



US Army Corps
of Engineers
Alaska District

Public Notice of Application for Permit

Regulatory Branch (1145b)
Post Office Box 6898
Elmendorf AFB, Alaska 99506-6898

PUBLIC NOTICE DATE: October 15, 2004
EXPIRATION DATE: November 15, 2004
REFERENCE NUMBER: POA-2004-1475
WATERWAY: Kuparuk River

Interested parties are hereby notified that an application has been received for a Department of the Army permit for certain work in waters of the United States as described below and shown on the attached plan.

APPLICANT: Pioneer Natural Resources Alaska, Inc., 700 G Street, Suite 600, Anchorage, AK 99501.

LOCATION: The proposed undertaking is located in T. 12 N., R. 13 E., sections 15, 22, 26, 27, 34, 35; and T. 11 N., R. 13 E., sections 2 and 3, Umiat Meridian, the proposed 4 acre gravel pad is located approximately at Latitude 70.3894°N., Longitude 148.8115°W., approximately 14.5 miles northwest of Prudhoe Bay, Alaska.

WORK: The proposed undertaking consists of constructing a 4 acre gravel pad and a 2.8 mile long gravel access road by placing approximately 175,000 cubic yards (cy) of gravel fill and 1,700 cy of insulation boards into approximately 27 acres of wetlands.

PURPOSE: The proposed undertaking has the purpose of extracting small oil accumulations in the area.

ADDITIONAL INFORMATION: Additional information may be obtained from the Applicant's Authorized Agent: Gene Pavia, AES Lynx Enterprises, Inc., 1029 West 3rd Avenue, Anchorage, AK 99501, tel: 907-277-4611.

MITIGATION: As a result of preapplication coordination, the applicant has proposed the following mitigation efforts to reduce impacts to the aquatic environment: (1) Embed the pipeline in the road instead of on vertical support members that would have enlarged the foot print of the proposed undertaking; and, (2) Use existing material source sites and or reuse gravel from abandoned gravel pads when feasible. Both of these actions would reduce impacts to the aquatic environment.

WATER QUALITY CERTIFICATION: A permit for the described work will not be issued until a certification or waiver of certification as required under Section 401 of the Clean Water Act (Public Law 95-217), has been received from the Alaska Department of Environmental Conservation.

COASTAL ZONE MANAGEMENT ACT CERTIFICATION: Section 307(c)(3) of the Coastal Zone, Management Act of 1972, as amended by 16 U.S.C. 1456(c)(3), requires the applicant to certify that the described activity affecting land or water uses in the Coastal Zone complies with the Alaska Coastal Management Program. A permit will not be issued until the Office of Project Management and Permitting, Department of Natural Resources has concurred with the applicant's certification.

PUBLIC HEARING: Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, reasons for holding a public hearing.

CULTURAL RESOURCES: The latest published version of the Alaska Heritage Resources Survey (AHRS) has been consulted for the presence or absence of historic properties, including those listed in or eligible for inclusion in the National Register of Historic Places. There are no listed or eligible properties in the vicinity of the worksite. Consultation of the AHRS constitutes the extent of cultural resource investigations by the District Engineer at this time, and he is otherwise unaware of the presence of such resources. This application is being coordinated with the State Historic Preservation Office (SHPO). Any comments SHPO may have concerning presently unknown archeological or historic data that may be lost or destroyed by work under the requested permit will be considered in our final assessment of the described work.

TRIBAL CONSULTATION: The Alaska District fully supports tribal self-governance and government-to-government relations between the Federal government and Federally recognized Tribes. This notice invites participation by agencies, Tribes, and members of the public in the Federal decision-making process. In addition, Tribes with protected rights or resources that could be significantly affected by a proposed Federal action (e.g., a permit decision) have the right to consult with the Alaska District on a government-to-government basis. Views of each Tribe regarding protected rights and resources will be accorded due consideration in this process. This Public Notice serves as notification to the Tribes within the area potentially affected by the proposed work and invites their participation in the Federal decision-making process regarding the protected Tribal right or resource. Consultation may be initiated by the affected Tribe upon written request to the District Engineer during the public comment period.

ENDANGERED SPECIES: The project area is within the known or historic range of the Spectacled Eider (*Somateria fischeri*).

Preliminarily, the described activity will not affect threatened or endangered species, or their critical habitat designated as endangered or threatened, under the Endangered Species Act of 1973 (87 Stat. 844). This application is being coordinated with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. Any comments they may have concerning endangered or threatened wildlife or plants or their critical habitat will be considered in our final assessment of the described work.

ESSENTIAL FISH HABITAT: The proposed work is being evaluated for possible effects to Essential Fish Habitat (EFH) pursuant to the Magnuson Stevens Fishery Conservation and Management Act of 1996 (MSFCMA), 16 U.S.C. et seq and associated federal regulations found at 50 CFR 600 Subpart K. The Alaska District includes areas of EFH as Fishery Management Plans. We have reviewed the January 20, 1999, North Pacific Fishery Management Council's Environmental Assessment to locate EFH area as identified by the National Marine Fisheries Service (NMFS).

We have determined that the described activity within the proposed area will not adversely affect EFH, including anadromous fish and federally managed fishery resources.

SPECIAL AREA DESIGNATION: None.

EVALUATION: The decision whether to issue a permit will be based on an evaluation of the probable impacts including cumulative impacts of the proposed activity and its intended use on the public interest. Evaluation of the probable impacts, which the proposed activity may have on the public interest, requires a careful weighing of all the factors that become relevant in each particular case. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. The decision whether to authorize a proposal, and if so, the conditions under which it will be allowed to occur, are therefore determined by the outcome of the general balancing process. That decision should reflect the national concern for both protection and utilization of important resources. All factors, which may be relevant to the proposal, must be considered including the cumulative effects thereof. Among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. For activities involving 404 discharges, a permit will be denied if the discharge that would be authorized by such permit would not comply with the Environmental Protection Agency's 404(b)(1) guidelines. Subject to the preceding sentence and any other applicable guidelines or criteria (see Sections 320.2 and 320.3), a permit will be granted unless the District Engineer determines that it would be contrary to the public interest.

The Corps of Engineers is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Comments on the described work, with the reference number, should reach this office no later than the expiration date of this Public Notice to become part of the record and be considered in the decision. Please contact Mr. Robert Jobson at (907) 753-2716, toll free from within Alaska at (800) 478-2712, or by email at robert.w.jobson@poa02.usace.army.mil if further information is desired concerning this notice.

AUTHORITY: This permit will be issued or denied under the following authorities:

(X) Discharge dredged or fill material into waters of the United States - Section 404 Clean Water Act (33 U.S.C. 1344). Therefore, our public interest review will consider the guidelines set forth under Section 404(b) of the Clean Water Act (40 CFR 230).

A plan, Notice of Application for Certification of Consistency with the Alaska Coastal Management Program, and Notice of Application for State Water Quality Certification are attached to this Public Notice.

District Engineer
U.S. Army, Corps of Engineers

Attachments

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1.0 Introduction and Project Summary

Pioneer is proposing to construct a drillsite/production pad and road on State of Alaska oil and gas leases. Surface activities will occur on State of Alaska ADL lease numbers 28275, 28277, 28278, 28280, 28281, and 390427. The pad would be located approximately 2.6 miles north of PBU T Pad, approximately 3.7 miles north of F Pad, east of the Kuparuk River delta, and in the vicinity of Pete's Wicked #1 wellhead. The placement of fill into USACE jurisdictional wetlands is proposed for the pad and access road that would connect this pad to existing oilfield infrastructure at T and F pads. Pioneer is proposing to drill 5 to 12 production wells from the new pad. The Gwydyr Bay production would be combined with PBU production at F Pad. A multi-phase pipeline (oil, gas, water) would transport the produced fluids from the pad to existing PBU facilities for separation and eventual transmission through the Trans Alaska Pipeline System (TAPS).

2.0 Lease Description

Pioneer is targeting hydrocarbon accumulations that are located on State of Alaska oil and gas leases, including ADL numbers 390425, 390426, 390427, and 047466 (T11N R13E, Sections 2 and 3).

2.1 Lease Mitigation Measures

North Slope Areawide Mitigation Measures apply to this acreage.

2.2 Lease Activities

Pioneer is proposing to construct a gravel production pad on State oil and gas lease, ADL 390427. The targeted hydrocarbon accumulations include multiple stratigraphic horizons that are distinct from the nearby Prudhoe Bay reservoir. Between 5 and 12 development wells are planned to access the various production horizons. Reservoir management may include waterflood techniques. A 4-Acre gravel drilling pad is proposed as the development drilling and production well platform, requiring 34,000 cubic yards of fill. On-pad facilities would consist of the following: wellhead shelters, manifold piping, trunk and lateral piping, electrical instrumentation room gas warm-up heater, onsite power generator, small-quantity chemical and liquid fuel storage, spill response equipment container, chemical injection skid, well testing equipment, communications equipment, and various building modules that will house such equipment and double as emergency shelter for personnel stranded in inclement weather.

There are no processing facilities proposed at the pad. Produced fluids at Gwydyr Bay would be combined with production from F Pad and transported to the existing PBU facilities.

2.3 Prudhoe Bay Unit Activities

The leases included in this development project have not been unitized to date. The relatively small size of the accumulations and the proximity to existing PBU processing and transportation facilities creates value for both Pioneer (reduces cost and number of facilities to operate) and for

PBU (makes use of under utilized processing and transportation capacities). The majority of the access road lies within the PBU, and therefore is not a Pioneer Lease activity. An application for Right-Of-Ways from the Alaska Department of Natural Resources, Division of Mining, Land, and Water are included in this permit package for the access road and pipelines.

Water for waterflood operations would be supplied to the project site directly, via a 4-inch-diameter water pipeline originating at T Pad. An 8-inch 3-phase production pipeline, and 3-inch-diameter gas lift pipeline will extend from F Pad connecting Pioneer's operation to PBU facilities for processing and ultimate transportation through the TAPS.

3.0 Schedule of Activities

Activity	Schedule
Regulatory Planning and Permit Drafting	June – September 2004
Conceptual Design and Preliminary Engineering	July 2004 – December 2004
Permit Review and Approvals	September 2004 – February 2005
Existing Mine Site Activities	1st qtr 2005
Ice and Road Construction	4th qtr 2004 – 1st qtr 2005
Gravel Road Construction	1st – 2nd qtr 2005
Gravel Pad Construction	2nd qtr 2005
Pipeline Construction	2nd qtr 2005 – 1st qtr 2006
Pipeline Tie-Ins	3rd qtr 2005 – 1st qtr 2006
Gravel Compaction and Dressing	3rd qtr 2005
On Pad Facility Placement	3rd qtr 2005 – 3rd qtr 2006
Drilling and Completions	April 2005 – April 2006
First 3-Phase Production	Spring 2006
Reservoir Management (Waterflood Injection)	3rd qtr 2005 – 4th qtr 2025
Production Operations	3rd qtr 2005 – 4th qtr 2025
Well Maintenance and Well Workovers	3rd qtr 2005 – 4th qtr 2025
Site Decommissioning and Closure	2025

4.0 Gravel Construction

4.1 Material Source

The primary sources of gravel identified include existing and permitted material sites on the Prudhoe Bay road system. The Put 23 Mine site is located about 15 miles by road from the project site. The use of these sites would not require additional road building. Pioneer has initiated conversations with ExxonMobil as the owner/operator of the abandoned Gwydyr Bay South exploration pad to evaluate the reuse of this gravel in partial satisfaction of the projects material needs. If the reuse of this gravel is economically competitive and environmentally preferred, Pioneer will work cooperatively with ExxonMobil to utilize some portion of the existing gravel.

4.2 Access

Pioneer personnel would access the pad for year-round daily operational activities via overland vehicles using a 2.8-mile, all-weather gravel road from T Pad. The access road would have a 32-ft-wide driving surface and would be 5 ft high. An effort will be made to minimize impact and cost and a smaller road may be constructed (i.e. 16-ft-wide driving surface with periodic turnouts). The road side slopes are projected to be 2H:1V. The 32-ft road would require 141,000 cubic yards of gravel for construction with an estimated footprint of 23 acres. Culverts would be utilized to maintain cross-drainage, where necessary.

The road would be built with the placement of multiple courses of gravel during the "winter construction season." Gravel compaction and dressing would be performed during the summer season when the ice rich fraction of fill material is thawed and driven out of the pad and road bed. Periodic maintenance of the gravel road would include grading, dust control, snow management, and culvert maintenance inspections.

During construction, an ice road would be required to support gravel placement, facilities construction, and drill rig mobilization. The ice road would minimize the impacts to tundra because the topsoil is frozen and covered with snow.

Pioneer is actively working to reduce the proposed 32-foot-wide road to approximately 16 feet, if feasible. Factors such as worker and environmental safety and potential future equipment needs are being considered to minimize the proposed road.

4.3 Pipelines

Multiphase produced fluids from the Gwydyr Bay pad will be transported to F Pad in PBU by an insulated, nominal, 8-inch outside-diameter welded steel pipe approximately 4.4 miles long. There will be a 4-inch water injection line that will originate at T Pad and a 3-inch gas lift pipeline with origin at F Pad. The pipeline route will have two sections: the first section from the Gwydyr Bay pad to T Pad in PBU and the second section from T Pad to F Pad. The pipelines will be buried in the road between the Gwydyr Bay pad and T Pad. The pipelines will be placed on existing VSMS between T Pad and F Pad. The multiphase production will be combined with production from F Pad and will be transported to the existing PBU facilities for final separation.

Leak prevention will focus on providing a high-integrity containment system and will include material selection, mechanical design to the appropriate ANSI B31 codes, weld procedures qualification, individual welder qualifications, in-place weld radiographic inspection utilizing acceptance criteria laid out in the ANSI codes, and hydrotesting the system to 1.5 times design pressure as stipulated by the ANSI codes. Leak prevention will continue during the full-life operation, with the use of corrosion inhibitors (if required) to further protect the integrity of the containment system.

Pipeline mechanical integrity protection will focus on determining the minimum cover required for the pipelines for full, year-round, full-life mechanical protection. Future studies will determine the capability of gravel covering and surrounding the pipeline to withstand the pipelines' anticipated thermal growth and to protect the pipeline from the anticipated work vehicles traversing the road. These studies are expected to verify that 30 inches of cover over the pipelines will be sufficient to restrain the pipelines during thermal growth periods and will be sufficient to protect the pipelines from all anticipated vehicular traffic anticipated during the life of the field.

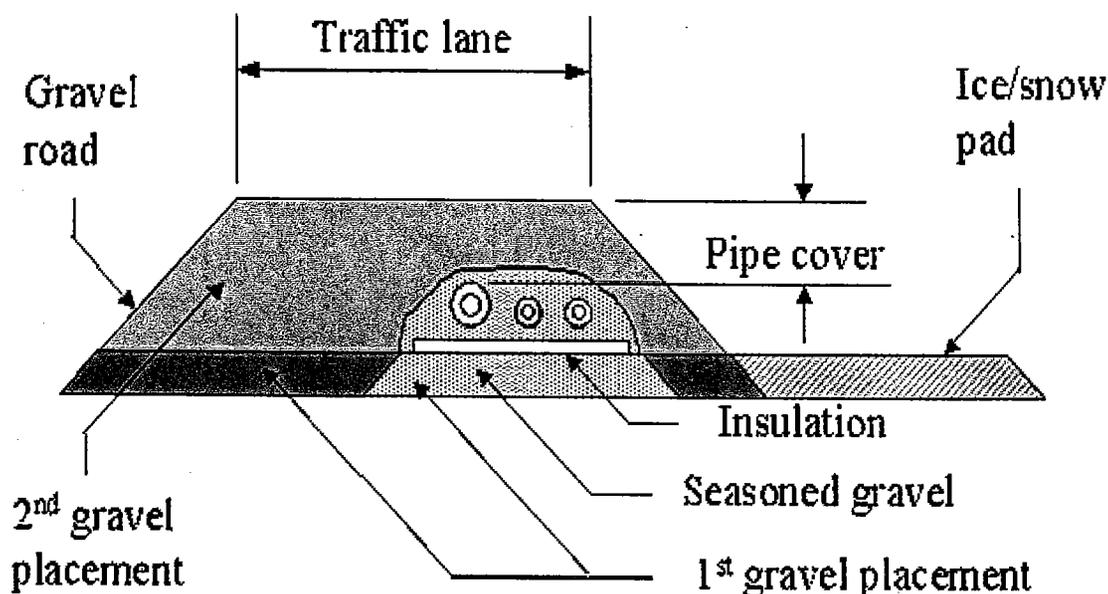
Pipeline integrity verification (leak detection) will focus on combining continuous monitoring of key process variables with periodic direct inspection techniques. By monitoring key process variables, such as pipeline pressures and flow rates, fluid loss can be detected and internal "smart pig" inspections can identify weak points in the system for proactive intervention prior to a breach in the system. Degradation of containment systems occurs only if the design work associated with leak prevention and mechanical integrity protection is not adequately addressed.

Thermal protection of the tundra will be focused on determining the appropriate insulation system required to isolate the tundra from heat generated by the flowing fluids in the pipelines. The tundra protection system will combine thermal insulation applied directly to the pipelines with insulating boards under the pipelines. A life-of-field assessment will be performed to incorporate the combined affects of several years of operation. Road thickness may impact the thermal model, which would add to the cover determined by the mechanical integrity work mentioned above.

A general diagram of the pipelines-in-road option is shown on the following page.

4.4 Utilities

Electrical power would be provided to the site via small gas-fired generators. The fuel gas for the generator will be supplied from a gas pipeline from the PBU infrastructure. Rig power would be supplied by diesel-fired generators. A diesel-fired emergency generator may be used and would have a small storage tank (approximately 50 gallons). During construction, temporary power would be provided by portable generators as necessary. Communications systems will utilize wireless communications.



Drawing not to scale

4.5 Drilling

Development drilling will follow completion of initial pad construction. The two unnamed shallow lakes immediately west of T Pad, and to the north, will have a cleared driving surface to minimize ice structure construction and avoid travel over frozen tundra. Drill mats may be used to support the rig during drilling operations prior to the summer season gravel compaction. The pad is planned to be compacted and brought to final grade by mid-summer in time to support the majority of the drilling program.

A second season ice road will be constructed to demobilize the rig in Spring 2006 following a similar route through the large lakes to the west of T Pad and the access road.

Drilling consumables will be transported to the site via the access road, stored and replenished on site as needed to support the drilling program.

4.6 Operations

The production life of the new pad is estimated to be 10 to 20 years. Active reservoir management using waterflood injection will be considered as a reservoir management technique. Periodic well maintenance and workovers using coil tubing or other small drill rigs that can access the site via the new gravel access road are anticipated to maximize reservoir performance following the initial drilling program.

The facility will be unmanned during normal production operations at the well site. During operations, personnel based at PBU or T Pad would travel as necessary, via the all-weather gravel road. Over the course of a typical year, site visits to the Gwydyr Bay drill site pad would be made less than once per day, on average. Operations and maintenance responsibilities would

include monitoring of the wells, pumping and metering units, monitoring of the pipelines, potential initial spill response, and routine operations and maintenance. Major warehousing and repair shops would be located at Deadhorse.

5.0 Site Closure/Rehabilitation

The anticipated life of the project is approximately 10 to 20 years. It is possible that future discoveries would extend the life of the project. The production pad would be abandoned, subject to lease obligations, after the economic life of the field has passed. Removal of facilities would be in accordance with state and federal agency approved abandonment plans. Equipment may be retrofitted for other North Slope use, or removed from the North Slope for other reuse or scrap.

Pioneer proposes to abandon the 4-acre gravel pad in place. The pad and 2.8-mile access road could remain as part of the existing PBU infrastructure depending on decisions of the permitting agencies and land managers. The access road could ultimately provide additional value towards spill response efforts, due to its proximity to the Beaufort Sea and Kuparuk River delta.

All wells will be abandoned in accordance with North Slope operations practices and in complete compliance with AOGCC regulations and policies.

6.0 Water Resources

6.1 Ice Roads

Three ice roads would potentially be required for the proposed action. An approximate 2.8-mile ice road (50 ft wide) would be required during construction activities during the winter/spring of 2005 and would require approximately 3,000,000 gallons of fresh water. An ice road (<1 mile, 32 ft wide) may be required for demobilizing the rig. This ice road would require approximately 650,000 gallons of fresh water. A third ice road (<1 mile, 50 ft wide) would be required if the Gwydyr Bay South pad (alternative gravel source) is used and would require approximately 1,000,000 gallons of fresh water. Pioneer will be sharing a TWUP permit for the Kuparuk Reservoirs #4 and #5 water sources with BP Exploration Alaska. For ice road construction, these water sources have a combined approximate 200 ft of ice aggregate feet per year available for use. Ice aggregate can also be obtained from the two shallow, unnamed lakes south of the drillsite. Ice aggregate can be used as a base for the ice roads.

6.2 Drilling

The drilling program will take between 6 and 12 months. Approximately 25,000 to 50,000 gpd of water, or approximately a total of 5.4 million gallons, will be required to support drilling operations. During summer, the unnamed lake located directly south of the drillsite may be used for water withdrawal for drilling purposes. The Kuparuk River may also be used a summer water withdrawal source during drilling activities.

7.0 Waste Stream

Pioneer has applied for coverage under National Pollutant Discharge Elimination System (NPDES) General Permit AKG-33-0000 for the Gwydyr Bay Development Project. The General Permit provides for discharges to "Waters of the U.S." that includes wetlands for discharges of domestic, graywater, gravel pit dewatering, construction dewatering, hydrostatic test water, storm water, and mobile spill response discharges.

7.1 Drill Waste

Pioneer applied to the Alaska Department of Environmental Conservation (ADEC), Division of Environmental Health for a Temporary Storage of Drilling Waste Plan approval, as required in 18 AAC 60.430. Approval of the Plan authorizes storage in the pit for up to 12 months, at which time the drill waste must be disposed of at an approved facility.

7.2 Solid Waste

Solid waste will be managed on site in a commercial dumpster for disposal at the North Slope Borough (NSB) ADEC permitted solid waste disposal facility in Deadhorse.

7.3 Storm Water Management

Storm water discharges from Gwydyr Bay facilities are regulated under NPDES General Permit (GP) AKG-33-0000. Pioneer is submitting a Storm Water Pollution Prevention Plan (SWPPP), as required by the GP, "with the intent to eliminate, to the extent practicable, contamination of storm water runoff."

7.4 Snow Removal

Construction of the 4-acre pad, access road, and pipeline will take place during the winter months when the ground is frozen. The pad will consist of a 5-foot-thick layer of gravel to prevent thermokarsting. It will be aligned to accommodate snow removal and will be sited to prevent alteration of surface drainage patterns that will help minimize impacts to tundra vegetation. The road will be plowed to maintain safe and routine access to the drill pad. The well pad design will incorporate design features to minimize the drifting and accumulation of snow around facilities.

8.0 Operating Procedures Designed to Prevent and Minimize Impacts

Buried pipelines generally have less surface impacts associated with accidental releases of product from pipeline failure than above ground pipelines. The surrounding substrate tends to reduce the flow/spray of product, which becomes concentrated in the immediate vicinity of the release.

Pioneer intends to employ North Slope experienced workforce and experienced contractors who are familiar with regulatory oversight and performance standards of the North Slope oilfields.

9.0 Fish Habitat

With the exception of the Kuparuk River (located 0.5 miles north of the project area), streams within and adjacent to the project area are tundra drainages that freeze to the bottom by late winter. The shallow lakes and ponds in this area also freeze to the bottom by late winter. As a result, these water bodies are not considered fish overwintering habitats.

The unnamed stream northeast of the project area drains directly into the Gwydyr Bay. The stream width reduces dramatically due east of the well site, possibly coincident with coastal estuarine (tidal) effects. A small tributary drainage extends to the southwest where the access road and buried pipelines would intersect and cross. Culverts capable of allowing unrestricted fish passage will be used to cross this drainage as necessary.

10.0 Wildlife Habitat

The area supports typical North Slope waterfowl, shorebirds and other local species. Spectacled eider habitat is ubiquitous across the project area, although no known nests or populations have been documented in the project area. The spectacled eider was listed as threatened under the Endangered species Act effective June 9, 1993 (58 *Federal Register* 27474) (BPXA, 1998). They are known to breed in the Sagavanirktok River delta and between the Kadleroshilik and Shaviotvik rivers. Spectacled eiders usually nest in wet tundra near basin wetland complexes containing open water areas supporting pendant grass (*Arctophila fulva*) or sedges (*Carex* sp.) or near large ponds with emergent pendant grass along the shorelines (USACE, 1999). Brood-rearing habitat varies from shallow sedge ponds to basin wetland complexes and deep open water lakes. In the PBU, fewer birds were observed between 1981 and 1991 although the change is not statistically important.

Observations from 1991 to 1996 found breeding pairs to be widely distributed throughout most of the Kuparuk oil field. None were identified within the project area itself; the closest breeding pairs were observed approximately 0.25 mile west of the proposed road/pipeline corridor in SE1/4, SW1/4, Section 22, T12N, R13E and 0.31 mile east of the corridor in the NE1/4, NW1/4, Section 26, T12N, R13E.

The Central Arctic Herd (CAH) caribou range extends across the project area. Caribou winter in the foothills of the Brooks Range and move northward in the spring to calve on the Arctic Coastal Plain. However, several small groups have been reported to winter in the vicinity of the project area. Relief from harassment by mosquitoes from late June to late July is reported to draw caribou to within 0.5 to 2.0 miles of the coast where temperatures are lower and onshore winds reduce mosquito activity.

Calving occurs on the open tundra from late April to early June. One of the large aggregations for calving is found west of the project area, immediately west of the Kuparuk River. However,

the project area itself appears to be less desirable for calving, because caribou apparently prefer drier, rougher ground with some topographic relief. Avoidance of oil field structures by cows with calves has been documented in Kuparuk-area oil fields. Indigenous hunters in the area assert that there has been a noticeable decline in the caribou population in the Arctic Coastal Plain since development of the North Slope oil fields.

11.0 Air Emissions

Air emissions related to the Project will be from two types of sources: mobile non-road engines and stationary fuel-burning equipment. Non-road engines include heavy equipment, light plants, and other construction equipment during road and pad construction. The drill rig generator engines will be the principle non-road engines during the drilling phase of the proposed action. It is anticipated that the non-road engines will be operating less than 12 months and are, therefore, not regulated because of the non-road engine exemption.

Stationary fuel-burning equipment includes boilers, heaters, incinerators, and similar non-internal combustion engine emission sources. Although gas is anticipated in the produced fluids, it would be transported in a multi-phase pipeline for processing at existing PBU facilities; therefore, no flaring or processing would occur at the site. Because no flaring would occur and because the potential to emit for the stationary fuel-burning equipment is expected to be less than the permit threshold limits, no air quality construction permit would be required.

12.0 Historic, Archeological, and Cultural Resources

An archaeological clearance was performed for the project vicinity. According to the field investigations report, there are no cultural resources in the project vicinity. The archaeological/cultural clearance report was provided to the USACE, SHPO and the North Slope Borough.

13.0 Public Use Areas

No public use areas are located within the project area.

14.0 Native Hire Policy

Pioneer will strive to hire qualified local and native individuals to support this project.

15.0 Training

Pioneer's training program includes all state and federal requirements, as well as North Slope-specific training as listed below.

Training typically includes the following:

- North Slope Training Cooperative
- Environmental Awareness

- Safety Training
- Hazwopper
- Bear Encounter Awareness

Drilling operations requires a separate suite of training and certifications.

16.0 Contact List

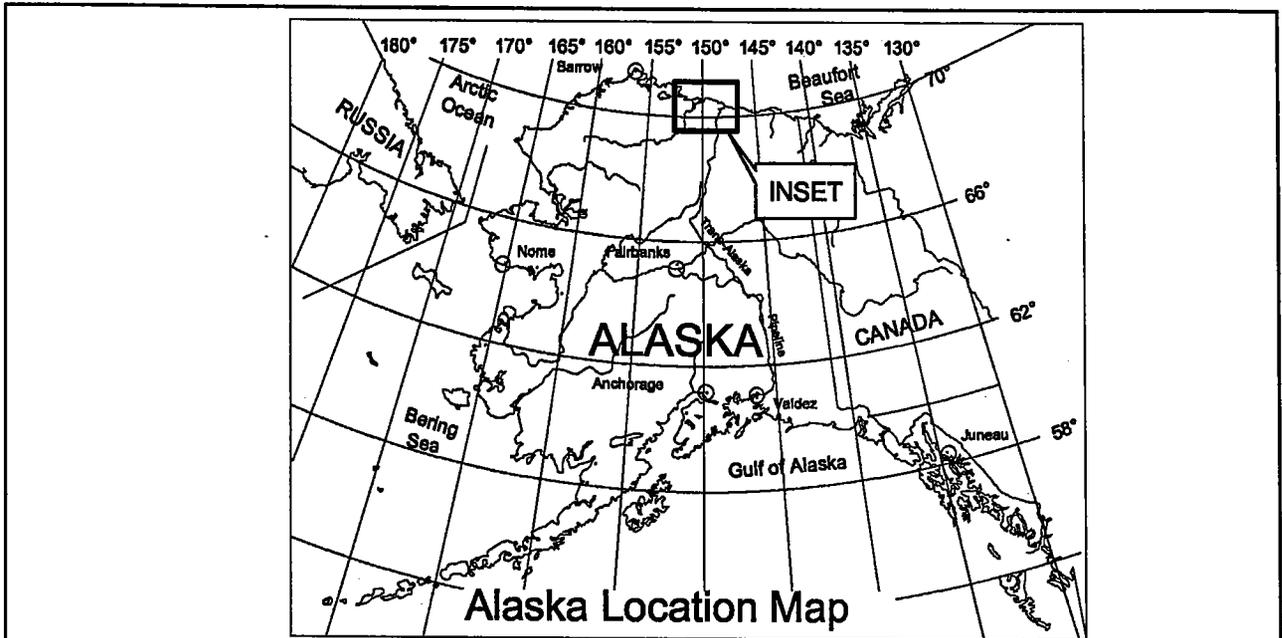
Company Construction/Regulatory Supervisor: TBD

Manager – Land, Commercial, and Regulatory Affairs: J. Patrick Foley (907) 343-2210, (907) 830-0999

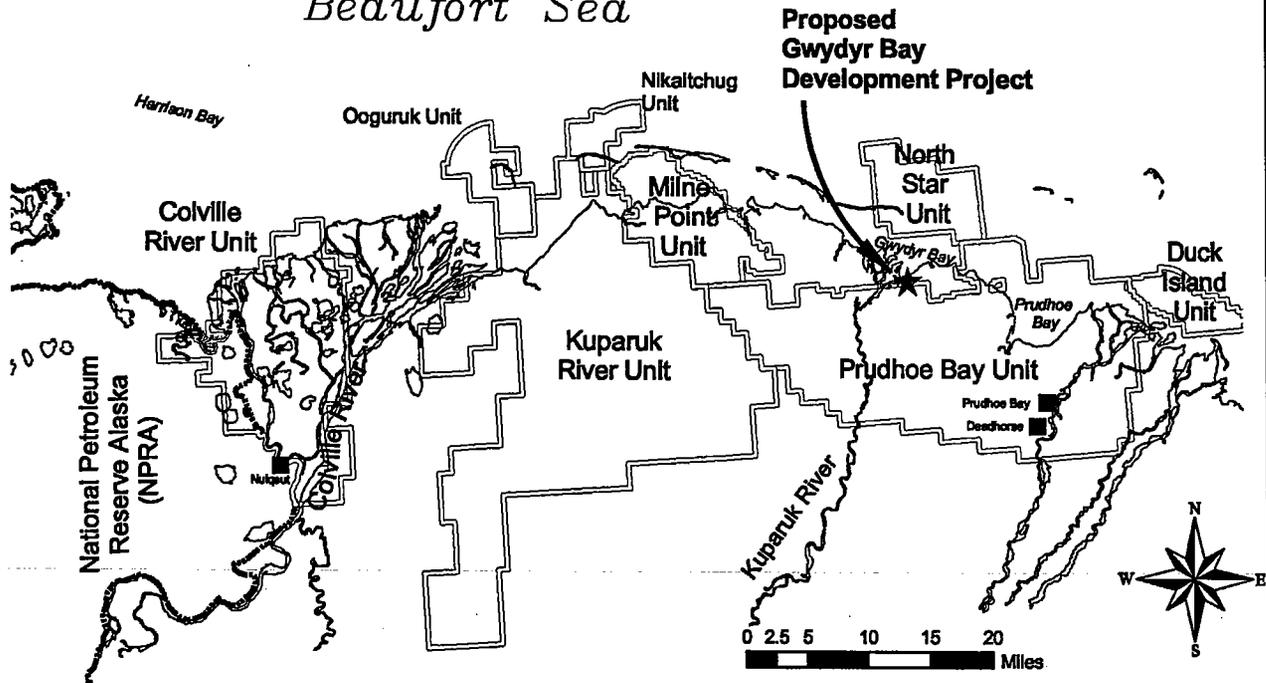
Drilling Superintendent: Vance Hazzard (907) 343-2116, (907) 830-4645

Health and Safety Director: John Boune, (800) 242-2607, (214) 212-2930

Environmental Director: James Sherrand, (800) 242-2607



Beaufort Sea



★ Proposed Gwydyr Bay Development Project Location
 Oil & Gas Unit
 National Petroleum Reserve Alaska (NPRA)

PROJECT LOCATION: Vicinity of the Kuparuk River Delta, 53 miles northeast of Nuiqsut, 15.5 miles northwest of Deadhorse, and 7.5 miles southwest of Northstar.

LATITUDE/LONGITUDE (NAD 27): 70° 23' 26.62" / 148° 48' 20.6"

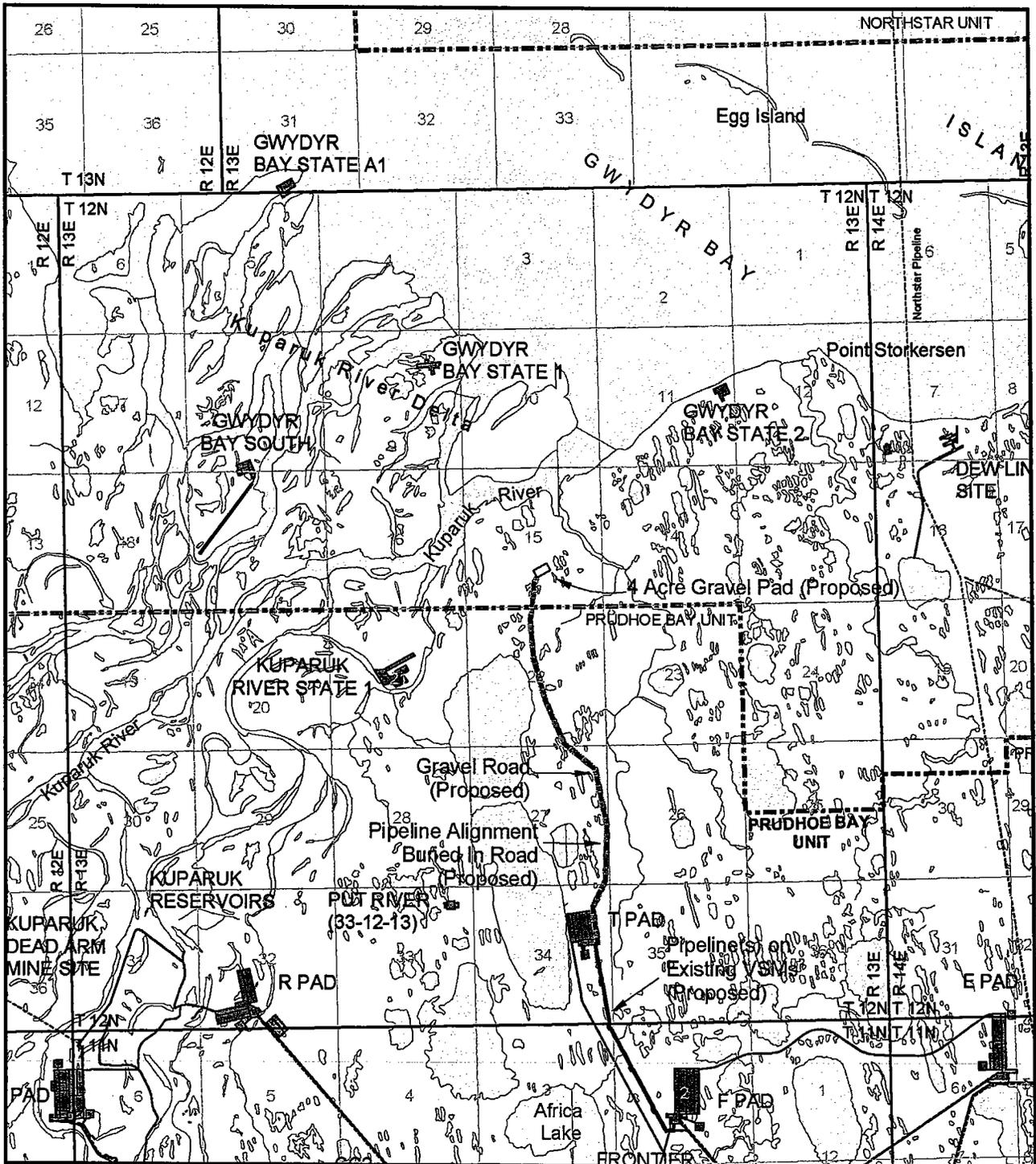
ADJACENT OWNERS: State of Alaska

VICINITY MAP
Gwydyr Bay Development Project

SEPTEMBER 2004



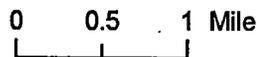
PIONEER NATURAL RESOURCES ALASKA, INC.



- Proposed 4 Acre Gravel Pad
- Proposed Gravel Road
- Proposed Pipeline Alignment-Buried
- Proposed Pipeline Alignment-On Existing VSMS
- Existing Gravel Pads
- Oil & Gas Unit
- Gravel Roads
- Pipelines

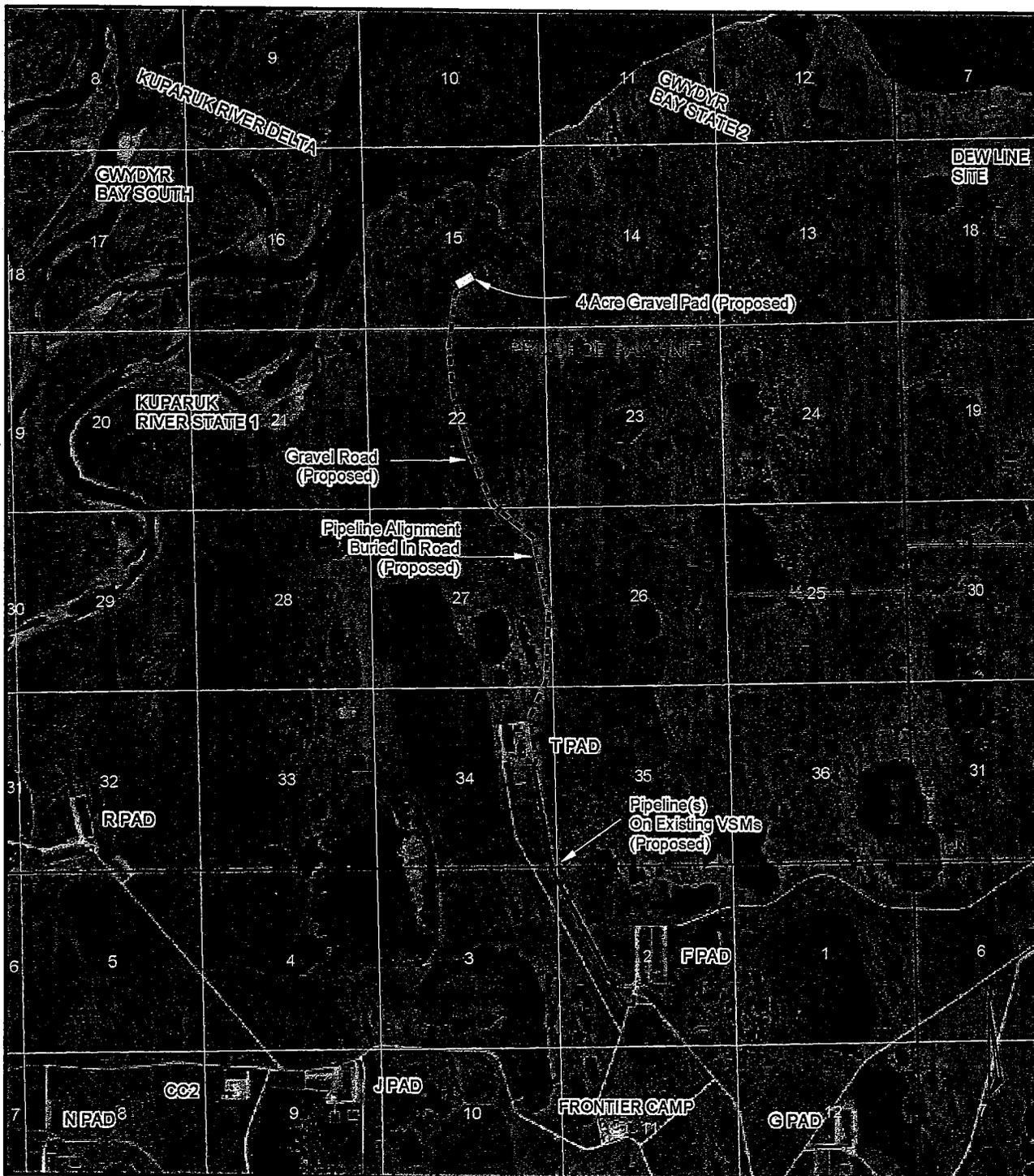
LOCATION MAP
Gwydyr Bay Development
Project

SEPTEMBER 2004



PIONEER NATURAL
RESOURCES ALASKA, INC.

NAD83, Alaska State Plane Zone 4. UTM meridian.

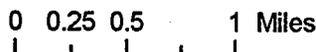


Orthophotography acquired in July 20, 2003.

-  Proposed 4 Acre Gravel Pad
-  Proposed Gravel Road
-  Proposed Pipeline Alignment-Buried
-  Proposed Pipeline Alignment- On Existing VSMs
-  Oil & Gas Unit

AERIAL VIEW
Gwydyr Bay Development
Project

SEPTEMBER 2004



PIONEER NATURAL
RESOURCES ALASKA, INC.

NAD27, Alaska State Plane Zone 4, Umiat Meridian.