵ 1998 IAP/EIS, Vol.1, Sections IV.A.1, IV.G.3, and IV.G.6; 2005 NE Amended IAP/EIS Vol. 1, Chapters 4.2.1, 4.6.5, and 4.6.6.

incorporate results and observations from exploration in the NPR-A since 2000.

Compliance with EO 11988 and EO 11990 is discussed in the NW ROD (pp. 16-19) and EA: AK- 023-06-003, pp. 4-5 to 4-7. Discussion incorporated by reference is addressed below as it pertains to the proposed action.

Analysis of Proposed Action: The only direct surface-disturbing activity expected is *de minimis* acreage lost to construction of well cellars (approximately 6-foot diameter cellar; 0.0006-acre).

Proposed operations will occur only during winter, when soils, wetlands, and riparian habitat are frozen and snow covered. The Authorized Officer will determine when there is adequate snow cover and frost penetration for winter activity.

Impacts vary according to the type and number of vehicles used, number of trips, soil type, ground cover, ground hardness, and snow conditions. Relatively minor, site-specific impacts are expected from ice construction and LPV travel (e.g., limited extent of scuffing, compaction, crushing, and breakage). Some impacts to floodplains, riparian zones, wetlands, and vegetation are expected to occur despite existing stipulations. Further mitigation is not currently practicable.

The project area is predominantly classified as wetlands and associated floodplains, and there are no practicable upland alternatives. The proposed action incorporates all of the applicable protective stipulations found in the 1998 NE ROD to avoid and minimize impacts to wetlands and floodplains. BLM personnel have inspected all proposed drill sites, ice airstrip locations, and access corridors, including access to/from the new Colville River crossing. In addition, BLM personnel will perform regular inspections throughout implementation of the proposed project, including abandonment of the sites to ensure standards are met.

Vegetation, Wetlands and Riparian Zones⁴⁶

Overland travel and ice road construction/use would occur in winter only, when the ground is frozen and covered with snow. The impacts to tundra vegetation, including wetland and riparian areas, and the underlying soils vary with vehicle type, vegetation type and snow conditions. Low ground pressure, wheeled or rubber-tracked vehicles have less impact than steel-tracked vehicles or sleds on skids. Usually, less impact would be expected in the wetter tundra where the effect, if any, may be the compression of snow and dead matter leaving “green trails” visible for one to a few growing seasons. Travel over low shrubs could cause plants to be broken, and travel over tussocks sometimes results in scuffed or crushed tussocks. The overland travel involved in the proposed action would have impacts to vegetation similar to those from seismic exploration. The latter has been studied, and the impacts are described below.

In a study of seismic exploration trails in the Arctic National Wildlife Refuge, one to two years after a seismic survey the disturbance level to the affected tundra under seismic lines was little to none on 11% of study plots, low on 64%, medium on 23% and high on 2%. After 8-9 years,

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recovery had reduced the disturbance level to little or none on 97% of study plots, and no areas of medium or high disturbance remained. The tundra under camp-move trails (a much smaller total area) showed greater impacts. On camp-move trails the disturbance level to the affected tundra was little to none for 22% of study plots, low for 52%, medium for 24% and high for 2%.

After 8-9 years, recovery had reduced the disturbance level to little or none on only 85%, with low on 10%, medium on 4% and high disturbance on 1% of the area.

In a similarly designed but more recent study in the NPR-A, during the summer immediately following a seismic survey, the disturbance level to the affected tundra under seismic lines was little to none on 68% of study plots, low on 32%, medium on 0% and high on 0%. After 6 years, recovery had reduced the disturbance level to little or none on 96% of study plots and low on 4%. On camp-move trails the disturbance level to the affected tundra was little to none for 17% of study plots, low for 17%, medium for 43% and high for 23%. After 6 years, recovery had reduced the disturbance level to little or none on 37%, with low on 43%, medium on 13% and high disturbance on 7% of study plots. The difference in results between this and the Arctic Refuge study may be due to some combination of different landforms sampled, variation among observers, and some change in equipment technology in the intervening years.

Thus, overland travel may vary from having no observable effects in some situations to damaging vegetation to the extent that it may take years or even decades to heal. These impacts occur despite existing stipulations on operations and cannot be further mitigated.

Some study of recovery from ice roads and ice pads has occurred in the Northeast NPR-A planning area, and the results show the effects on vegetation of ice road and pad construction and use is very similar to that from camp-move trains used for seismic exploration. In addition, study of ice roads show that recovery of some of the vegetation, especially sedges and forbs, occurs rapidly making the path difficult to see after as little as two to three years.

Because all work will be done in winter when plants are dormant, and because no ground disturbing activity will occur other than minimal penetration of the ground's surface by well bores, impacts to rare or sensitive plants are expected to be either minor or nonexistent. Additionally, access routes are selected to minimize topographic relief and to avoid sandy soils as much as possible. These are the habitat types preferred by the rare plant species most likely to be present in the project area.

4.3.1e

THREATENED AND ENDANGERED SPECIES, POLAR BEARS, AND OTHER SENSITIVE WILDLIFE		
Environmental Controls and Mitigation:		
	Stipulation	Other
1998 NE ROD	24,25,50-57,62,63,75,76,77	ESA Section 7 Consultation

Discussion Incorporated by Reference: Spectacled and Steller's eiders are the only two terrestrial species listed under the ESA. These two species of birds are listed as Threatened. No "critical habitat" has been designated in the project area for these two species.⁴⁷ Neither of these species is present in the project area during the winter.

Polar bears are not listed under the ESA, but they are protected under the MMPA. Polar bears and/or maternal dens could be encountered along nearshore project areas. Grizzly bears are neither listed under the ESA nor protected under the MMPA, but may be present and subject to disturbance in the project area. Several stipulations provide for avoidance of both polar and grizzly bears in the NPR-A.

Caribou are likely to be present in the project area, and are subject to disturbance by drilling, vehicle traffic, aircraft, and human activity. In most cases, these activities are expected to cause short-term minor displacement and/or disturbance. Camps and drilling activity can cause localized disturbance and/or displacement for several weeks to months. Traffic in the new access corridors would traverse caribou wintering areas (both the TLH and WAH). Impacts to caribou include loss or damage of habitat and altered patterns of habitat use (e.g. noise and traffic disturbance), and possibly a negative effect on their energy balance (intake versus expenditure).

Animals are mobile and operations are seasonal and affect only a very small proportion of available winter habitat; therefore, no lasting adverse impacts to caribou, moose, muskoxen, or other furbearers in the area are expected from winter exploration drilling. However, this assumption has not been tested, and conditions for winter survival vary from year-to-year; it is possible that this disturbance could have an additive effect on natural winter mortality. As an additional measure, local subsistence advisors have been successfully used in the NPR-A winter exploration programs to monitor activities to ensure the objectives of protecting subsistence resources is met. The Applicant will hire subsistence representatives.

Related discussion is incorporated from the 1998 NE IAP/EIS, Vol. 1, Sections G.9.a and G10, and Vol. 2, Appendices C and E. Other related discussion is in the 1998 NE IAP/EIS (pp. III-B-46 and III-B-47 and pp. IV-G-37 and IV-G-38).

This EA incorporates EA: AK-023-05-005, p. 4-7, EA: AK-023-06-003, pp. 4-7 through 4-9, EA: AK-023-01-003, p. IV-25, and EA: AK-023-07-002 p. 4-8. Discussion incorporated by reference is addressed below as it pertains to the proposed action.

Analysis of Proposed Action: Fish Habitat Potential impacts of the proposed action on fish and their habitat would be minimal. Overland travel of equipment will only occur during the winter open tundra travel season when all stream and lake crossings will be adequately frozen. The possibility of materials entering surface waters that could be detrimental to fish (e.g. petroleum products, other mechanical fluids) will be extremely low due to the timing of the operations, standard industry practices, and stipulations established by preceding NEPA

⁴⁷ 1998 NE IAP/EIS, Appendix C; 2004 NW ROD, Appendix C, Final Threatened and Endangered Species Documentation.

documents. Water withdrawals from lakes are permitted by the State. Permitted volumes and required intake structures provide appropriate protection for fish.

There are no summer (1 June – 15 August) activities associated with this winter exploration drilling program. Any summer activities needed for this proposed operation will need to be permitted separately from this document.

Impacts of the proposed action to normal hydrological patterns and processes and water quality are not expected to be altered due to this activity.

Analysis of Proposed Action: Waterfowl⁴⁸ Spectacled and Steller's eider occur, during the breeding season, in the proposed ROW, drilling and operations areas. There would be no direct impacts from the proposed action to eiders since all activity would occur during the winter when eiders are not present. Ground operations would begin only after BLM has officially declared tundra travel to be open. Stipulations of the permit would require that ground operations cease when spring snow melt begins, approximately May 5 to May 15. The only potential impact would be on habitat for these species.

Overland moves in support of this proposed project would occur during the winter when the ground is frozen and covered with snow and spectacled and Steller's eiders are known to be not present in the project area. Impacts to vegetation and soil have the potential to negatively affect the nesting habitat of both eider species. Impacts to vegetation would vary, depending upon the vegetation type and snow conditions. Impacts would be localized to areas of ground operations and damage to vegetation is expected to be low. Travel over low shrubs and tussocks may result in some breakage or death of plants or crushing of tussocks. In a study of winter seismic operations in the Arctic Refuge (seismic trails have effects similar to ice roads and rolligon trails), the level of disturbance to the affected tundra ranged from none to low for 74% of the area, one to two years after initial disturbance. A high level of disturbance was identified only in 2% of the study area.

Given the limited nature of potential disturbance to eider habitat, there would be no impact on either of the listed eider populations. The U.S. Fish and Wildlife Service concurred with BLM's assessment of no effect determination for spectacled and Steller's eider for this proposal.⁴⁸

Environmental Consequences: Terrestrial Mammals⁴⁹

The direct impacts of the proposed action on wildlife populations are discussed here. These impacts cannot be mitigated. There would also be minor, indirect impacts of this action on wildlife through damage to vegetation (see above). No cumulative impacts to wildlife are expected other than those incurred indirectly, again through damage to vegetation. These are expected to be negligible, given the low level of damage to vegetation and the small proportion of the landscape involved.

⁴⁸ Ltr USFW 12/20/2007

⁴⁹ D. Yokel EA Write Up

The move for this operation would traverse, and the main work would occur in, a portion of the wintering area for the Teshekpuk Lake caribou herd. Any caribou within the immediate area of the operation would be disturbed by this activity (i.e. ground vehicles, work at well site). Such disturbance is expected to result in short-term and minor displacement, possibly having a negative effect on their energy balance (intake vs. expenditure). Because these animals are mobile and the operation would be short-term (passage of vehicles) in duration, it is not anticipated that any lasting adverse impacts to caribou would result under most circumstances. This is an assumption based on a lack of evidence that caribou survive winters any better in the absence of exploration activity than in its presence. However, this assumption has not been tested by means of a controlled experiment, and conditions for winter survival vary from year to year; it is possible that this disturbance could have an additive effect on natural winter mortality.

Drilling activities typically occur at one site for about a month. Any caribou in the immediate vicinity may be displaced, although caribou have been known to winter in close proximity to human activity, including hunting, at various North Slope villages. Impacts from drilling activities are expected to be localized, and based on the assumption mentioned above, minor.

Project operations have a potential to disturb denning polar or grizzly bears. This is especially unlikely for polar bears because the project would occur outside their normal distribution. Known dens of both species are to be avoided, by one or one-half mile, respectively. It is expected that impacts to populations of either of these species would be at most minor.

Moose, muskoxen, wolves, wolverines and foxes that might be disturbed (if not actually attracted) by the operation are mobile and can move out of the immediate area, returning after the operation moves on. Impacts on these mobile species are expected to be similar to those on caribou, i.e. short-term and minor.

Some rodents might be destroyed (run over), and some of their winter habitat lost (through snow compaction). However, from the perspective of their overall local populations, this should not be an adverse impact.

Issue:

Since the 1998 NE IAP/EIS was written it has become common North Slope practice to visqueen the remaining Christmas Tree. This issue was addressed in the ROD for the 2005 Amended NE IAP/EIS(E-9). The objective stated in the ROD is the avoidance of human-caused increases in populations of predators of ground nesting birds. The mitigation in EA AK-023-08-002 (pg 4-20) goes further to require that the wellhead covering be secure to avoid littering and maintain function.

4.3.1f

WATER RESOURCES AND POTENTIAL IMPACTS TO WATER QUALITY, FISH , AND WATERFOWL		
Environmental Controls and Mitigation:		
	Stipulation	Other
1998 NE ROD	1,3-5,7- 16,19,20,22,24,28,62,63,67,70,71	ADNR TWUP, ADNR/OHMP Fish Habitat permits, EFH NPDES General Permit, ACMP Consistency

Discussion Incorporated by Reference: Winter exploration activities have little impact to fish, waterfowl, and water quality. Impacts to fish would most likely be from water withdrawal and/or stream crossings. Protective stipulations in the NE Planning Area prohibit winter water withdrawal from streams, limit water withdrawal from lakes, and limit stream crossing operations, thereby substantially limiting potential impacts on fish or fish habitat.

Additionally, Fish Habitat permits are required for water withdrawals and stream crossings that can impact fish. OHMP makes decisions on water withdrawal (including ice aggregate) and fish stream crossings specifically to protect any fish that may be present. OHMP also requires measures to prevent stream crossings from forming dams or otherwise change the natural hydraulic regime so that stream bottom or bank scour is minimized during breakup, where applicable.

No impacts to waterfowl are expected because they are essentially absent during project activities, and protective measures are in force to protect summer habitat from any significant adverse impacts. (See discussion above on spectacled and Steller's eiders). Birds that do remain during the winter (e.g., ptarmigan) may be displaced by exploration activity.

Water quality can be negatively affected due to water withdrawal or runoff from melting ice, and modification of local hydrology by ice roads/pads. Potential impacts are mitigated by existing stipulations, as well as, ADNR TWUP and Title 41 permitting requirements for water withdrawal and habitat protection. These effects are expected to be minor, localized, and short term – typically lasting only one season.

None of the previous evaluations of winter exploration drilling in the NPR-A produced evidence of adverse effects to fish. Lake recharge studies and observations from several North Slope residents indicate that surface recharge from spring snowmelt has been sufficient to completely replace volumes withdrawn during the rest of the year.⁵⁰

⁵⁰ ASDP FEIS, Vol. I, pp. 428-434.

Related discussion is incorporated from the: 1998 NE IAP/EIS, Vol. 1, Sections IV.G.4, IV.G .7, and IV.G .8, and Vol. 2, Appendix E; EA: AK- 023-05-005, pp. 4-7 through 4-9; EA: AK-23-06-003, pp. 4-10 and 4-11; EA AK-023-01-003 p.IV-24 and EA AK-023-07-002 p4-10.

Discussion incorporated by reference is addressed below as it pertains to the proposed action.

Analysis of Proposed Action: Water Quality⁵¹

Potential surface water quality impacts for oil and gas exploration and development fall into three general source categories: accidental release of fuels and other substances (including oil spills), reductions in dissolved oxygen and changes in ion concentrations in lakes used for water supply, and increases in terrestrial erosion and sedimentation causing higher turbidity and suspended solids concentrations.

Overland travel. The ground must be frozen and average snow depth must be 6 or more inches prior to starting seismic operations. This depth, which is the current operating requirement on the North Slope (except for BLM's proposed performance-based stipulations), would be sufficient to protect waterbodies and water quality, as well as the tundra mat.

Ice Road/Pad Water Use. The use of water for ice-road construction could affect water quality in several ways. First, the winter extraction of water or ice from lakes in the Planning Area could change lake water chemistry. While impacts to water quality from withdrawal of water from lakes for ice roads and pads in the Planning Area have been found to be minimal (Baker,2002; Hinzman, 2006), additional studies may be needed in specific cases to protect water quality.

In coastal tundra waters, alkalinity is associated with the salt content, with increases and decreases in alkalinity paralleling those of salinity. Pumping water from a freezing lake would remove the more saline and more alkaline water from under the lake ice. During snowmelt, the removed waters would be replaced by less saline, less alkaline runoff water.

A second way that ice-road construction could affect water quality would be from the construction of roads over lakes that do not freeze to the bottom. Many of these lakes are only a foot to a few feet deeper than the minimum 6-foot depth necessary to maintain some unfrozen bottom water in winter. An ice road across such an intermediate-depth lake would be designed to freeze the entire water column below the road, isolating portions of the lake basin and restricting circulation. With mixing thus reduced, isolated water pools with low oxygen could result. Dissolved oxygen concentrations could be reduced to below the 5-ppm dissolved oxygen standard needed to protect resident fish (ADEC 1997).

A third way that ice-road construction could affect water quality would be through changes in water chemistry along the roadbed during and after meltout. The water withdrawn from lakes to construct the roadway would be more saline than typical snowmelt waters. In addition, the salts frozen into the ice road would leach out of the ice prior to its melting during snowmelt, increasing the initial salt content of the meltwater. This effect could be measurable during initial

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snowmelt, but the effect on water quality should be minimal and localized, most likely expressed as a slight increase in salinity during initial snowmelt. Lease Stipulation 18 requires offsetting of winter ice roads to minimize vegetative impacts.

Additionally, rivers and creeks could be affected by ice roads at crossing locations. These structures can block, divert, impede, or constrict flows if the ice roads are not mechanically breached at completion of field activities. Constricting flows can result in increased stream velocities and a higher potential for ice jams, ice impacts, scour, and streambank erosion. Impeding flows can result in a higher potential for bank overflows and floodplain inundation. Stipulation 24d requires that snow or ice bridges be removed or breached immediately after use or before spring breakup.

Drilling Water Use. The use of water for construction, drilling, and domestic (crew) needs could affect water quality, as discussed for ice-road construction. Impacts to surface water quality from exploration activities, including drilling, are expected to be minimal and both local and temporary in nature. Withdrawal of water from lakes should not affect water quality in the lakes, except for potentially affecting the salinity. Drilling fluids and wastes would be stored and disposed of following guidelines established by the ADEC, and effects to surface and groundwater quality would be negligible.

Drilling Fluids. A typical 10,000 ft well might use 630 tons of drilling mud and produce 820 tons of rock cuttings. There would be a minor impact from drilling fluids used in exploration, as mud pits and discharge of drilling fluids and produced waters would be prohibited. Muds and cuttings would be either disposed downhole or removed from public lands to ADEC-approved waste-disposal facilities. Produced waters would be reinjected into the well.

Numerous lease stipulations developed for the 1998 Northeast IAP/EIS ROD serve to reduce or avoid impacts to water resources and water quality. Lease Stipulations 1-4 require solid waste reduction plans, prohibit burial of garbage and require proper disposal of pumpable waste. Lease Stipulation 5 regulates the proper disposal of domestic wastewater, drilling wastes, and produced waters. Lease Stipulations 7-14, prescribe oil spill prevention and response requirements. Lease Stipulations 15 and 24m prohibit fuel storage within the floodplain and require appropriate containment. Lease Stipulations 16 and 24n require fuel handling and refueling restrictions. Lease Stipulations 20 and 21 prohibit the removal of water from rivers and streams during winter, and restrict the amount of water that could be removed from lakes during winter for ice road construction to protect aquatic, fish, and waterfowl resources. Lease Stipulation 22 protects riparian habitat along waterways. Lease Stipulation 24 provides further protection to waterways from overland moves and seismic work. In most cases, exploratory drilling would be prohibited in rivers, streams, and lakebeds (Lease Stipulation 28).

Conclusion: All direct and indirect impacts to water quality from overland travel and water withdrawals are expected to be minimal and short-term. Short-term impacts include water withdrawals from lakes for ice roads and ice pads. Monitoring plans required by DNR will insure withdrawals are replenished before future withdrawals are made. NPR-A NE stipulations will apply and have proven to be protective of the water resources and water quality.

Environmental Consequences Fish⁵²

Potential impacts to fish or their habitat are primarily related to ice road channel crossings and water withdrawals. However, there are also possible water quality issues related to well placement, fluid spills, and wastewater discharge, although stipulations and permit requirements are designed to minimize this risk. Exploratory wells must be placed outside of the active floodplain (NE NPR-A Stipulation 28) and fuel storage is not allowed within 500 feet of a waterbody (NE NPR-A Stipulations 14, 15, and 16). Minor spills associated with a well pad or along the ice road are unlikely to enter surface waters due to the timing of operations when cleanup is facilitated by the presence of snow and ice (NE NPR-A Stipulations 7 and 10). Wastewater will be discharged under the US Environmental Protection Agency Arctic General NPDES Permit which is intended to protect surface waters from contamination (NE NPR-A Stipulation 5).

Stipulations 24c, 24d, and 24e for the NE NPR-A address ice road channel crossings and are designed in part to protect overwintering fish, allow fish movements during spring breakup, and prevent impacts to channel morphology. Locating crossings where water will naturally freeze to the bottom when possible and prohibiting travel within channels minimizes the likelihood of causing additional ice intrusion into overwintering fish habitat. Crossings must also be breached (typically done by slotting) at the end of the tundra travel season in order to allow fish passage and reduce the possibility of streambed scour and streambank erosion. Permits for channel crossings are issued by ADNR OHMP and also stipulate that the crossings must be breached when winter operations conclude.

One concern regarding winter water withdrawals is that fish may be entrained during the pumping process. ConocoPhillips Plan of Operations states that screens will be used in all lakes, regardless of documentation for fish presence. Screen design must meet specifications approved by ADNR OHMP.

Stipulation 20 for the NE NPR-A addresses winter water withdrawals from lakes. Prior to the signing of the 1998 NE NPR-A IAP/EIS ROD (USDOJ 1998), little science existed to guide decisions regarding volumes of water that could be withdrawn from lakes with little impact on fish. Since then, a number of investigations in Arctic Alaska and Canada were initiated to examine water levels and water chemistry in relation to pumping activities. In current areas of oil exploration and development, pumped lakes have recharged in the spring to prior-year levels (Streever et al. 2001; URS 2001; Baker 2002; Baker 2007). This includes lakes where ice chips were utilized in addition to permitted free-water volumes (Baker 2007). Although there is some indication that winter water withdrawals can reduce the amount of dissolved oxygen available for fish (Cott et al. 2006), changes are not apparent at present levels of withdrawal on the North Slope (Hinzman et al. 2006) following the State's guideline of permitting 30% of under-ice water volume below five feet for lakes with only "tolerant" fish and 15% of under-ice volume below seven feet for lakes with "sensitive" fish. These are also BLM's established guidelines in the NW NPR-A (USDOJ 2003). All of the most recent scientific information and management standards justify winter water withdrawals of unfrozen water from fish-bearing lakes at levels

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permitted by the State of Alaska as a modification to what is stated in Stipulation 20. Removal of more than 15% of the free-water volume from the other water source lakes in the NPR-A is also a valid modification to Stipulation 20 because the proponent demonstrated the absence of fish. Fish are provided additional protection within Stipulation 20 which prohibits using water from rivers and streams.

An Essential Fish Habitat Assessment for salmon resources, as required by the National Marine Fisheries Service, was completed regarding the proposed action. The finding is *not likely to adversely affect*, and no consultation is required.

4.3.1g

LOCAL LAND USE AND SUBSISTENCE		
Environmental Controls and Mitigation:		
	Stipulation	Other
1998 NE ROD	19-22,24-28,50-55,57,59-65,73	Incidental Harassment Authorization, NSB Permits, and ANILCA 810 Evaluation and Findings.

Discussion Incorporated by Reference: Alaska is unique in that local land uses, including subsistence, are strongly tied to cultural values. Impacts to subsistence include loss of subsistence resources (e.g., caribou, fish, and waterfowl) and/or impeding access to subsistence resources. Effects from winter exploration come typically from ground-impacting activity, construction and drilling activity, vehicle and aircraft traffic, and spills.

A major goal of the protective measures in the Stipulations noted above is to ensure continuing access to, and use of, subsistence resources in the NPR-A, and to avoid a significant restriction on subsistence use of: caribou, small mammals, marine mammals, waterfowl and other birds, fish, and plants. These measures include continuing consultation with local residents and government entities (see Section 5, Consultation and Coordination) and BLM monitoring. In addition, exploration companies have hired local residents to monitor activities for adverse impact to subsistence resources.

All of the previous NEPA evaluations listed in Appendix A have concluded that winter exploration programs in the NPR-A would have no significant restriction on subsistence use or access to subsistence resources. BLM monitoring has confirmed the findings made under ANILCA 810.

Related discussion is incorporated from the: 1998 NE IAP/EIS, Vol. 1, Sections IV.G.11 and IV.G. 13, Vol. 2, Appendices D, F, and I; and 1998 ROD, pp 17-19. These values have been discussed in related environmental assessments and their associated FONSI, including the ANILCA Section 810 findings.⁵³

⁵³ See Appendix A.

Discussion incorporated by reference is addressed below as it pertains to the proposed action.

Analysis of Proposed Action: The proposed project involves winter activity near an area with important subsistence value. Subsistence has been a general topic at meetings with local residents. The NPR-A SAP typically meets quarterly and advises applicants and the BLM on potential conflicts between proposed development actions and subsistence activities. Additionally, a Subsistence Plan is required for each exploration program.

Subsistence activities that occur during the winter, and thus could be impacted by the proposed exploratory drilling program, include caribou hunting and furbearer hunting and trapping. These activities are frequently based from subsistence cabin or camp locales, which are accessed during the winter by snow machine. Ice fishing may also occur, although this activity usually takes place in relatively close proximity to the harvester's community.

The 3 proposed exploratory drilling sites, as well as the associated access routes, are located in an area utilized by subsistence harvesters from Barrow, Atqasuk, and Nuiqsut. While not supported by hypothesis-based scientific data, local knowledge, as elicited through public testimony at NPR-A SAP meetings, indicates that exploratory activity both displaces resources from the area of effect, and serves as a barrier to caribou that may be traveling from the Teshekpuk Lake area to Barrow.

ConocoPhillips has developed a Subsistence Plan that includes local subsistence advisors to identify and help mitigate potential impacts of the proposed project on subsistence. The Subsistence Reps will monitor ice road activity and rig activity. They will also serve as polar bear watch near coastal activity. Conflict resolution, if needed, will be solved with the assistance of the Kuukpik Subsistence Oversight Panel (KSOP) and the Subsistence reps. The proposed project avoids long-term cabins and campsites, as well as Traditional Land Use Sites.

BLM has found that the proposed 5-year winter exploratory drilling program will not significantly restrict subsistence uses. No reasonably foreseeable and significant decrease in the abundance of harvestable resources or in the distribution of harvestable resources, and no reasonably foreseeable limitations on harvester access will result from the proposed action.⁵⁴

Stipulations applicable to the NE Planning Areas help mitigate impacts on subsistence. Impacts will be re-evaluated based on the subsistence reports filed after each season of proposed exploration

⁵⁴ ANILCA Section 810 Evaluation and Findings. December 13, 2007

4.3.1h

SCENERY/WILDERNESS/ PRIMITIVE RECREATION OPPORTUNITIES		
Environmental Controls and Mitigation:		
	Stipulation	Other
1998 NE ROD	1,6,18,22,24,26-28,52-57,62-65,67,73,76	None

Discussion Incorporated by Reference: The project area is predominately low-relief wetlands, with little visual variety, contrast, or harmony. No designated Wilderness Area or designated Wilderness Study Area is involved. Use of ice roads/pads and snow trails may cause some temporary greening or browning of the tundra, which would be most visible from the air. Impacts to scenery, natural wilderness appearance, solitude, quietude, and other aesthetic values are expected to be temporary and local. The entire NPR-A offers primitive recreation opportunities, but access limits use. The BLM has no record of commercial recreation services using the general vicinity during the winter.

Related discussion is incorporated from the: 1998 NE IAP/EIS, Vol. 1, Section IV.G.16 and Section III.C.6; NW IAP/EIS, Vol. 2, Section V.B.18 through V.B.20; EA: AK-023-06-003, pp. 4-13 and 4-14; EA: AK- 023-05-005, p. 4-10; EA AK-023-01-003, p. IV-26; and EA AK-023-07-002 p.4-15 Discussion incorporated by reference is addressed below as it pertains to the proposed action.

Analysis of Proposed Action: Proposed exploratory drilling operations in the NE NPR-A Planning Area are located in an area where there have been a large number of oil and gas activities in the past. Proposed new access corridors, likewise, are in areas where winter transportation corridors have been established for a variety of reasons. The proposed action avoids designated VRM areas in the NE Planning Area. Any visual impacts will be short-term, temporary, and primarily restricted to the winter season.

The project is not in an area being considered for Wilderness Recommendation. No existing or planned public recreation facilities are known to be associated with the project area.

The proposed project does not provide long-term access, which could impact the naturalness, wilderness values/attributes, or scenic resources. Some localized noise, air pollution, and visibility of industrial activity during the winter will adversely affect values of solitude quietude, and natural appearance of the winter landscape, but these effects are short-term and are not expected to degrade primitive winter or summer recreation to any notable degree.

4.3.1i

ENVIRONMENTAL JUSTICE		
Environmental Controls and Mitigation:		
	Stipulation	Other
1998 NE ROD	1- 16,20,25,28,51- 57,59-65,73	EO 12898, ANILCA, EO 13175

Discussion Incorporated by Reference: Federal agencies are required to identify and address actions that would have disproportionately high and adverse human health and environmental effects on minority and low-income populations. Alaska Native landowners and residents could be directly affected by impacts of the proposed action on subsistence activities.

No disproportionately high and adverse human health or environmental effects on minority or low-income populations are expected from the proposed winter exportation drilling. Numerous Stipulations, as well as in-place and on-going BLM initiatives and consultation with subsistence users, will help mitigate impacts on these groups of peoples using the project area.

Related discussion is incorporate from the: 1998 IAP/EIS, Vol. 1, Section IV.A.6; EA:AK-023-05-005, p. 4-10; EA: AK-023-06-003, p. 4-14; EA AK-07-002 p.4-16

Analysis of Proposed Action: Subsistence resources provide an important source of food for, and sustain the cultural heritage of, North Slope residents. Consequently, impacts to subsistence have a direct relationship to the analysis of impacts that may have a disproportionately adverse effect on minority and low income populations. The previous discussion on Subsistence concludes that the proposed multi-year winter exploratory drilling program is not expected to substantially impact subsistence resources or restrict use of, or access to, subsistence resources. Therefore, potential environmental justice impacts will be insignificant.

4.3.1j

ADVERSE ENERGY IMPACTS		
Environmental Controls and Mitigation:		
	Stipulation	Other
1998 NE ROD	None	EO 13212, Energy Policy Act of 2005

Discussion Incorporated by Reference: The BLM considers whether an official decision will have an adverse energy impact (i.e., impact on energy development, production, supply, and/or distribution). For exploration, there would only be a potential adverse energy impact if the proposed project is denied or substantially reduced. If the proposed project is approved, there will be no adverse energy impact.

Analysis of Proposed Action: Because the proposed action is similar to the winter exploration programs previously evaluated in the NPR-A, an adverse energy impact is not expected. In the event the proposed project is denied, or substantially reduced, the oil and gas potential of the area may not be discovered.

4.3.2 Unavoidable Adverse Impacts

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

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

Unavoidable adverse effects have been broadly evaluated for those areas considered for leasing, leased, and subsequently explored.⁵⁵ The site specific effects expected from the proposed action are consistent with those impacts, and none of the impacts are expected to be significant during exploration over the next 5 years.

⁵⁵ 1998 NE NPR-A IAP/EIS. pp. IV-I-1 through IV-I-3.

4.4 Potential Cumulative Impacts from the Proposed Action

The BLM has evaluated the cumulative effects of past, present, and reasonably foreseeable oil and gas activities in and around the NPR-A in a series of recent NEPA analyses, which are summarized in Appendix A,

Cumulative impacts were discussed in the 1998 NE IAP/EIS (Tables IV.A.1.b-5 and IV.A.1.b-7). More recently, cumulative effects were discussed in the 2003 NW IAP/EIS, the 2004 ASDP FEIS, and the 2005 NE Amended IAP/EIS.⁵⁶

Previous BLM evaluations of Effects of the Cumulative Case have been based on multiple scenarios of leasing, oil price, exploration, and production activities, including:

- Non-oil and gas activities.
- North Slope development.
- Past and present exploration, development, and production of oil and gas.
- Reasonably foreseeable future exploration, development, and production.
- Speculative development.

One recent cumulative effects evaluation noted that at least five of the exploration wells drilled in the NPR-A since 1999 have discovered oil and/or gas reserves (NE Amended IAP/EIS, p. 4-436). The size of these recent discoveries has not been made public, but the operators have indicated that the oil reserves are at least equal to those of the Alpine field.

Over the past 8 years, the BLM has also evaluated 14 winter exploration drilling programs and associated activities proposed in the NPR-A (Appendix A). The direct, indirect, and cumulative effects for proposed facilities were predicted to be insignificant, and a FONSI and Decision Record were issued in each case. On-the-ground monitoring during and following winter exploration activities affirmed the fact that impacts were as predicted; no significant effects have been observed. This EA incorporates, by reference, discussion of cumulative impacts from the most recent of these evaluations, completed in early 2007.⁵⁷

To date, none of the recent exploration activities authorized by BLM in the NPR-A, individually or in combination, have caused significant direct, indirect, or cumulative adverse impacts to the environment, including access to and use of subsistence resources. There have been some minor, short-term, local adverse impacts as a direct result of activities associated with approved winter exploration programs. The small number and minimal severity of the impacts occurring from 1999 to 2007 demonstrates the overall effectiveness of the present environmental protections that are applied to winter oil and gas exploration activities in the NPR-A.

⁵⁶ 2003 NW IAP/EIS, Vol. 1, Cpt. IV.F; ASDP, Vol. 2, Section 4.G.; 2005 NE Amended IAP/EIS, Vol. 2, Cpt. 4.7.
⁵⁷ AK: EA-023-07-006, Section 4.4.

4.4.1 Framework of the Analysis

This cumulative effects analysis is bound by a framework appropriate for a relatively short-term winter exploration program in the NPR-A.

To keep the cumulative effects analysis focused and relevant, governing laws and policies for oil and gas exploration projects on Federal land are given priority consideration. Additionally, those activities that are more likely to occur and that are in close proximity to the proposed project are given greatest weight. For the purposes of this cumulative impact analysis, potential activities that meet the CEQ definition are:

- Other exploration activity in the NPR-A and near the NPR-A on land owned by the State and private interests. Potential activity also includes drilling at any of the authorized drill sites in the NE NPR-A.
- Traditional overland re-supply and winter travel associated with Barrow, Atqasuk, and Nuiqsut.
- Historic travel associated with subsistence by local residents.
- Production activity in the NPR-A and near the NPR-A on land owned by the State and private interests, including continued development of the Alpine and Alpine Satellites fields, and the gas fields near Barrow.

Based on the proposed project, the analysis of direct and indirect project impacts, and the cumulative impacts analyses that have been incorporated by reference, this cumulative impacts analysis will focus on the following issues:

- Impacts to fish and wildlife.
- Conflicts with subsistence.
- Visual and functional impacts to tundra.
- Impacts of oil and gas industrial development.
- Economic potential for Alaska Native Village and Regional Corporations and the NSB; increase in State and Federal revenues.

The potential impacts of global climate change have been discussed in the 2003 NW IAP/EIS, which is incorporated by reference herein.⁵⁸ Production facilities associated with any commercial development in the NPR-A are not expected to approach the size of activity at Prudhoe Bay. Even under the most extensive management actions considered, air quality in NPR-A as a result of development would be expected to show no significant deterioration. Due to the scale and limited timeframe of activity, the proposed project is not expected to significantly deteriorate air quality or contribute to global climate change.

This EA will consider the effect of several recent events affecting the North Slope oil and gas industry, on the analysis of cumulative impacts analysis. These events include:

⁵⁸ 2003 NW IAP/EIS, Vol. 1, pp. IV-416 and IV-419.

- Higher than normal prices of oil and gas.
- Continued decrease in levels of U.S. production of oil and gas, with increasing dependence on foreign oil and gas.
- Potential construction of a large diameter natural gas pipeline to transport North Slope gas to markets in the Lower-48 states.
- The Energy Policy Act of 2005.
- Continued threat to national and international security and relative safety of domestic production.
- Extended use of the Alpine and TAPS transportation facilities.
- Demonstrated vulnerability of production, refining, and transportation facilities to natural disasters
- Concern about potential cumulative impacts of summer studies/activities.

This EA will consider the cumulative impacts of past and ongoing activities, in addition to the proposed ConocoPhillips exploration plan, as well as potential cumulative impacts of the proposed action, within the framework described above.

4.4.2 Cumulative Effects of Proposed Action

The proposed BLM action is to authorize ConocoPhillips to access up to 3 drill sites with associated wells in the NE Planning Area . Associated actions having potential cumulative impacts are: construction of winter trails; ice roads/pads and ice airstrips on lakes; water withdrawals from fresh water lakes; and transport of materials, equipment, and personnel by aircraft, winter trails, and conventional vehicles.

The cumulative effects analysis assumes that any existing authorized access corridors, use of previously authorized ice airstrips on lakes, and withdrawal of fresh water from previously permitted lakes would have appropriate extensions or re-authorization for ConocoPhillips through the project period. The direct, indirect, and cumulative effects of continuing use of these existing authorizations with their respective environmental protective measures are expected to be no different, individually or collectively, than those considered by the BLM for the original authorizations of similar activities.

Results of previous analyses that have been incorporated by reference, and consideration of existing and proposed protective measures in the NPR-A (e.g., stipulations), are the primary factors limiting this cumulative impacts analysis to the issues listed in Section 4.4.1. The

discussion of potential cumulative impacts associated with each of these five issues is presented below.

Issue 1. Impacts to Fish and Wildlife: BLM protective measures have been applied in the NPR-A for the last 8 winter drilling seasons without any individual or collective direct, indirect, or cumulative impacts to fish habitats or to fish populations.⁵⁹ These protective measures include setbacks from water bodies and limitations on the amount of water that can be withdrawn from a lake, based on the depth of the lake, presence or absence of fish, the type of fish (if present), and restriction of activities that could cause freeze-down (i.e., thicker ice results in less unfrozen water available for fish). The proposed ConocoPhillips winter exploration drilling program is similar to other recent winter drilling programs conducted in the NW and NE NPR-A Planning Areas under the BLM and other Federal, State, NSB, and local authorizations.

The proposed ConocoPhillips winter exploration drilling program is within an area where 13 exploration drill sites have been evaluated and drilled since the 1999-2000 winter drilling season. Those winter exploration activities were conducted without direct or indirect cumulative impacts. The proposed action is occurring in the same general areas and uses the same winter exploration techniques and protective measures required by the 1998 NE ROD and is not reasonably expected to have an additive effect that would cause a significant adverse cumulative impact to fish habitat or fish populations. This is because the proposed water/ice aggregate withdrawals are considered on the basis of site-specific conditions, using conservative factors that have a demonstrated ability to avoid significant impacts to fish.

BLM protective measures have been applied in the NPRA for the last eight winter drilling seasons without any individual or collective direct, indirect, or cumulative impacts to wildlife habitats or to wildlife populations. These protective measures include seasonal restriction activities, height and frequency restrictions for aircraft flights, and prohibitions in certain special areas.⁶⁰ The proposed ConocoPhillips winter drilling program is essentially the same as the authorized previous winter exploration programs in the NE Planning Area under BLM and other Federal, State, NSB, and local authorizations.

Caribou are of special importance for subsistence purposes. Therefore, this cumulative effects analysis focuses on potential cumulative impacts to caribou.

Concurrent drilling with aircraft support at sites within 3 miles of each other in an area where there is no other industrial activity (e.g., a producing field) can reasonably be expected to cause a wider, but localized, displacement of caribou around the operations. Conditions vary from year-to-year, and it is possible that continuing disturbances to caribou could have an additive effect on natural winter mortality.

⁵⁹ See Section 4.3.1f *Water Resources and Potential Impacts to Water Quality, Fish, and Waterfowl*, for a discussion of these protective measures.

⁶⁰ 78 See Section 4.3.1e *Threatened and Endangered Species, Polar Bears, and Other Sensitive Wildlife*, for a discussion of these protective measures.

In addition, it is possible that others could be moving equipment overland movement through the same areas during the same general time frame. Overland travel in the Caribou Special Stipulations Area in the NE NPR-A must be completed before May 1, unless an exception is granted. It is noted, however, that Stipulation 24 for the NE Planning Area (protect stream banks, minimize compaction of soils, and minimize breakage, abrasion, compaction or displacement of vegetation) would, depending on the exact time of break-up, allow overland travel until about May 15th. ADEC has been including in the various ODPCP approvals a 'stop drilling' date of approximately April 21, which may not be early enough to meet the May 1 deadline for travel through the Caribou Special Stipulations Area in the NE NPR-A. Other stipulations restrict stockpiling and air travel in that special area.

The concurrent overland movement of several exploration drill rigs and associated equipment south of Teshekpuk Lake would have the potential to cause localized, short-term deflection of some of the TLH away from the winter grounds, or while migrating to their calving areas. This possible cumulative impact of deflecting caribou movement is expected to be short-term, localized, and not significant on the caribou.

The proposed ConocoPhillips winter drilling program in the NE Planning Area is located in close proximity to a cluster of existing authorized exploration drilling sites and authorized ROWs that have been found by the BLM in site-specific EAs (**Appendix A**) and on the ground monitoring to have no significant impact to caribou when the protective measures of the 1998 NE IAP/EIS and its ROD are applied. See Issue 4 for discussion of cumulative impacts associated with oil and gas development (e.g., CD 6 and CD 7).

Steller's and spectacled eider (both species are listed as Threatened under the ESA) are not present in the project area during the period that the winter drilling operation would be underway. In summary, no cumulatively significant impacts on any wildlife species, including those listed under the ESA, are anticipated.

Issue 2. Conflicts with Subsistence: This discussion focuses on cumulative impacts of winter oil and gas exploratory drilling. See Issue 4 for further discussion of cumulative impacts to subsistence from oil and gas production activities.

BLM protective measures have been applied in the NPRA for the last eight winter drilling seasons without any significant individual or collective direct, indirect, or cumulative impacts to fish habitats or to fish populations.⁶¹ Activity levels are expected to be similar in the future, such that cumulative impacts will remain insignificant. In addition, a series of stipulations have been developed to avoid the potential for significant restriction of subsistence uses or access to subsistence resources.⁶²

⁶¹See Issue 1 for additional discussion of reasonably foreseeable cumulative impacts to fish and wildlife.

⁶²See Section 4.3.1g *Land Use and Subsistence*, or a discussion of these protective measures. See also Appendix

Multi-year winter exploration drilling projects and the potential for concurrent operations by ConocoPhillips have been discussed with local residents through meetings with the local communities, NSB, regulatory and resource agencies, and the NPR-A SAP to ensure that project-specific and cumulative effects are not expected to have a significant adverse impact to subsistence resources or access.

Historically, the Iñupiat have traveled via snow machine and, sometimes, conventional vehicles from Barrow to the Nuiqsut region along a cluster of snow trails and nearshore ice routes. Since 1983, local villagers have constructed ice bridges across the Colville River to the nearest oil exploration road. These routes are used regularly in winter for hauling fuel, food, and supplies to the communities in the NPR-A, as well as for travel to the west from Nuiqsut to reach subsistence resources during the winter, primarily caribou.

As discussed under Issue 1, The potential for caribou moving to a calving area to be deflected by the *concurrent* movement of several drilling rigs and associated facilities is expected to be short-term (i.e., several hours over a period of several days), localized to the area where traffic is underway, and cumulatively not significant to either the caribou herd or to local residents harvesting caribou for subsistence purposes. (Also see discussion in Issue I, above.)

Winter seismic work is conducted in the NPR-A on a regular basis. In general, winter seismic programs are transitory, being in a general area only a few days or weeks. Subsistence hunters have stated at NPR-A SAP meetings that seismic exploration results in the displacement of caribou from the area of seismic activity. Additionally, they state that when seismic exploration and exploratory drilling occur within 20 miles of each other, caribou are displaced from the area and will not use the area as a travel corridor.⁶³ To the extent this impact may occur, it is expected to be limited to the duration of concurrent operations in the same locale. No long-term adverse cumulative impacts for access to or use of subsistence resources are expected.

Seismic work currently envisioned would be similar to other recent winter seismic activities in the NPR-A. The BLM protective measures that apply to winter seismic activity avoid significant adverse impacts to tundra, fish, wildlife, and subsistence. Therefore, no significant cumulative effect on subsistence is expected from the proposed action, in combination with other reasonably foreseeable seismic or other drilling projects.

Current economic conditions suggest that the existing level of aircraft traffic is expected to continue, and may increase, in the foreseeable future. The BLM is currently working with the NPR-A SAP on ways to minimize impacts to subsistence as the result of summer aircraft activity. Separate permits for summer activities will consider additional mitigation measures, if recommended by the SAP.

The ANILCA 810 Analysis in the 1998 ROD found that the cumulative case of development would result in a reasonably foreseeable and significant restriction of subsistence use.⁶⁴ The cumulative case for the more recent ASDP ANILCA 810 Finding concluded that the distribution

⁶³ NPR-A SAP meeting minutes March 23, 2006, Barrow, AK

⁶⁴ 1998 NE ROD, ANILCA 810 Summary

of caribou would be adversely affected by development. If a major oil spill occurs in the future, it could significantly affect both populations and distributions of fish, whales, and other marine mammals, causing significant restriction to subsistence resources. 65

Issue 3. Visual and Functional Impacts to Tundra:

BLM protective measures have been applied in the NPRA for the last eight winter drilling seasons without any individual or significant direct, indirect, or significant cumulative impacts to tundra vegetation. There have been both direct and cumulative impacts, but none have been significant. These protective measures include requirements for offsetting ice roads from year-to-year, opening and closing of winter tundra travel, avoiding willow patches to the extent practicable, and prescribing the type of vehicles that may be used off road.⁶⁶ The proposed ConocoPhillips winter exploration drilling program is similar to previously authorized winter drilling programs conducted in the NPR-A under BLM and other Federal, State, NSB, and local authorizations. Therefore, similar types of localized and minor cumulative impacts are anticipated.

A 2003 report by the National Research Council⁶⁷ notes that seismic trails, off-road vehicle trails, ice roads, and ice pads are a cause for concern because they can damage vegetation and be seen from the air. Since 1999, the effects of packed snow trails and ice road and pad construction in the NPR-A have been field checked during construction, operation, and succeeding summers to determine if there were significant adverse environmental impacts. During that period, no cumulatively significant impacts to tundra vegetation have been noted from winter exploration activities, including seismic work. Future impacts are expected to remain at a cumulatively insignificant level.

Findings and observations have been discussed with operators, local residents, and government officials, resulting in the elimination or reduction of damage (e.g., enforcing speed limits, modifying ice removal methods, eliminating pickup of lake bottom sediments during water withdrawal, expanding the width of the ice road at key locations, pre-marking the grade at stream crossings, and installing reflective markers along road edges). As a result, the cumulative effects of winter exploration activities on tundra are expected to be minimal and localized, with visual effects (principally green or brown trails) most notable from the air, with no cumulatively significant effects. Since road and trail routes might be visible for more than one summer, the number of visible routes accumulates over multi-winter operations. However, these cumulative effects are not environmentally significant.

Issue 4. Oil and Gas Industrial Development:

Higher than normal oil prices suggest that the exploration and development of energy resources will continue in the foreseeable future. In addition, Congress recently enacted economic

65 ASDP FEIS, Vol. 3, Appendix B, pp. 15-16.

66 See Section 4.3.1d. *Disturbance to Floodplains, Wetlands, Riparian Zones & Vegetation*, for a discussion of related protective measures.

67 National Research Council. *Cumulative Environmental Effects of Oil and Gas Activities on Alaska's North Slope*. 2003. Summary, pp. 19-20.

incentives to construct a large diameter natural gas pipeline to domestic markets in the Lower 48 States. At the current time, no agreements have been negotiated that will ensure a gas line will be built. Therefore, it is uncertain that natural gas deposits in NPR-A that are currently uneconomic would be developed. The National Energy Act includes requirements to streamline permitting and decisions needed to develop energy resources.

Permanent petroleum production facilities closest to the proposed project are located at the Barrow gas fields on private land, and approximately at the western extension of the Alpine Satellites field. The former supplies energy for Barrow; the latter connects to TAPS and is either used in Alaska or exported to the conterminous States via tanker from Valdez.

The 3 proposed well sites are near the future site of Alpine Satellite CD 7, which has been evaluated as a development node with permanent road access and a pipeline to the main Alpine Field.⁶⁸ This EA incorporates the analysis of cumulative impacts presented in the ASDP FEIS (Vol. 2, Section 4-G). With activity at both the well sites and CD-6 or 7, there might be some adverse cumulative impact on caribou and subsistence. There would also likely be more jobs and revenue for local entities. No new significant cumulative impacts are expected from either exploration or development at the three proposed drill sites.

As noted in the 1998 NE ROD there could be significant impacts if all known or prospective oil and gas deposits were found to be commercially viable. As noted, development of oil and gas requires a future, project-specific NEPA analysis.

Issue 5. Economic potential for Alaska Native Village and Regional Corporations and the NSB; increase in State and Federal Revenues: The project area is considered to have a high probability for the occurrence of economic oil and gas resources. The proposed action involves potential economic gains at multiple levels: direct employment and utilization of local services, access fees, and, if commercial quantities of oil or gas are discovered, State and Federal taxes and royalties. ConocoPhillips and other operators in the NPR-A have policies and procedures in place for hiring and training local residents.

A critical issue facing the NSB is the growing shortfall in revenues due to the decline in assessed value resulting from depreciation of petroleum production related facilities. The real property assessed evaluation for the NSB declined from \$11.5 billion in 1992 to \$9.4 billion in 2001.⁶⁹

Fifty percent of federal oil and gas leasesale revenues and rents in the NPR-A are made available to the State. These monies (over \$94 million to date) may be used for a variety of purposes. These include: NPR-A Impact Mitigation Grants, to assist affected communities in dealing with related impacts; the Public School Trust Fund; the Power Cost Equalization and Rural Electric Capitalization Fund; the Alaska Permanent Fund; and the General Fund.⁷⁰ Subsistence is also a

⁶⁸ ASDP FEIS, Vol. 3, Fig 2.4.6-1.

⁶⁹ 2005 NE Amended IAP/EIS, Vol. 1, p 3-115.

⁷⁰ NPR-A Impact Mitigation Program History and Overview Department of Commerce Community and Economic Development, Division of Community Advocacy 2006 Annual Report. <http://www.commerce.state.ak.us/dca/pub/AnnualReport%206NPR-A.pdf>

very important element of local economies. See discussion under Issue 2 for potential cumulative impacts on subsistence.

4.4.3 Cumulative Impact Conclusions

Considering the protective stipulations in the 1998 NE ROD, and the demonstrated effectiveness of the same winter exploration technologies in the NPR-A since 1999, no significant direct or indirect or cumulative impacts are expected from the proposed winter exploration drilling program when added to other past, present, and reasonably foreseeable activities.

The cumulative effects analyses related to the key issues support the findings of this EA that, except for Subsistence, there are no significant adverse direct, indirect, or cumulative impacts. Impacts of the proposed action, when considered with other past, present, and reasonably foreseeable future actions, are expected to be localized, minor, and short-term.

The 2003 National Research Council report indicates that there have been cumulative effects associated with the operation of year-around *production* facilities and roads. However, development potential from the proposed action is uncertain and speculative. Additionally, future development and production activities in the NPR-A will require additional NEPA analysis.

4.5 Mitigation and Monitoring

North Slope operators have actively worked to develop winter exploration technologies that create minimal impact to the environment and to local residents. Operators, regulators, and local officials have participated in a series of workshops to review the results of winter exploration, with a special emphasis on identifying ways that future operations can be modified to provide enhanced protection of the environment. Many of these enhancements, such as ways to reduce damage to tundra, have been incorporated into the operational plans, including the proposed project. ConocoPhillips has incorporated protective measures contained in the 1998 ROD for activities in the NE NPR-A.

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

- Access to subsistence use areas and winter caribou movements.
- Cultural resources.
- Tundra/vegetation.
- Fish habitat.
- Bears and other predators.

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

program is to ensure that all terms and conditions in the Federal oil and gas leases, the 1998 ROD for the NE NPR-A are met – as previously described and incorporated by reference.

Additional Mitigation

1. Cover well heads left in place to prevent use by ravens, raptors, and foxes (adopted from the 2005 NE Amended IAP/EIS, ROP E-9).
2. Secure wellhead covering to maintain function and prevent littering.

4.6 Summary of Environmental Consequences

This analysis has considered, and incorporated by reference, previous studies and findings on oil and gas winter exploration activities on the North Slope and specifically in NPR-A, including the stipulations in the 1998 NE ROD. In addition, ConocoPhillips has conducted winter exploration activities in the project area in a manner that is very similar to that of the proposed action.

Based on this analysis, it is concluded that direct, indirect, and cumulative impacts from the proposed action should be relatively minor and short-term. Cumulative effects have been found to be as described in the NE NPR-A IAP/EIS. This project does not introduce impacts that have not been considered previously.

4.7 Impacts of the Alternatives

This EA considers the proposed action to authorize a multi-year winter exploration program involving drilling at one to three drill sites in any one winter. Three drill sites have been staked and field verified by the BLM for use this winter.

Water needed to support the winter drilling is from previously authorized fresh water lakes along with 9 new authorized lakes. New access corridors have been requested. Demobilization at the end of the drilling program would be overland out of the NPR-A via authorized corridors, before closure required by the ROD. The Applicant will use standard equipment and accepted Arctic practices, in compliance with applicable stipulations in the 1998 NE ROD.

The overall impact from the proposed action, including additional use of previously authorized overland access corridors, to the environment, including fish and wildlife, land cover, species listed under the ESA and MMPA, water resources, subsistence, and socioeconomic resources is expected to be minor, short-term, and cumulatively insignificant.

Based on previous analyses and the goals of the proposed action, the only viable alternative is the: “No Action”. The “No Action” alternative considers that the proposed project is not authorized by BLM. This would eliminate all direct environmental impact of the proposed project, which is expected to be minor. However, the Applicant would be restricted from drilling at new prospects on valid leases in the NPR-A and prospective oil deposits would not be drilled, no oil would be discovered, which would eliminate opportunities for local employment, the

potential to expand national energy reserves, and increased revenues to Federal, State, and local governments.

Additionally, if the “No Action” alternative was selected, future Federal lease offerings in the NPR-A might not be pursued due to the precedent of not approving a winter drilling program that has been determined to have no significant or long-term site-specific or cumulative adverse impacts. This would lessen the likelihood of production facilities extending beyond the Alpine Satellites and, perhaps, substantially defer the pending development of the extension and associated production of oil from the Alpine Field. Ultimately, the Federal government might have to buy back the Federal leases associated with the proposed project and other Federal leases in the area.

The Applicant would have the option of canceling or redesigning the project, or otherwise seeking a change in the decision by the BLM to deny the proposed project. Finally the “No Action” alternative might shift some onshore exploration work to offshore areas of the North Slope.

In summary, the “No Action” alternative eliminates the minor adverse environmental impacts expected from the proposed action, but does not enable the Applicant to access and drill on existing, valid oil and gas leases. This, in turn, eliminates the potential for economic gain and creates the potential that the Federal government might have to buy back leases that cannot be used. There are no significant adverse impacts to be avoided.

5 CONSULTATION AND COORDINATION

In preparing its plan of operations, ConocoPhillips conducted a series of meetings with resource agencies, regulatory agencies, and local governments. The proposed project has subsequently undergone review by the NSB, State and Federal agencies, and the general public. ConocoPhillips consulted with the NSB and KSOP in developing the proposed project.

ConocoPhillips provided the BLM with permit applications and support documentation that summarize the proposed project and compliance with applicable stipulations. The BLM has inspected the proposed drill sites and access routes. The BLM and ConocoPhillips have met to discuss the proposed action as the proposed program was being developed. These meetings will continue as the project progresses.

5.1 Public Coordination

In preparing its plan of operations, ConocoPhillips conducted a series of meetings with affected North Slope communities. Local residents provided Traditional Knowledge at these meetings, which was considered in the project plan and in this EA. ConocoPhillips has prepared a Subsistence Plan that presents plans to mitigate potential impacts on subsistence resources and access.

5.2 List of Preparers

<u>Name</u>	<u>Responsibility</u>
Donna L. Wixon	Natural Resource Specialist
Susan Flora	Environmental Scientist
Stacie McIntosh	Anthropologist
Mike Worley	Realty Specialist
Richard Kemnitz	Hydrologist
Matthew Whitman	Fisheries Biologist
Dave Yokel	Wildlife Biologist
Debbie Nigro	Wildlife Biologist
Mike Kunz	Archeologist