



United States Department of the Interior



MINERALS MANAGEMENT SERVICE
Alaska Outer Continental Shelf Region
3801 Centerpoint Drive, Suite 500
Anchorage, Alaska 99503-5823

DEC - 7 2007

Mrs. Susan Childs
Shell Offshore Inc.
3601 C Street, Suite 1334
Anchorage, AK 99503

Dear Mrs. Childs:

Your application dated September 25, 2007, requests a Federal permit to conduct geophysical operations on certain Outer Continental Shelf (OCS) lands. The activity is in the Beaufort Sea area as shown on the map accompanying your application. Your application specified Veritas will be your service providing company, and will conduct the subject operations using the equipment described in the permit application. Operations are proposed to begin on or after March 1, 2008, and will be completed on or before May 31, 2008. The proposed program is a 3D over-ice seismic acquisition using vibrators.

Your application states that Shell Offshore Inc. has requested an Incidental Harassment Authority (IHA) from the National Marine Fisheries Service (NMFS) for pinnipeds, and a Letter of Authorization (LOA) from the US Fish and Wildlife Service (USFWS) for polar bears and walrus. The MMS will require a copy of the IHA and LOA prior to the conduct of seismic operations.

An OCS Permit 08-02 is hereby granted to conduct geophysical exploration operations on the OCS in the area and manner described in the application. A detailed track map of planned operations must be submitted to this office prior to the start of seismic operations. All operations are subject to the enclosed approved Permit for Geophysical Exploration for Mineral Resources on the OCS. In all cases, the specific mitigating measures identified in the NMFS and USFWS IHA and LOA will apply, where applicable, including protocols for monitoring programs.

The information contained in the following paragraphs should be evaluated before initiating operations and appropriate action taken:

The Endangered Species Act (ESA) states there shall be no activity conducted which might jeopardize the continued existence of an endangered species or result in the destruction or adverse change of habitat of such species. In addition, the Marine Mammal Protection Act (MMPA) provides there shall be no unauthorized take of marine mammals. "Take" means to harass, hunt, capture, collect, kill, or attempt to harass, hunt, capture, collect or kill any marine mammals. Whenever whales or marine mammals are encountered in the project vicinity, Shell

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Offshore Inc. and its contractors should exercise precautions to assure that activities are not in violation of the provisions of the MMPA or the ESA.

Ringed seal, bearded seal, polar bear, and arctic fox are know to inhabit the Beaufort Sea and may be present in the project vicinity during the period of operation. Walrus may be found in the western Beaufort. Ringed seal are the most common and widespread seals found in the area and usually occur close to shore in the land fast ice and shear zone. They serve as a source of food for polar bear, arctic fox, and man.

Federal and State resource agencies have expressed concerns over the effects on ringed seals and their offspring by seismic operations. The concern is primarily due to the vulnerability of ringed seals and their offspring during the time of the year when whelping occurs. Pups are born in late March through April in lairs excavated in snowdrifts and pressure ridges, usually in the land fast ice zone. Pups are confined to the birth lair during the nursing period, which lasts from 4 to 6 weeks. Ringed seals are considered to be sensitive to disturbance, which could result in displacement from preferred pupping habitat or abandonment of the pup.

Further information on the identification and occurrence of marine mammals in the proposed area of operations and the provisions and penalties of the ESA and the MMPA are available. This information may be obtained from the

U.S. Fish and Wildlife Service
Alaska Region
1011E.Tudor Road
Anchorage, AK 99503
Telephone (907) 786-3467

And from the

National Marine Fisheries Service
Federal Building, Room C-554
Anchorage, AK 99513
Telephone (907) 271-5006

This permit is effective from the date of approval until May 31, 2008, or the completion of the survey, whichever occurs earlier. Please be advised that this office requires a weekly report of daily operations. We will require a completion report within 30 days following cessation of field operations.

Sincerely,



Rance R. Wall
Regional Supervisor



United States Department of the Interior



MINERALS MANAGEMENT SERVICE
Alaska Outer Continental Shelf Region
3801 Centerpoint Drive, Suite 500
Anchorage, Alaska 99503-5823

FILE

DEC 06 2007

Memorandum

To: Regional Supervisor, Resource Evaluation

Through: Regional Supervisor, Leasing and Environment *[Signature]*

From: Chief, Environment Assessment Section *[Signature]*

Subject: Categorical Exclusion Review for the Shell Offshore Inc., 2008 On-Ice Marine 3-D Seismic Acquisition Program in the Beaufort Sea, Alaska

The Minerals Management Service (MMS), Alaska Outer Continental Shelf (OCS) Region, Environmental Assessment Section reviewed the Shell Offshore Inc. (SOI) Geological and Geophysical (G&G) permit application, Number 08-02. The documentation was received on September 25, 2007, in the MMS Alaska Region Office.

PROPOSED ACTION: On-ice marine 3-D seismic acquisition program for the purpose of mineral exploration

Shell Offshore Inc. acquired 86 leases in the Alaskan Beaufort in March 2005. Most of the leases are in shallow water (~ 10 meters) which prohibits conventional seismic streamer vessel operations. Thus, on-ice seismic acquisition techniques are proposed to meet exploration objectives.

The program is planned entirely within the Federal OCS (see attached map). A mobile temporary field camp, with an access trail to the proposed survey area is planned to be situated on grounded ice on submerged lands in State of Alaska waters (Beaufort Sea) near Thetis and Spy Islands, northwest of Oliktok Point.

The G&G permit applicant is Shell Offshore Inc., and CCG Veritas will conduct the actual program activities for Shell Offshore Inc.



The program will use only vibrator sources (no explosive charges will be used) on 10-20 OCS blocks. The acquisition program will encompass ~ 265 square statute miles including ~ 3,000 miles of geophones that will be deployed. Approximately half of the OCS blocks are leased to Eni. Both companies (Shell and Eni) will/have prioritized locations for the seismic acquisition program. Ice conditions will determine which prioritized locations will be included in the acquisition program. Attempts will be made to collect data on contiguous blocks.

In the first phase, ice thickness will be verified and safe travel routes will be delineated. The ice verification is proposed to begin in early January 2008, and continue periodically into March 2008. Helicopters will be used to transport personnel and supplies. No ice roads will be built, and no operations will be conducted in areas of active ice movement or pressure ridges.

In the second phase, industry standard seismic vibrator sources will be utilized and consist of five (5) 68,000 GVW ("heavy vibe"), and nine (9) 20,000 GVW mini-vibrator ("Envirovib") tracked vehicles (see attached photos of equipment). Not all vibrators will be operating at the same time. Two groups of 3-4 Envirovib and heavy vibe vehicles (i.e. 6-8 vibrators at the same time) will be used, and will track ~1,000 feet apart. The Envirovib's are proposed for ~ 95% of the vibration source, and the heavy vibe the remaining 5%. The percentages may change upon field conditions. The seismic program is expected to commence March 1, 2008 and be completed May 31, 2008.

The seismic recording unit is comprised of thirteen (13) tracked vehicles for crew transport, technical support, a recording trailer and several ice drilling units. Receivers will be placed below the ice ~150 feet apart, suspended in the water column. Surface receivers will be utilized in areas of grounded ice. Boring may touch the seafloor. Drilling will stop immediately if the seafloor is encountered.

The field camp, consisting of 30-40 sled trailers will accommodate 120 personnel, and will be moved periodically as the project progresses. The trailers include medical facilities, crew quarters, offices, kitchen/dining, laundry, technical work space, generators, and fuel storage. These facilities are supported by several tracked units that prepare the camp site and access trail maintenance.

Fuel and provisions will be re-supplied periodically by all terrain vehicles using low pressure tires (rolligon) or tracked vehicles based out of Deadhorse and occur via Oliktok Dock and Oliktok Point. No ice roads will be built for re-supply. The ice survey team will delineate safe re-supply routes on the ice. No fixed wing aircraft will be used in re-supply activities.

Plan of Cooperation meetings were scheduled to occur in Barrow and Nuiqsut in October 2007, and follow-up meetings are scheduled for early winter 2008. Shell Offshore Inc. held a pre-application teleconference on September 6, 2007 with National Marine Fisheries Service (NMFS); MMS; Alaska Department of Natural Resources (ADNR) Office of Project Management and Permitting (State of Alaska) (OPMP); ADNR Division of Oil and Gas (Alaska DNR) (DOG); North Slope Borough (NSB) Planning Dept; Arctic Slope Regional Corporation (Regional ANCSA), Regulatory and Tech Services; and Veritas. The US Fish and Wildlife Service (USFWS) and NSB Wildlife Dept. were invited but did not participate.

The SOI has prepared the following documents, and submitted them to the USFWS and NMFS respectively:

- *Request for Letter for the Incidental Take and Intentional Take of Marine Mammals*
- *Application for Incidental Harassment Authorization for the Non-lethal Taking of Seals in Conjunction with a Proposed On-ice Marine Geophysical (Seismic) Program in the Beaufort Sea, Alaska, During 2008*

The MMS has determined that the proposed action may affect maternal polar bear dens, and three species of pinnipeds (ringed, spotted, and bearded seal). MMS also recognizes that these species are managed in trust by the USFWS and NMFS, respectively. Per discussions with USFWS Marine Mammals Management personnel November 27, 2007, and November 29, 2007, USFWS believes that polar bears will be adequately protected from harmful effects as long as SOI and their sub-contractors (CCG Veritas) abide by the terms of the Letter of Authorization (LOA) issued by USFWS.

Per discussions with NMFS personnel on November 25, 2007, and November 26, 2007, NMFS believes that any potential impacts to ringed, spotted or bearded seals will be adequately mitigated through an Incidental Harassment Authorization (IHA) and that any impacts will have a negligible impact on these species or stocks of these species, as long as SOI and their sub-contractors adhere to the terms of their IHA.

The MMS prepared a may effect determination to document discussions with USFWS and NMFS. Effect determinations were also prepared for the cultural resources, bowhead whale, humpback whale, Spectacled eider, Steller's eider, Kittlitz's murrelet, and essential fish habitat, each resulting in a finding of no effect.

The MMS evaluated SOI's proposed action on November 29, 2007, with respect to the potential for meeting any of the exclusion exception criteria listed in the Departmental Manual at 516 DM 2.3.A(3). For our environmental review of the proposed activities we assumed that SOI would have incidental take authorizations under the Marine Mammal Protection Act from both NMFS and USFWS. Based on that assumption, we found that the proposed action did not meet any of the following categorical exclusion exception criteria:

- Have significant adverse effects on public health or safety.
- Adversely affect such unique geographic characteristics as historic or cultural resources, park, recreation, or refuge lands, wilderness areas, wild or scenic rivers, sole or principal drinking water aquifers, prime farmlands, wetlands, floodplains, or ecologically significant or critical areas, including those listed in the Department's National Register of Natural Landmarks.
- Have highly controversial environmental effects.
- Have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks.

- Establish a precedent for future action or represent a decision in principle about a future action with potentially significant environmental effects.
- Be related to other actions with individually insignificant but cumulatively significant environmental effects.
- Adversely affect properties listed or eligible for listing in the National Register of Historic Places.
- Adversely affect a species or its critical habitat that is listed or proposed to be listed on the List of Endangered and Threatened Species.
- Threaten to violate a Federal, State, local, or tribal law or requirement imposed for the protection of the environment or which requires compliance with Executive Order 11988 (Floodplain Management), Executive Order 11990 (Protection of Wetlands), or the Fish and Wildlife Coordination Act.

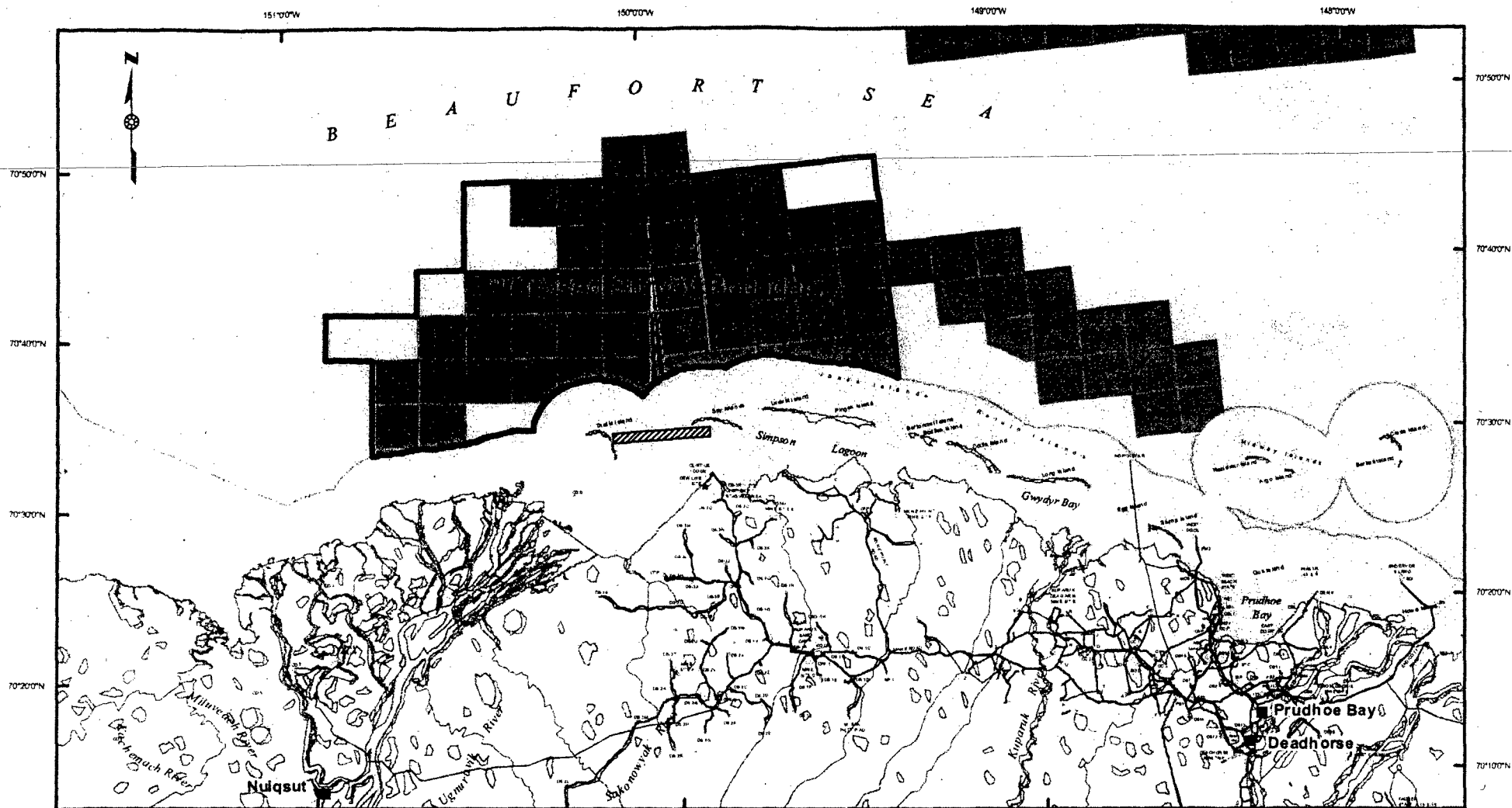
Based on the conditions outlined above, we have determined that the proposed action does not require the preparation of either an Environmental Assessment or an Environmental Impact Statement.








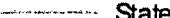
This finding is predicated on SOI obtaining incidental take authorizations from both NMFS and USFWS or those agencies' determinations that such authorization is not needed for the proposed activities. If incidental take authorizations are not obtained by SOI, our environmental review would no longer be applicable and further environmental review would be necessary. SOI shall be notified that incidental take authorizations are considered an essential part of their proposed activities and as such are a condition of authorization.

The following Categorical Exclusion listed in 516 DM 15 is applicable to the proposed action:

516 DM 15.4C(9) Approval of offshore geological and geophysical mineral exploration activities, except when the proposed activity includes the drilling of deep stratigraphic test holes or uses solid or liquid explosives.

Attachment
Categorical Exclusion checklist



- | | | | |
|---|--------------------------------------|--|------------------------------|
|  | Proposed Survey Boundary |  | Village |
|  | Mobile Field Camp (Area of Movement) |  | Road |
|  | Shell OCS Lease Blocks |  | Pipeline |
|  | ENI OCS Lease Blocks |  | State-Federal Water Boundary |



SHELL OFFSHORE INC.

2008 On-ice Seismic Program Area

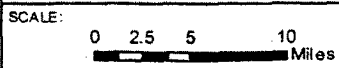
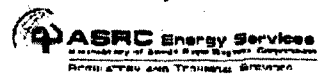


FIGURE: 1



Equipment Pictures

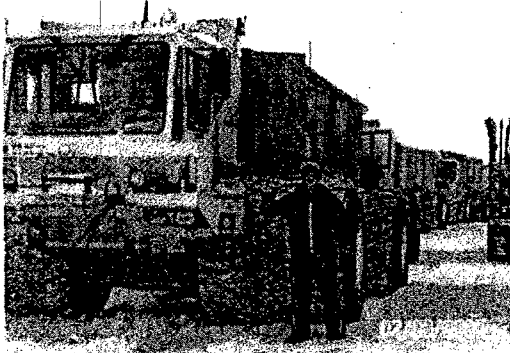


Figure 2: 68,000 lb Vibrator

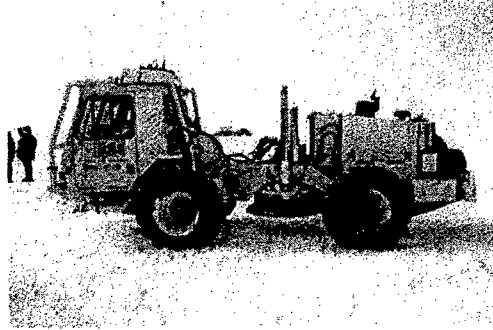


Figure 3: 20,000 lb mini-vibrator (to be modified for tracks).

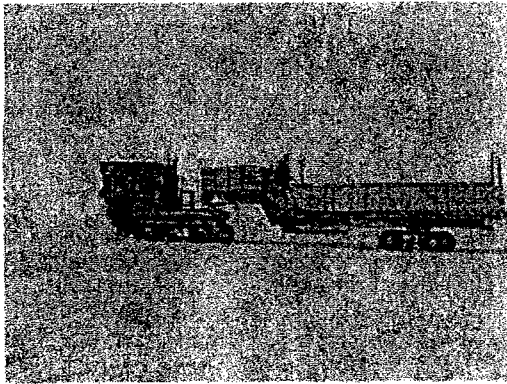
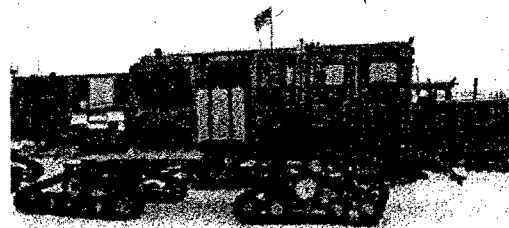


Figure 4: Equipment trailer



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Figure 5: Personnel carrier

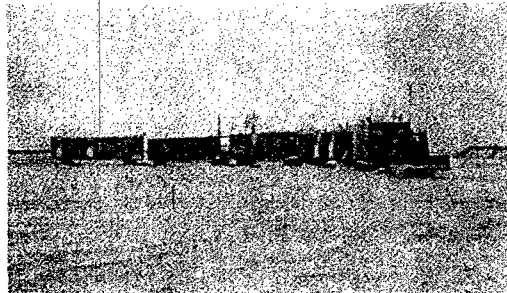
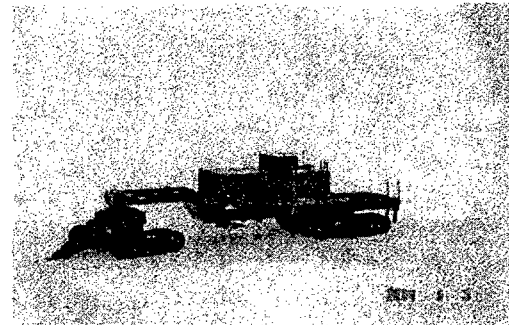


Figure 6: Camp trailers



2804 8 5

Figure 7: Fuel trailer

Minerals Management Service Alaska OCS Region
EXTRAORDINARY CIRCUMSTANCES REVIEW FOR CATEGORICAL EXCLUSION

Operator / Project Name

Shell Offshore Inc. (SOI)

Date Project Submitted

25-Sep-07

Project Type

G&G Permit Application 08-02 On-ice marine 3-D seismic acquisition program for the purpose of mineral exploration

Other Identifying Aspects

Beaufort Sea

Project Location

Thetis and Spy Islands, northwest of Oliktok Point.
 Offshore camp north of Oliktok Point.

The Department of the Interior's extraordinary circumstances for categorically excluded actions are found in Appendix 2 of 516 DM 2

Extraordinary Circumstances (EC)	EC Present	Information Source							
		Federal / State Agency			Local & Private Correspondence	Prior NEPA	Other Studies & Reports	Staff Expertise	Other (MMS Stips, staff memo)
		Correspondence (date)	Phone Check	Meeting (date)					
2.1 Public Health and Safety	No							✓	
2.2 Significant Impacts	No					Beaufort Sea Multi-Sale EIS; draft Programmatic Seismic EIS		✓	Pending MMPA Authorization
2.3 Controversial Environmental Effects	No							✓	
2.4 Uncertain and Unknown Risks	No							✓	
2.5 Establishes Precedent	No							✓	
2.6 Cumulatively Significant	No							✓	
2.7 National Register of Historic Places	No					II		✓	No Effect Memos - ESA, EFH, NHPA
2.8 Endangered/Threatened Species/Critical Habitat	No	NMFS ARBO June 16, 2006	✓			II		✓	
2.9 Violates Federal, State, Local Tribal Law or Requirement	No							✓	II
2.10 Environmental Justice	No					II		✓	
2.11 Sacred Sites	No							✓	
2.12 Invasive Species	No							✓	

The following Categorical Exclusion(s) as outlined in 516 DM 15.4 apply to this proposed action: (G&G Permit) 516 DM 15.4C(9) states: Approval of offshore geological and geophysical mineral exploration activities, except when the proposed activity includes the drilling of deep stratigraphic test holes or uses solid or liquid explosives.

I have reviewed the proposal in accordance with the exclusion exception review guidelines. This proposal would not involve any significant effects and therefore, does not represent an exception to the categorical exclusions.

Prepared By (print): Casey R. Buechler **Signature:** *Casey R. Buechler* **Date:** November 29, 2007

Concurrence (print) Supervisor Name: Deborah Cranswick **Supervisor Signature:** *Deborah Cranswick* **Date:** November 29, 2007