THE STATE of ALASKA
GOVERNOR BILL WALKER

Department of Natural Resources

Division of Oil & Gas

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January 7, 2015

Mr. Chuck Robinson
Operations Supervisor
Global Geophysical Services
7720 King Street
Anchorage, AK 99518

RE: **MLUPNS 14-006, Geophysical Exploration Permit, Kuparuk River 3D Seismic Survey Permit Approval**

Dear Mr. Robinson:

The Division of Oil and Gas (Division) approves Global Geophysical Services, Inc. (Global) Kuparuk River 3D Seismic Survey Miscellaneous Land Use Permit (MLUP) application, dated November 5, 2014 to conduct geophysical exploration on State of Alaska lands on the North Slope. The enclosed permit, MLUPNS 14-006, authorizes Global to conduct a land based seismic survey on State of Alaska land and waters within the vicinity of the Kuparuk River subject to the conditions of the permit.

This permit is effective January 7, 2015 to May 31, 2015.

Issuance of a permit under 11 AAC 96 is not a disposal of an interest in land and does not grant a preference right to a lease or other disposal. The permit is revocable for cause for violation of a permit stipulation of this chapter, and is revocable at will if the DNR determines that the revocation is in the state's interest. Each permit issued is subject to any stipulations the DNR determines necessary to assure compliance with this chapter, to minimize conflicts with other uses, to minimize environmental impacts, or otherwise to be in the interests of the state. Public notice of any miscellaneous land use application is discretionary under 11 AAC 96.030(c). The Director of the Division of Oil and Gas (Director) has the right at any time to amend or modify any provisions of this permit, or revoke this permit.

Project Description: Proposed Activity, Associated Structures, Type of Equipment
Global plans to conduct a three-dimensional (3D) seismic survey in the vicinity of the Kuparuk River. The survey will cover approximately 580 square miles and will occur during the 2014-2015 winter season (Appendix C).

The proposed access route to the project area is south from Deadhorse following along the Dalton Highway to a location south of where the Trans Alaska Pipeline System (TAPS) goes underground at about Milepost 12.5. After crossing TAPS, the route will head west crossing the Kuparuk River and

enter the project area. This is the same route Global used to access the Schrader Bluff area during the 2013-2014 winter season.

Prior to tundra opening, the route will be scouted to better identify appropriate terrain and minimize potential tundra impact. The selected route will be pre-packed using flat-tracked tuckers. A snow pad measuring 250 by 250 feet will be created west of the Dalton Highway adjacent to the existing TAPS access roads. This pad would be used to stage pre-packing equipment during pre-packing activities, and other equipment prior to mobilization to the project area. Temporary airstrips will be constructed on lakes near the camp to facilitate support operations. As the camp moves, a new airstrip will be prepared; approximately six to eight airstrips are expected to be needed as part of the seismic survey.

The data acquisition technique will be vibroseis with multiple sources (vibrators) operating simultaneously. Use of this technique will allow data to be acquired more efficiently than typical techniques, thereby minimizing the time necessary to complete data acquisition. Energy sources for the project will be provided by 80,000 pound peak force AHV-IV rubber tracked vibrators that are weatherized for arctic conditions and that have a gross vehicle weight of 92,000 pounds. Three fleets of three vibrators will be employed. Global will perform topographic surveying for placement of source and receiver points prior to beginning data acquisition. Receiver lines will be oriented east to west in intervals of 1,320 feet and source lines will be oriented north to south in intervals of 880 feet. If a source point cannot be safely accessed then it will either be offset or skipped. Upon completion of data acquisition in an area, the recording equipment will be retrieved. It will be brought back to base camp, batteries will be recharged, the nodal recording system units will be downloaded, and the seismic data will be transcribed for quality control and processing.

Cleanup operations will be conducted the summer after the seismic program to inspect for any remaining debris not identified and removed during demobilization activities and to identify any remnant issues.

Scope of Decision:

This decision is reviewing the following activities for Division approval:
Activities supporting seismic data acquisition as defined in the application.

This decision is not reviewing the following activities for Division approval:
State land within the Umiat Meridian in the North Slope area has been designated as Special Use Lands under ADL 50666. A permit may be required from the Division of Mining Land and Water (DMLW) for motorized use, unless that use is for subsistence purposes or is on a graveled road. Tundra travel is approved by DMLW.

Land Status:
The proposed Kuparuk River 3D seismic survey program is located on state land on the North Slope (Appendix C). Global plans to acquire approximately 580 square miles of data within the following locations:

<u>Survey Line Locations by Meridian, Township, Range, & Section(s)</u>

Meridian: Umiat

Township: 5N	Range: 7E	Section(s): 1-2, 11-14, 23-26
	Range: 8E	Section(s): 1-30
	Range: 9E	Section(s): 1-30
	Range: 10E	Section(s): 1-30
	Range: 11E	Section(s): 1-30
	Range: 12E	Section(s): 4-9, 16-21, 28-30
Township: 6N	Range: 7E	Section(s): 1-2, 11-14, 23-26, 35-36
	Range: 8E	Section(s): 1-36
	Range: 9E	Section(s): 1-36
	Range: 10E	Section(s): 1-36
	Range: 11E	Section(s): 1-36
	Range: 12E	Section(s): 4-9, 16-21, 28-33
Township: 7N	Range: 7E	Section(s): 25-26, 35-36
	Range: 8E	Section(s): 1-2, 9-17, 19-36
	Range: 9E	Section(s): 1-36
	Range: 10E	Section(s): 1-36
	Range: 11E	Section(s): 1-36
	Range: 12E	Section(s): 4-9, 16-21, 28-30
Township: 8N	Range: 9E	Section(s): 12-15, 21-29, 31-36
	Range: 10E	Section(s): 01-36
	Range: 11E	Section(s): 01-36
	Range: 12E	Section(s): 4-9, 16-21, 28-33
Township: 9N	Range: 10E	Section(s): 13-14, 22-28, 31-36
	Range: 11E	Section(s): 1-5, 7-36
	Range: 12E	Section(s): 6-7, 18-19, 30-31
Township: 10N	Range: 11E	Section(s): 24-26, 34-36
	Range: 12E	Section(s): 19, 30-31

Other third party interests identified by DMLW.

ADL 50666 – North Slope Special Use Area
LAS 29386 – Off-road Travel Authorization

Agency Review:
The Division provided an Agency review and comment opportunity for the activities considered for authorization under this decision. The following government entities were notified on October 27, 2014 for comment on the Plan: Alaska Department of Fish and Game (ADFG), Alaska Department of Environmental Conservation (ADEC), and DNR: State Pipeline Coordinator's Office, Division of Mining Land and Water, Office of Project Management and Permitting, and Division of Oil and Gas. The comment deadline was 4:30 pm Alaska time on November 10, 2014. The Division received one agency comment from the DMLW. See Appendix B.

Public Review:

The public notice process is discretionary and was not initiated for this application.

Performance Guarantee:
The permittee has provided the Division with a performance guarantee under 11 AAC 96.060 in the amount of $100,000.

Application Approved:
Should any unforeseen issues arise, the Division has authority to revoke or amend this permit. As detailed in this authorization, the Division shall be notified if, during the conduct of operations, a surface use conflict occurs. All operations conducted under this permit are subject to inspection by the Division, and if damage occurs, appropriate interest holders will be engaged, and corrective action will be prescribed. The Division will impose additional provisions as necessary under 11 AAC 96.040 at any time during the activity approved under this authorization to minimize impacts and conflicts.

The Division considered all facts material to this application including the permit provisions contained in this authorization per 11 AAC 96.040(b). The Division has determined that this permit and attached provisions for this non-permanent activity as conditioned is in the state's interest. Stipulations in this permit authorization are necessary to protect the state's interest and the public interest.

An eligible person affected by this decision may appeal it, in accordance with 11 AAC 02. Any appeal must be received within 20 calendar days after the date of issuance of this decision, as defined in 11 AAC 02.040 (c) and (d), and may be mailed or delivered to the Commissioner, Department of Natural Resources, 550 W. 7th Avenue, Suite 1400, Anchorage, Alaska 99501; faxed to (907) 269-8918; or sent by electronic mail to dnr.appeals@alaska.gov. This decision takes effect immediately. An eligible person must first appeal this decision in accordance with 11 AAC 02 before appealing this decision to Superior Court. A copy of 11 AAC 02 may be obtained from any regional information office of the Department of Natural Resources.

Sincerely,

Kim Kruse

Kim Kruse
Permitting Manager
Division of Oil and Gas

Appendices: A: Stipulations
B: Comments
C: Map(s)

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DNR/DOG Permitting, dog.permitting@alaska.gov

APPENDIX A: STIPULATIONS
MISCELLANEOUS LAND USE PERMIT FOR GEOPHYSICAL EXPLORATION

Geophysical and Seismic activities are subject to the following permit stipulations:

Standard Stipulations:

1. The permittee shall defend, indemnify and hold the State of Alaska harmless from and against any and all claims, damages, suits, losses, liabilities and expenses for injury to or death of persons and damage to or loss of property arising out of or in connection with the entry on and use of State lands authorized under this permit by the permittee, its contractors, subcontractors and their employees.

2. A copy of the permit and stipulations must be posted in a prominent location where other permits and safety information are displayed for crew members. The permittee shall make available a copy of the application, all subsequent modifications, and a copy of this permit and all its attachments to any interested party upon request and in a reasonable time.

3. The permittee shall notify and obtain a modification from the Division in advance of any activities which deviate from the approved permit. Any action taken by the permittee or his agent which increases the overall scope of the project or which negates, alters, or minimizes the implied intent of any stipulation contained in this permit will be considered a significant deviation from the approved permit.

4. The issuance of this authorization does not alleviate the necessity of the permittee to obtain authorization required by other agencies for this activity.

5. The permittee shall inform and ensure compliance with all conditions of this permit by its employees, agents and contractors, including subcontractors at any level.

6. Reservation of Rights: The Division reserves the right to grant additional authorizations to third parties for compatible uses on or adjacent to the land under this authorization. Authorized concurrent users of state land, their agents, employees, contractors, subcontractors, and licensees, shall not interfere with the operation or maintenance activities of each user.

7. Valid Existing Rights: This authorization is subject to all valid existing rights and to the land. The State of Alaska makes no representations or warranties whatsoever, either expressed or implied, as to the existence, number, or nature of such valid existing rights.

8. The Commissioner of the DNR may require that an authorized state representative be present during any oil and gas activities described in or conducted under this permit.

9. The permittee shall consult the Alaska Heritage resources Survey (907-269-8721) so that known historic, archeological and paleontological sites may be avoided Should any sites be discovered during the course of field operations, activities that may damage the site will cease and the Office of History and Archaeology in the Division of Parks and Outdoor Recreation (907-269-8721) shall be notified immediately.

10. The permittee shall make available, to the Division, all records relating to the survey operations and landowner approvals upon request.

11. The permittee shall observe and apply applicable setbacks as defined by 18 AAC 80.020, 18 AAC 72 and/or the International Association of Geophysical Contractors Setback Guidelines to activities approved under this authorization. Alternative setback distances may be employed to protect coastal uses and resources, water wells, structures, private property including livestock, and other resources if it is determined that a particular guideline is insufficient.

12. Trails, campsites and work areas must be kept clean. Trash, survey lath, markers, and other debris that accumulates in camps, along seismic lines, and travel routes, that are not recovered during the initial cleanup, shall be picked up and properly disposed of within one calendar year.

13. The Director has the right at any time to modify or revoke this permit.

14. All wastewater must be disposed of in a manner acceptable to ADEC and must meet Alaska Water Quality Standards found at: http://dec.alaska.gov/water/wqsar/wqs/.

15. ADEC Drinking Water regulations 18 AAC 80 apply to public water systems.

Land and Access Stipulations:

1. The permit authorizes the Permittee to conduct geophysical/seismic exploration activity upon authorized lands owned by the State of Alaska. No person may engage in mineral exploratory activity on land, the surface of which has been granted or leased by the State of Alaska, or on land for which the state has received the reserved interest of the United States.

2. This approval does not authorize activity on Mental Health Trust Lands, School Trust Lands, Park Lands, or Lands of the University of Alaska.

3. Approval of this permit does not constitute the approval required for surface entry on non-state land without an agreement with the surface owner. This permit does not approve entry on private land.

4. The seismic exploration activities granted under this permit must not diminish the use and enjoyment of lands encompassed within a Native Allotment. Before entering a pending or approved Native Allotment, the permittee shall contact the Bureau of Indian Affairs and Bureau of Land Management and comply with applicable federal law.

Public Safety and Program Outreach Stipulations:

1. Public safety: Appropriate signage will be deployed on all access routes and roadways in the project area. The Department of Transportation or Right of Way Lessee may advise permittee on appropriate measures to maintain safe conditions where appropriate. The permittee must watch for, provide verbal warning to and document people or vehicles entering potentially dangerous areas of the project. Lighting and marking with lath or fluorescent tape of some project work areas is advised for operations that occur during periods of sustained darkness or where conditions are unsafe for humans or animals.

2. Notices: To avoid unintended conflicts with other users, the permittee shall post a Notice of this project at conspicuous locations including key travel intersection crossings, areas of public use and in a prominent location in any operators or contractors staging area or camp. The Notice shall

include the Division's contact number (907-269-8800), project title and permit number, names and contact telephone numbers of the permittee and all operators. The permittee shall provide notices on behalf of the Division to all upland owners involving shoreland, tideland, or submerged land adjacent to the upland owner's property if no notice or agreement is made with the owner by the permittee as required under 11 AAC 96.030(c). All forms of public outreach must be documented and reported to the Division as they occur.

3. In areas of subsistence and personal use harvesting, the permittee will coordinate survey activity with local users to prevent unnecessary conflicts. The permittee shall make a good faith attempt to coordinate survey activities with the owners of trap lines if known. Existing snowmachine, dogsled, or other trails, should be marked with survey lath where they intersect receiver and source lines. The permittee is required to post notice of potentially dangerous or hazardous project activities at these locations.

Fuel and Hazardous Substances Stipulations:

1. Fuel and hazardous substances. Secondary containment shall be provided for fuel or hazardous substances, as defined under AS 46.03.826 (5) or under 42 U.S.C. 9601(14)F.

    a. Fuel or hazardous substance transfers. Secondary containment or a surface liner must be placed under all container or vehicle fuel tank inlet and outlet points, hose connections, and hose ends during fuel or hazardous substance transfers. Appropriate spill response equipment to respond to a spill of up to five gallons must be on hand during any transfer or handling of fuel or hazardous substances. Transfer operations shall be attended by trained personnel at all times.

    b. Fuel or hazardous substances container(s) with a total combined capacity larger than 55 gallons shall not be stored within 100 feet of a waterbody.

2. Sorbent material in sufficient quantity to handle operation spills must be on hand at all times for use in the event of an oil or fuel spill.

3. Any use of explosives or blasting materials must comply with ADFG Habitat Publication No. 13-03, Alaska Blasting Standard for the Proper Protection of Fish. Additionally the permittee must contact the nearest ADFG Division of Habitat office regarding the need for a Fish Habitat permit.

4. Stationary fuel storage facilities must not be placed within the annual floodplain of a watercourse or closer than 100 feet to a waterbody. There shall be no fueling, servicing or repair of vehicles or equipment, and no vehicles shall be left unattended within the floodplain or below the ordinary high water line of any river, lake or stream or closer than 100 ft. to a waterbody or wetland.

Wildlife Stipulations:

1. All activities shall be conducted in a manner to minimize or avoid disturbance to wildlife and their habitat. Hazing of wildlife is prohibited unless a Health Safety and Environment concern is present.

2. Operations must avoid occupied grizzly bear dens and black bear dens, by one-half mile unless alternative mitigation measures to minimize disturbance are authorized by the Division after consultation with ADFG. Known den locations shall be obtained from the nearest ADFG Division

of Wildlife Conservation office prior to starting operations. Occupied dens encountered in the field must be reported to the above, and subsequently avoided.

3. The permittee shall abide by the provisions of Alaska's wildlife feeding regulation, 5 AAC 92.230.

4. Operations within State-designated special areas (AS 16.20.010- .162, .500-.690) will be conducted in a manner consistent with the area's statutes regulations and management plan.

5. Operations must avoid known polar bear dens by one mile. Known den locations shall be obtained from the U.S. Geological Survey (907-786-3800 or 800-362-5148) prior to starting operations. New dens encountered in the field must be reported to the above, and subsequently avoided by one mile.

North Slope Stipulations:

1. Crossing of water bodies and operations near fish bearing water bodies may require permits from ADFG, the permittee is required to obtain all permits necessary for this project prior to commencing activities authorized by this permit.

2. All solid wastes, including incinerator residue, shall be backhauled to a solid waste disposal site approved by ADEC.

3. The use of ground contact vehicles for off-road travel must be limited to those areas which have adequate ground frost and snow cover to prevent damage to the ground surface as determined by DNR DMLW NRO. Movement of equipment through willow (Salix) stands must be avoided wherever possible. The use of ground contact vehicles for off-road travel is subject to regional tundra travel openings and closure notices issued by DNR DMLW NRO.

4. Vehicles shall be operated in a manner such that the vegetative mat is not disturbed, and blading or removal of vegetative cover is prohibited except as approved by DNR DMLW NRO Filling of low spots and smoothing using snow and ice is allowed. Incidents of vegetative mat damage and follow-up corrective actions shall be reported to the Division.

5. The DNR/DMLW maintains tundra monitoring stations throughout the North Slope. Tundra monitoring stations must not be impacted by permitted activities. Specific location information for these sites can be obtained from the DNR/DMLW directly at (907) 451-2740.

Reporting Stipulations:

1. Spill Notifications: The permittee shall comply with the ADEC requirements for reporting the unauthorized discharge, leak, or spill of hydrocarbons or toxic or hazardous substances. The permittee shall notify the Department of Natural Resources of all spills that must be reported under 18 AAC 75.300 under timelines of 18 AAC 75.300. All unintentional fires and explosions must be reported to DNR immediately. The DNR 24 hour spill number is (907)-451-2678; the fax number is (907) 451-2751. DNR and ADEC shall be supplied with all follow-up incident reports.

2. Blowouts, as defined as the detonation of source points that caused surface damaged, are reportable if the surface damaged is larger than 36 inches. The report must include the location (Lat./Long. in

WGS 84) and pictures of the blowout. All blowouts will need to be reclaimed or rehabilitated to the satisfaction of the Alaska DNR.

3. As a stipulation of the issuance of this MLUP for Geophysical Exploration, the permittee acknowledges the requirements of 11 AAC 96.210 (1) and agrees to notify the Director of the Division and submit seismic exploration data. The Geophysical Data Submission Requirements can be found on the DNR Division's Website http://dog.dnr.alaska.gov/Permitting/permittingForms.htm. Your signature acknowledges your obligation to fulfill the Data Submittal requirements.

4. The permittee must complete and return a Geophysical Activity Completion Report form for each set of 3D data acquired. Please submit a separate form for each sub-program data submittal. A non-confidential public completion report will be placed into the permit file each time a sub-program is completed. Completion reports must be submitted to our office by July 1 of the following year. For in depth instruction on how to complete the form please refer to the Division's permitting website http://dog.dnr.alaska.gov/Permitting/PermittingForms.htm.

5. A summary record of all surface impacts, lost equipment, spills, fires, and unintended explosions, shall be included in the completion report. Rehabilitation, if required, shall be completed to the satisfaction of the DNR.

6. All fires and explosions that require a response to protect life and property must be reported to DNR and ADEC immediately and shall be supplied with all follow-up incident reports.

7. The Division's Permitting Section shall be notified in Anchorage by telephone at 907-269-8800 and by email at dog.permitting@alaska.gov if, during the conduct of operations, state resources are damaged or a conflict occurs.

8. Annual Reports: if the term of the MLUP exceeds on calendar year from the date of approval an annual report must be submitted and discuss the project timeline, progress, project work and continued public outreach.

9. Completion Statement: Upon expiration of the MLUP or completing all operations authorized under the MLUP, whichever occurs first, a completion report must be submitted and discuss a summary of operations, equipment trails, camps and staging areas, damages to State lands, spills, land-use conflicts and work completed.

10. The permittee shall make available a copy of the seismic plan of operations, all subsequent modifications, and a copy of this permit and all its attachments to any interested party upon request and in a reasonable time.

I acknowledge, and agree to these Permit terms, conditions and stipulations.

_____ _____

Authorized Representative Date

APPENDIX B:

Agency Review Comments: **Alaska DNR, Division of Mining, Land and Water, November 5, 2014**

Comment 1 - Section 1.3.1 Mobilization and Access

Tundra travel outside of the seismic acquisition zone is managed thru the DMLW. Tundra opening for winter travel is dependent upon snow conditions (9" snow) and soil temperature (-5C at 30 cm depth) and the applicant should anticipate the necessity for scheduling flexibility. The applicant is authorized for off-road travel, via LAS 29386, and should work with the DMLW NRO for all activities outside of the seismic acquisition zone, including routes for access and egress, methods towards gaining early tundra access, and staging snow/ice pad planning.

Global Response

Global met with ADNR, NRO on November 12, 2014 to discuss the details of cross-country travel associated with winter 2014-2015 program activities. A formal request under LAS 29386 will be submitted to ADNR, NRO following this meeting.

Comment 2 - Section 1.3.2 Housing Facilities

DMLW NRO prefers snow collection occur over grounded lake/pond ice. Snow should not be removed/collected from vehicle travel paths, as this can cause undue damage to the underlying tundra via mechanical damage during the clearing activity and/or travel over thin snow.

Global Response

Global will collect snow from areas of grounded lake/pond ice when practicable. If sufficient snow is not available, snow will be collected from other areas where it has accumulated (e.g., from topographic features such as ridges). Snow will not be collected from areas of flat tundra or from vehicle travel paths.

Comment 3 - Section 1.3.3 Personnel Logistics

DMLW NRO prefers the use of grounded lake ice for temporary airstrips. Similar to clearing snow, grooming over tussock tundra or other forms of microtopography, has the potential for tundra damage. If locating a temporary runway over tundra, the area should be scouted for habitat type (avoiding tussocks) and sufficient snow depth prior to grooming a temporary runway area.

Global Response

When practicable, temporary airstrips will be constructed on lakes. However, portions of both the Kuparuk and Kad River project areas have very few lakes. If no lakes are located in the vicinity of the camp, a temporary airstrip will be prepared by grooming snow-covered tundra in areas with minimal tussocks and sufficient snow to allow aircraft with skis to land without damaging either aircraft or tundra.

Comment 4 - Section 1.3.5 Fuel Storage and Handling

a. Fuel should not be stored over water bodies, including at temporary airstrips.

b. Generally, vehicle maintenance, campsites, and storage or stockpiling of material on the surface ice of lakes, ponds, or rivers is prohibited.

Global Response

Global will adhere to NSBMC 19.70.050 I.11 which states that fuel storage shall not be placed within 100 feet of water bodies.

Comment 5 - Section 1.5 Site Closure, Restoration, and Rehabilitation

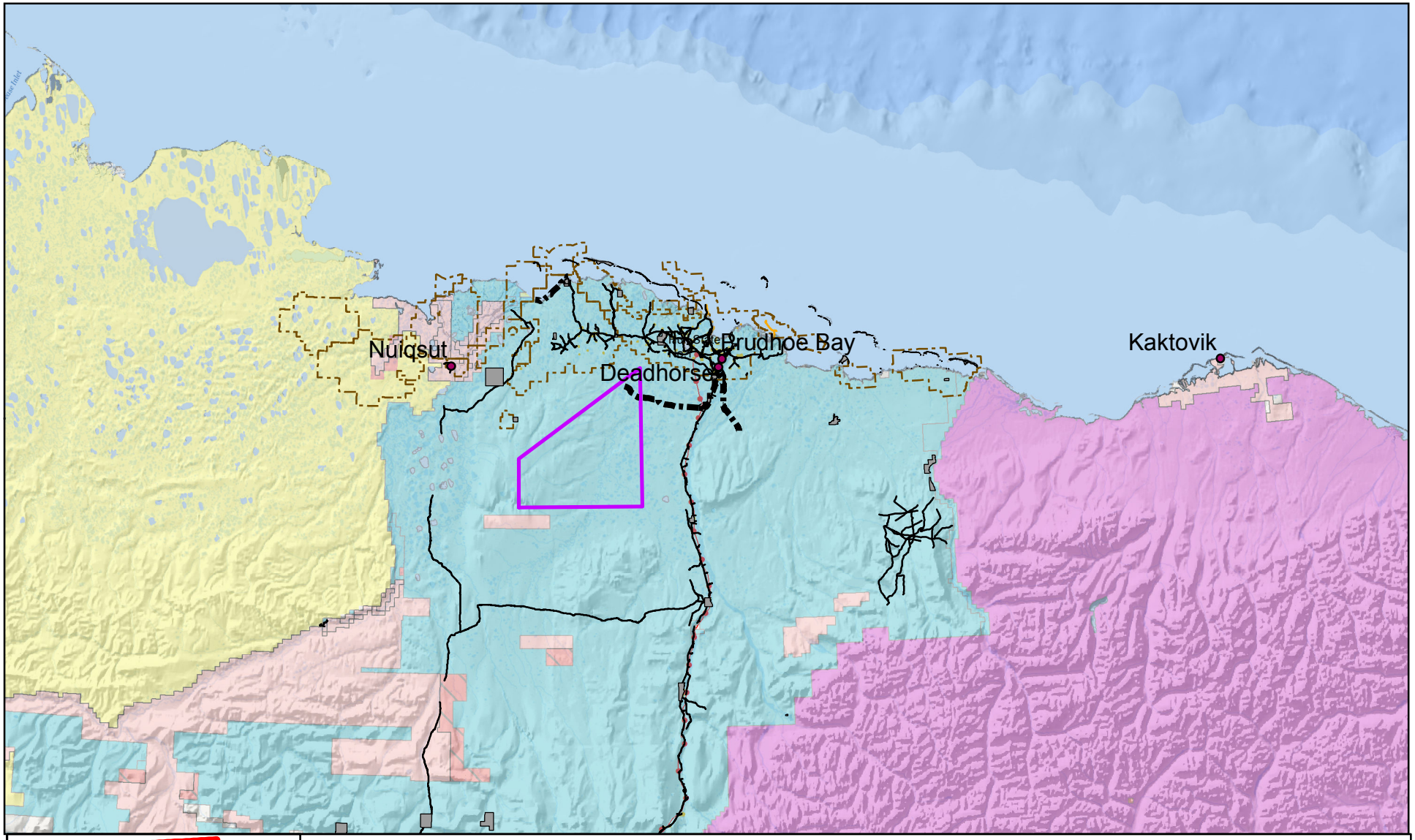
Tundra damage reports should include multiple photos of the potential damage, including before and after remedial action, and should also be provided to the DMLW NRO shortly after occurrence.

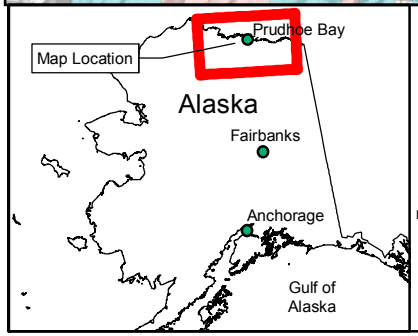
Global Response

Global will notify ADNR, NRO upon identification of potential tundra damage. Potential tundra damage will be documented, including taking photographs, upon identification, as part of remedial action, and after any remedial action.

Division Response:

Comments noted.





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THIS DRAWING IS FOR CONCEPTUAL PURPOSES ONLY, ACTUAL LOCATIONS MAY VARY AND NOT ALL STRUCTURES ARE SHOWN.

0 10 20 30 40 50 Miles

NAD 1983 State Plane Zone 4 FIPS 5004

Legend

- Kuparuk 3D Survey Area
- Winter Access Route
- Roads
- Oil & Gas Unit Boundary
- TAPS Pipeline
- Gravel Pad
- Municipal Land

Land Ownership

- Bureau of Land Management
- USF&W - ANWR
- ANCSA Patent or IC
- ANCSA Selected
- State Patent or TA

Land Ownership per BLM data.

Global Geophysical Services,
Kuparuk River 3D Seismic Surveys

North Slope Vicinity

Date: 12/16/2014

Fig. No. 1

Scale: 1 in = 32 miles

File: GGS Kuparuk - Norht Slope Vicinity.mxd
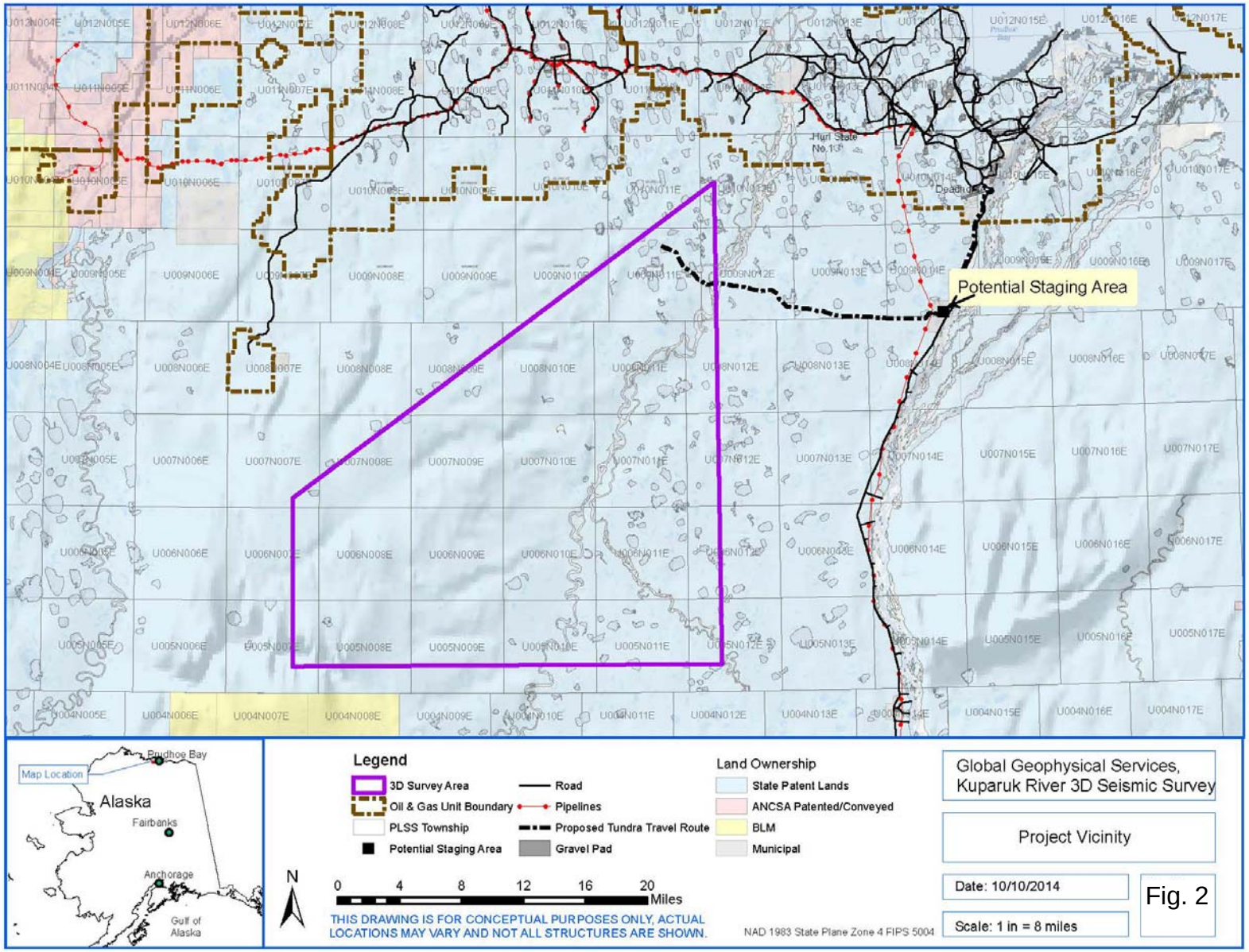
Figure 2 Project Vicinity