



THE STATE
of **ALASKA**
GOVERNOR SEAN PARNELL

Department of Natural Resources

DIVISION of Oil & Gas
Anchorage Office

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February 14, 2014

Mr. Wm. "Randy" Reed
CGG Land, Inc.
2450 Cinnabar Loop
Anchorage, AK 99507

RE: MLUPNS 13-009 Geophysical Exploration Permit
West Canning 3D Seismic Survey

Dear Mr. Reed:

The Division of Oil and Gas (Division) approves the CGG Land, Inc. (CGG) West Canning 3D Seismic Survey permit application, received October 23, 2013, to conduct geophysical exploration on State of Alaska lands in the North Slope Borough. The enclosed permit, MLUPNS 13-009, authorizes CGG to conduct a seismic survey as per the conditions of the permit.

This permit is effective February 14, 2014 to May 31, 2014 or until tundra closes.

Scope of Review

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 or of this chapter, and is revocable at will if the department determines that the revocation is in the state's interest. Each permit issued is subject to any stipulations the department 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 has the right at any time to amend or modify any provisions of this permit, or revoke this permit.

Project Location

The source and receiver area of the project is approximately 40 miles east of Deadhorse and CGG plans to acquire approximately 280 square miles of data within the following locations:
Township 07N, Ranges 19-23E;
Township 08N, Ranges 19-24E;
Township 09N, Ranges 19-24E; and
Township 10N, Ranges 20-22E, Umiat Meridian.

Project Description

CGG plans to travel to the source and receiver area and acquire a 3D seismic program on the North Slope this winter during the requested period of January 1, 2014 to May 31, 2014. This proposed onshore/offshore program will be named West Canning 3D Seismic Survey. The proposed program will be acquired on State lands. CGG will be mobilizing their equipment and camp from their Deadhorse facility and travel to the program area via existing roadways, winter trails, ice roads and /or the Dalton highway to conduct seismic operations in the seismic survey area as shown on the enclosed map.

Seismic operations will be conducted utilizing 12 tracked vibrators supported by tracked cable trucks and Tucker SnoCats. Receiver (i.e., geophone) lines will be spaced at pre-determined intervals with a group of 3 geophones spaced incrementally along the line to receive a response from the subsurface. Twenty to twenty six receiver lines may be placed on the ground at any one time. Vibrator weight (-82,000 lbs.) is displaced by rubber-tracks with an equivalent footprint of 15 lbs. per square inch of pressure. Vibrator lines (source lines) will run east to west within the program area. Source lines will be spaced approximately 550 ft. apart; and the vibroseis points will be acquired every 50 ft. along the line. The source is a HPVA vibroseis with a frequency of approximately 4 to 100 Hz; the anticipated duration is 8 to 12 seconds for each sweep. The duration and decibel level of the source varies depending on such factors as terrain and weather conditions.

Agency Review

The Division conducted an agency review from October 29, 2013 until November 6, 2013, with the opportunity to comment. All agency comments received by the Division expressed non-objection.

Public Review

The Division posted a 30 day public notice November 14, 2013 through December 16, 2013 in a statewide newspaper, online, and through postings in local post offices. The following comments were timely and received by the Northern Alaska Environmental Center (NAEC):

Comment 1: The commenter is concerned that this survey could affect wilderness and wildlife resources of the Arctic Refuge, including wintering caribou, denning polar bears, and subsistence resources and users.

Applicant's Response: CGG has operated successfully for many years on Alaska's North Slope. CGG employees are highly and extensively trained in procedures to protect both the wilderness and the environment. CGG employs subsistence representatives on the seismic crew for the duration of the seismic activity in accordance with permit stipulations mandated by the North Slope Borough. Subsistence representatives travel daily throughout the program area documenting and reporting wildlife sightings to the project to managers in order to reduce impacts to animals and to avoid conflicts. Subsistence representatives are also required to coordinate with the nearest affected communities seeking information on any subsistence hunting activities that may be occurring during the project. Wintering caribou are occasionally

seen during North Slope seismic programs, typically at great distances. If caribou are encountered, seismic operators are instructed to avoid them. More commonly, muskox, arctic fox, and red fox are seen during our projects. CGG employees are trained to avoid wildlife and CGG has implemented a wildlife avoidance/interaction plan. When available, CGG is provided with locations of denning polar bears in advance of mobilization of the seismic crew. Known polar bear dens are avoided by an exclusion zone of 1 mile. CGG has very detailed procedures for documenting sightings of polar bears that were created with the support and approval of the U.S. Fish and Wildlife Service (USFWS) and is required to report all polar bear sightings to the U.S. Fish & Wildlife Service. More information concerning wildlife, polar bears and subsistence resources can be found in the CGG Plan of Operations submitted along with the Geophysical Exploration application.

Division Response: The Division considered potential impacts to wildlife and subsistence resources. Jack Winters of the Northern Regional office of the Alaska Department of Fish and Game (ADFG) responded to the comment with the following statement, “we have no radio/satellite collared caribou in the West Canning survey area at this time and do not anticipate caribou returning to this area until May. Any information regarding denning polar bears in the survey area would need to be obtained from Craig Perham at the USFWS.” Division seismic permit stipulations #14, 15, 17, 18, 31, and 32 include requirements to minimize or avoid disturbance to wildlife and habitat and to avoid known polar bear dens.

Comment 2: These surveys could also have long-term effects on streambanks, tundra wetlands and other vegetation, and water quality in the event of spills into the adjacent refuge rivers and their tributaries.

Applicant's Response: CGG utilizes multiple procedures, survey techniques, and the implementation of engineering controls to protect the natural environment from a potential spill onto the tundra. Specific permit stipulations mandated by both the State of Alaska and the North Slope Borough prohibit fueling within 100' of water bodies, require secondary containment for fuel storage tanks, and require the placement of “duck ponds” under vehicles when vehicles are parked, or when vehicles are refueling. Further, CGG vehicles operating off road and on the tundra are equipped with secondary containment and/or drip pans under the vehicle chassis should a leak occur, in order to prevent fluids from reaching the ground. It should be noted that winter seismic surveys such as this one, normally occur when lakes, ponds, and rivers of the North Slope are frozen. Should a spill occur, CGG abides by the Alaska Dept. of Environmental Conservation, Division of Spill Prevention & Response Reporting Procedures as well as the Reporting Procedures required by the National Emergency Response Center. Detailed spill response procedures, protocols and notification processes are outlined in the above-referenced Plan of Operations included with the application.

Division Response: The Division considered the potential impact of spills, as well as conditions imposed and measures being taken to prevent and minimize spills. Please consult permit stipulations #14, 15, 16, 18, and 32 that address protection of tundra and streambank habitats and stipulations #12, 13, and 30 to ensure that fuels will be handled properly and spills will be reported and addressed. Additionally, in the plan of operations under section 7.0 Fuel Supply and Storage CGG mentions that added procedures “*of best practices*” will be implemented to reduce the risks of a spills, and also in Appendix E a reportable spill response procedures flowchart had been compiled to aid in the response and cleanup of a spill.

Comment 3: Will special precautions be taken to prevent spills that could enter the Canning and Staines Rivers which are located entirely within the Arctic Refuge?

Applicant’s Response: CGG will employ the same policies and procedures referenced above for the entire program area, including the Canning and Staines Rivers.

Division Response: See Division response to comment #2. The permit conditions to prevent spills are imposed across the entire permit area.

Comment 4: How will ADNR assure the public that the survey operations do not stray onto federal lands or waters within the Arctic Refuge?

Applicant’s Response: CGG will avoid the boundary(s) of the Arctic National Wildlife Refuge by a minimum distance of .25 miles. The boundary of the Arctic National Wildlife System has been identified using data made available to the public by both the State of Alaska and Bureau of Land Management. CGG utilizes a real-time vehicle navigation tracking system updated daily with routes of safe travel, and areas where travel is prohibited. Travel may be prohibited for numerous reasons including terrain, thin ice, bear dens etc. Operators are specifically trained to recognize areas where vehicles are permitted or prohibited. CGG field managers monitor vehicle movement at all times using real-time vehicle navigation tracking systems which provides an additional measure to ensure vehicles remain within the project area.

Division Response: This permit authorizes activities on State land. The applicant submitted a map of the proposed shot lines, as required under Geophysical Technique item D. None of the shot lines within the West Canning 3D Seismic Survey permit application coincide with federal lands or waters within the National Wildlife Refuge. The applicant requested that this map be maintained confidential as provided in AS 38.05.035(a)(8). If the permittee goes outside the permit area onto federal land, the permittee would be acting outside the authorization of this permit and could be subject to action by the federal government.

NAEC’s recommendation for Comment 1,2, 3 and 4: Stipulation to minimize impacts to the Arctic Refuge and its resources by requiring that the base camps be at least 5 miles from the

Arctic Refuge border to reduce risk and impacts of spills, to polar bear denning habitat, air pollution and noise disturbance to refuge resources including subsistence resources and uses.

Applicant's Response: CGG does not utilize a "base camp" to support seismic operations. CGG's seismic camps are mobile and moved every few days to mitigate impacts to the tundra. For safety reasons, the travel distance between operators and the camp must meet certain standards and the exact location of the camp cannot always be identified in advance. The progress and location of the operation change daily due to weather and other conditions and the suggested 5-mile separation distance as a permit stipulation is impractical from an operations standpoint. CGG believes that Health, Safety and Environmental procedures and policies it employs minimize the risk of spills impacts to the natural habitat, and to subsistence users.

Division Response: The Division has imposed conditions to address the risks to wildlife and the environment. For example, stipulations #12, 13, and 30 were included to ensure fuels will be handled and any spills will be reported and addressed. Stipulations #12(b) and 13 outline fuel storage and handling requirements within the project area. Stipulations #18 and 31 also require the permittee to avoid disturbing wildlife and habitat and avoid known polar bear dens by one mile. CGG may operate on state lands in a manner subject to the permit and associated conditions and is not required to meet the suggested 5 mile buffer from the from the Arctic Refuge border.

Comment 5: We are also particularly concerned because of the importance of polar bear denning in this region. Neither the POO nor ADNR has analyzed impacts to denning and denning habitats, including estimates of disturbance of polar bears whether denning or migrating. The company failed to provide specific information showing historical polar bear den locations, nor polar bear denning habitat (for example in the Staines River and its tributaries as has been mapped by Durner et al.

NAEC's recommendation for Comment 5: Stipulation to require a one-mile or more buffer zone from all known dens or mapped polar bear denning habitat, and advance scientific surveys to detect polar bear dens in advance (even recognizing that most dens will not be found).

Applicant's Response: CGG has applied for and received a Letter of Authorization (LOA 13-22) from the U.S. Fish and Wildlife Service (dated January 2, 2014). This authorization allows CGG to conduct the West Canning 3D seismic survey with specific approval of the CGG Polar Bear Interaction Plan. This LOA stipulates that "CGG must not conduct activities that operate nor pass within one mile (approximately 1600 meters) of know polar bear dens. This LOA also provides further instructions should a den or polar bear be encountered. LOA 13-22 also identifies specific resources available to CGG that will be used in identifying polar bear habitat well in advance of the seismic survey in order to limit disturbance to both known dens and areas preferred by polar bears for denning (i.e. creeks, cutbanks and river bluffs).

Division Response: The applicant in their response to comment #5 has identified actions that can be taken to avoid, minimize, or further mitigate potential effects as referenced in LOA 13-22 from the U.S. Fish and Wildlife Service. Please consult permit stipulation #31 that addresses avoidance of polar bear dens, including a one mile buffer around known dens.

Comment 6: The commenter is concerned that this survey will impact the wintering habitat for the Central Arctic caribou herd as well as important caribou calving and post-calving habitats. How will the seismic survey operations be conducted to protect the tundra vegetation?

Applicant's Response: CGGs seismic survey will not commence until such approval is granted by the State of Alaska.

Division Response: See Division responses to comment #1. The permit conditions include measures to protect vegetation, including stipulations #14, 32, and 33. Additionally, tundra travel may begin after the Division of Mining, Land and Water determines there is adequate snow cover and sufficient soil temperatures at 30 cm depth.

Comment 7: The seismic survey applicant has failed to provide information about the full project and its activities in its plan of operations or application for the surveys, including all routes of travel--including cattrain and fuel hauling trip routes and number of trips and of tundra travel necessary to access the seismic survey lines.

Applicant's Response: Please refer to the CGG Plan of Operations submitted to the State of Alaska along with the Geophysical Exploration Permit application for information regarding the seismic survey.

Division Response: This permit authorizes activity throughout the permit area, subject to conditions. The Division considered the potential risks across the entire area, without limitation to a specific travel route. Under section 7.0 in the West Canning 3D Seismic Survey application CGG provides a brief discussion of fuel supply and storage measures incorporated into the project to minimize fuel spills. Additionally, Geophysical Permit Conditions for the West Canning 3D Seismic Survey permit will carry stipulations for fuel or hazardous substances.

Comment 8: There is no information provided about vegetation or tundra terrain features, number of river and stream crossings, amount of water needed per day and total and what exact sources will be used, nor the maximum amount of fuel that the cattrains (or fuel hauling trains) will carry or store on site. Will fuel be allowed to be stored on lake surfaces, or will there be a buffer zone from all water bodies including lakes, rivers, and streams (recommended)?

Applicant's Response: Please see response to Comment #7 and the CGG Plan of Operations.

Division Response: Please consult permit stipulations #14, 15, 16, 18, and 32 that address protection of tundra and streambank habitats. ADNR Water Section was given the opportunity to submit comments during the agency review period. The applicant identified melted snow and

purchased water in section 6.0 of CGG's Plan of Operations as their water source during operations. Permit stipulations #12, 13, and 30 were included to ensure fuels will be handled and any spills will be reported and addressed. Stipulations #12(b) and 13 outline fuel storage and handling requirements within the project area.

Comment 9: The permit application does not provide adequate information about what exact measures the company will take to protect the land and water resources of the state lands that are involved.

Applicant's Response: Please see Response to Comment #7 and the CGG Plan of Operations.

Division Response: The proposed plan describes CGG's operating procedures and measures under sections 3.0, 6.0, 7.0, 8.0 and 9.0 for environmental protection. These procedures include minimization and proper disposal of waste, spill prevention and response plans, environmental and safety training programs for personnel as to mitigate and minimize adverse impacts to land and water resources. In addition, the permit is subject to conditions designed to protect land and water resources.

Comment 10: The application did not provide a description of operating procedures designed to prevent or minimize adverse effects on other natural resources and other uses of the area and adjacent areas, including fish and wildlife habitats, historic and archeological sites, subsistence resources and use areas, and public use areas.

Applicant's Response: Please see Response to Comment #7 and the CGG Plan of Operations.

Division Response: The proposed plan describes CGG's operating procedures and measures under sections 3.0, 6.0, 7.0, 8.0 and 9.0 for environmental protection. These procedures include minimization and proper disposal of waste, spill prevention and response plans, environmental and safety training programs for personnel to mitigate and minimize adverse impacts to wildlife. In addition, the permit is subject to conditions designed to protect land and water resources. The State Historical Preservation Office concurred with the CGG finding of no known historical properties that may be affected by this permit, on December 11, 2013.

Comment 11: We are concerned that the application describes "mitigation measures in early season (Pre-Access)" (POO, sec. 3.1), that are vague and do not conform to the expected practice of adhering to the "open" periods approved for tundra access provided by the ADNR Division of Mining Land and Water (DMLW) that address the specifics of each season.

NAEC's recommendations for Comment 11:

1. It is strongly recommended that ADNR include stipulations to the permit that CGG will follow the tundra opening and closing dates that ADNR documents here: <http://www.arctic-transportation.org/map-xml.php>.
2. Recommend that the DMLW perform actual snow surveys across representative habitats within the seismic survey area prior to tundra opening to assure that the ADNR readings are robust enough to cover this extensive area that extends east to the Staines River.

3. Recommend that the DMLW monitor the actual operations during the winter, and also be provided necessary authority and funding to conduct post seismic surveys to assess tundra vegetation damage, as well as stream bank assessments in concert with ADF&G.
4. Recommend that a stipulation be provided that all tundra damage be reported immediately to the DMLW, so that follow-up can be made in the spring.

Applicant's Response: CGGs seismic survey will not commence until such approval is granted by the State of Alaska.

Division Response: After calling Pam Miller of NAEC, Ms. Miller clarified that the above reference to "open" periods, refers to a conditionally open area adjacent to open tundra area. Stipulation #32 restricts off-road travel with ground contact vehicles to openings and closings by DMLW NRO, restricts all operations to winter seasonal opening, and requires the permittee to terminate use of ground contact vehicles after April 15 after notice. DMLW NRO office provided the following information about tundra openings, "With regards to tundra opening and allowing seismic before areas are officially open to winter travel: We try to be reasonably flexible with winter off-road travel needs and recognize that while an entire area may not be open (because not all of our monitoring stations have met all opening criteria), we can often allow some travel in those portions of the area that are suitable for winter off-road travel. This does not mean that a seismic company would get free reign to conduct their operations. We closely monitor conditions and only allow travel in areas where the tundra is properly protected. If a company wishes to begin operations, they must give us a proposed work area and the activities that will be conducted. Often this includes the first phase of scouting and surveying using summer approved vehicles. If necessary, we require an on-site inspection before allowing any travel to occur."

Comment 12: The Department of Natural Resources has not provided an analysis of the environmental impact of the proposed seismic program. DNR cannot approve the permit application until it considers the immediate and cumulative impacts of the project and provides public notice and the opportunity to comment on its analysis and the potential impacts.

Comment 13: This seismic survey project, plus the others planned for this winter may have significant impacts on the human and natural environment. DNR Is Obligated to Analyze the Impacts, Including the Cumulative Impacts, of the Exploration Project and Provide Public Notice and Comment Under Sullivan v REDOIL. The impacts analysis and public process required under REDOIL apply to the exploration, development, production, and transportation phases for oil and gas projects in the Beaufort Sea.² As stated by the court, "potential impacts must be considered by DNR in the future, at each subsequent phase, as more information becomes known, and particularly as DNR decides whether to issue permit for future activities.

Comment 14: ADNR must consider, analyze, and allow the public to comment on the immediate and cumulative impacts of all stages of oil and gas projects beyond the lease sale stage, including SAE's seismic exploration project. ADNR cannot approve the permit and allow the project to go forward before it considers the direct, indirect, and cumulative impacts of the project and provides the public with notice and an opportunity to comment on the agency's analysis, including its determination of whether the project is in the public interest.

Comment 15: Without a full environmental impact analysis, including for cumulative impacts, that the public can review and comment on, ADNR cannot ensure that the public interest will be protected, and therefore at this time we request denial of the West Canning Seismic permit.

Division Response to comments 12, 13, 14 and 15: The REDOIL case addressed DNR's constitutional obligations at each phase of a multi-phase oil and gas project. As the court explained, a multi-phase project starts with the lease sale and then proceeds through exploration, development, production, and transportation phases. The statute authorizing multi-phased projects also specifies that a project begins with an oil and gas lease sale. AS 38.05.035(e)(1)(C).

A MLUP for seismic exploration is not part of this process. A MLUP is a stand-alone permit that a person may obtain without having any property interest in the land. Without a property interest in the land, a permittee could not develop the oil and gas resources on the land. [For a lessee who does have a property interest, MLUPs do not apply to their activities on an oil and gas lease (11 AAC 96.007(1)). Since multi-phase projects start with a lease and are designed to progress through development, and MLUPs do not apply to lessee activities or allow for development, an MLUP is not part of a multi-phase oil and gas project and does not allow for development.

CGG is not a lessee, nor is all of the land it proposes to survey subject to an oil and gas lease. Since CGG's proposed MLUP is not a phase of a multi-phase oil and gas project, REDOIL does not apply. If and when this land is leased and a lessee seeks to enter a new phase, such as exploration, DNR will comply with its statutory, regulatory, and constitutional obligations, including the analyses described in REDOIL.

For this permit, the Division did consider the potential impacts of the proposed activities. The permit allows activities in a limited area during a limited time period, and is subject to multiple stipulations designed to avoid or minimize adverse impacts. The Division also provided for and considered public comments.

Performance Guarantee

The permittee has adopted into their application, individual landowner outreach and is liable for any and all damages. The permittee has provided the Division with a performance guaranty under 11 AAC 96.060 in the amount of \$100,000. If the permittee does not make agreement with the surface owner for reasonable access to explore the estate reserved under AS 38.05.125, an opportunity to be heard by the Division and request for a damages bond shall be provided by AS 38.05.130.

Application Approved

Should any unforeseen issues arise, the Division has authority to revoke and 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 as set out in 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 plan of operations, comments received, and 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 interests of the state. Provisions in this authorization were 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 Joe Balash, Commissioner, Department of Natural Resources, 550 W. 7th Avenue, Suite 1400, Anchorage, Alaska 99501; faxed to 1-907-269-8918; 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,

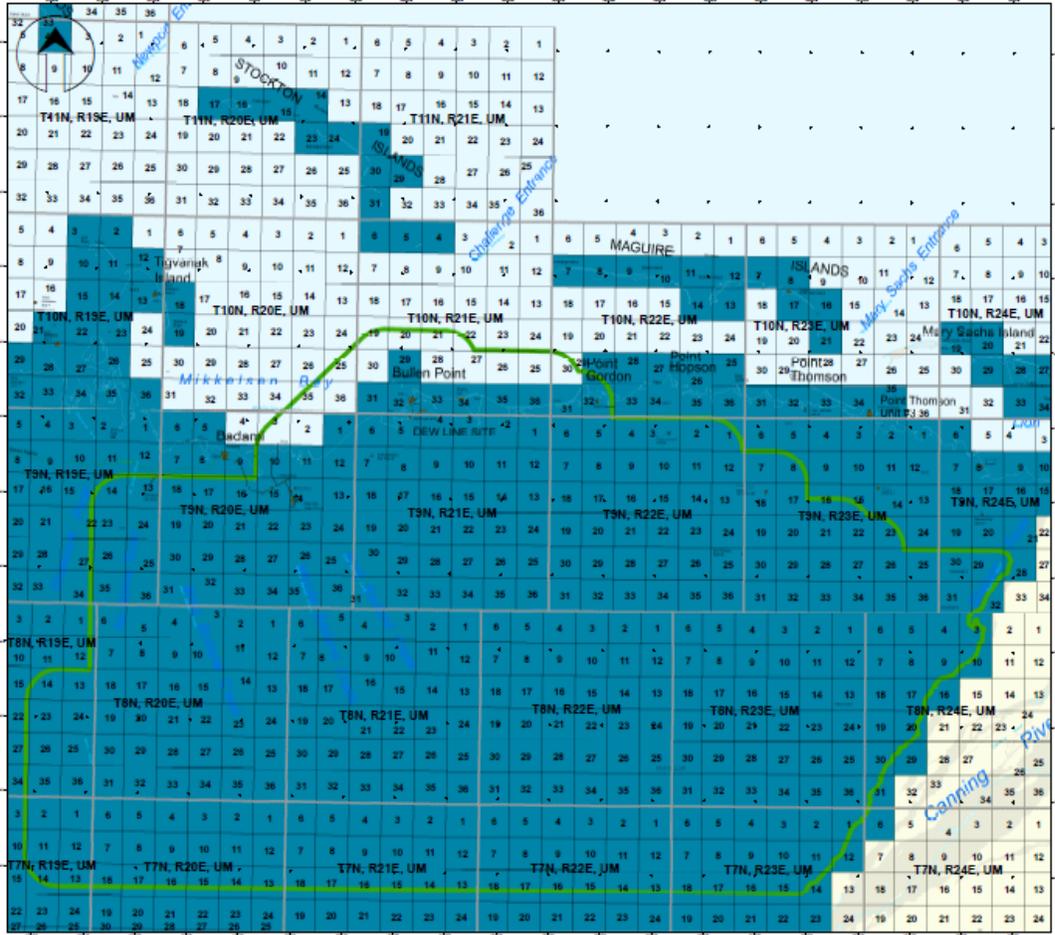


Kim Kruse
Permitting Manager

Attachment: Location Map
Geophysical Permit Conditions

E-Distribution:

Gordon Brower, gordon.brower@north-slope.org
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Craig Perham, U.S. Fish and Wildlife Service



Project Map
Date: 10/23/2013

Legend

GEN_DESC
 West Canning 3D Permit Area
 State Patent or TA

Protected Area Name
 Arctic NWR
 Township
 Section

Roads
 TYPE
 Arterial
 Caribou Crossing
 Facility Access
 Primary Road
 Secondary Road

Pipeline
 TYPE
 Above Ground
 Buried

1:55,000

Project: West Canning 3D
 Client: Brooks Range Petroleum
 Location: North Slope, Alaska

**GEOPHYSICAL PERMIT CONDITIONS
ATTACHMENT 1**

Date Issued:	2/14/2014
MLUP:	13-009
Project Name:	West Canning 3D
Type:	Geophysical Exploration
Permittee:	CGG Land, Inc.

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

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 approval by the permittee, its contractors, subcontractors and their employees.
2. The permittee shall notify and obtain approval from the Division of Oil and Gas (Division) in advance of any activities which significantly deviate from the approved plan. 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 plan.
3. The permittee and its contractors shall not begin any seismic operations until receiving all necessary local, state and federal permits and approvals plus receiving letters of non-objection from private property owners or leaseholders.
4. The permittee shall inform and ensure compliance with all conditions of this approval by its employees, agents and contractors, including subcontractors at any level.
5. Approval of this permit does not constitute the specific approval required for surface entry without an agreement with the surface owner. Before entering on privately owned surface land in exercise of the state's mineral rights, the permittee must comply with AS 38.05.130.
6. 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.
7. The Commissioner of the Department of Natural Resources (DNR) may require that an authorized state representative be present during any oil and gas activities described in or conducted under this approval.
8. The Alaska Historic Preservation Act (AS 41.35.200) prohibits the appropriation, excavation, removal, injury, or destruction of any state-owned historic, prehistoric (paleontological) or

archaeological site without a permit from the commissioner. All state permits require consultation with the State Historic Preservation Office (SHPO) (907-269-8722) so that consultation per Section 106 of the National Historic Preservation Act may proceed. 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.

9. The permittee shall make available, to the Division, all records relating to the survey operations and landowner approvals upon request.
10. The permittee shall make available a copy of the seismic plan of operations, all subsequent amendments, and a copy of this approval and all its attachments to any interested party upon request and in a reasonable time.
11. The permittee shall apply the International Association of Geophysical Contractors Setback Guidelines to activity 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. 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.
13. Stationary fuel storage facilities must not be placed within the annual floodplain of a watercourse or closer than 100 ft. 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 (OHW) line of any river, lake or stream or closer than 100 ft. to a waterbody or wetland.
14. 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 Division of Mining, Land and Water (DMLW) Northern Region Office (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.

15. Alterations of the banks of a watercourse are prohibited. Ice or snow bridges and approach ramps constructed at river, slough, or stream crossings must be substantially free of extraneous material (i.e., soil, rock, wood, or vegetation) and must be removed or breached before spring breakup. Crossing lakes and waterways shall be conducted in a manner to avoid additional freeze-down of deep-water pools that might harbor overwintering fish. Removal and compaction of snow from deep-water pools is prohibited.
16. To avoid additional freeze-down of deep-water pools harboring overwintering fish, watercourses shall be crossed at shallow riffle areas from point bar to point bar. Compaction or removal of the insulating snow cover from the deep-water pool areas of rivers must be avoided.
17. Operations must avoid occupied grizzly bear dens by one-half mile unless alternative mitigation measures to minimize disturbance are authorized by the Division after consultation with the Department of Fish and Game (ADFG). Known den locations shall be obtained from the ADFG Division of Wildlife Conservation, (Fairbanks 907-459-7213; Anchorage 907-267-2179) prior to starting operations. Occupied dens encountered in the field must be reported to the above, and subsequently avoided.
18. 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.
19. 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 prior to freeze-up the following winter.
20. All wastewater must be disposed of in a manner acceptable to DEC and drinking water must meet Alaska drinking water standards.
21. All solid wastes, including incinerator residue, shall be backhauled to a solid waste disposal site approved by DEC.
22. The Director has the right at any time to amend or modify any provisions of this permit, or revoke this permit.
23. As a condition of the issuance of this Geophysical Exploration Permit, 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.
24. 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, 2014. 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>.

25. To the extent required as a condition of an approval for any Miscellaneous Land Use Permit (MLUP) for Seismic or Geophysical work, an Incident Report must be filed with the Division for incidents such as spills, land use conflicts, tundra damage, blowouts, and undetonated charges. The form is located at the following web address <http://dog.dnr.alaska.gov/Permitting/PermittingForms.htm>. Please fill out the form and email it to dog.permitting@alaska.gov.
26. 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.
27. The permittee shall be responsible for all equipment used in association with the seismic survey. Equipment lost or abandoned during operations shall be recovered and reported. If the lost equipment is not recovered, the report will include a detailed explanation of the circumstances of the loss and the recovery effort that includes Global Positioning System (GPS) location coordinates.
28. 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.
29. All fires and explosions that require a response to protect life and property must be reported to DNR and Department of Environmental Conservation (DEC) immediately and shall be supplied with all follow-up incident reports.
30. The permittee shall comply with the DEC requirements for reporting the unauthorized discharge, leak, or spill of hydrocarbons or toxic or hazardous substances. The permittee shall notify DNR of all spills as required under 18 AAC 75.300. The DNR 24 hour spill report number is 907-451-2678; the fax number is 907-451-2751.

Geophysical and Seismic activities proposed by CGG Land, Inc. for the West Canning 3D are subject to the following project specific stipulations:

31. Operations must avoid known polar bear dens by one mile. Known den locations shall be obtained from the U.S. Fish and Wildlife Service (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.
32. 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. 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. Operations are restricted to the winter seasonal opening. After April 15, the use of ground contact vehicles is subject to termination within 72 hours of written notification from DNR DMLW NRO.

33. There are DNR tundra monitoring stations on the north slope. The permittee should work with DNR DMLW North Slope Team on identifying and avoiding these stations.

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

Wm. Randy Reed
Authorized Representative

2/17/2014
Date