

Public Info
Permit 12-01

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Resource Evaluation

MAR - 9 2012

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U.S. Dept. of the Interior,
Bureau of Ocean Energy Mgmt.
Alaska OCS Region

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF OCEAN ENERGY MANAGEMENT

Alaska OCS Region
(Insert Appropriate Regional Office)

Requirements for Geological and Geophysical Explorations
or Scientific Research on the Outer Continental Shelf

Application for Permit to Conduct Geological or Geophysical
Exploration for Mineral Resources or Scientific Research
on the Outer Continental Shelf

(Attachment 1)

Nonexclusive Use Agreement for Scientific Research

(Attachment 2)

SUBMIT: Original plus three copies, totaling four copies, which include one digital copy and one public information copy (all with original signatures).

Paperwork Reduction Act of 1995 (PRA) Statement: The PRA (44 U.S.C. 3501 et seq.) requires us to inform you that the Bureau of Ocean Energy Management (BOEM) collects this information to evaluate applications for permits to conduct pre-lease exploration offshore and to monitor activities of scientific research conducted under notices. BOEM uses the information to ensure there is no environmental degradation, personnel harm, damage to historical or cultural sites, or interference with other uses. Responses are mandatory or to obtain or retain a benefit. Proprietary information is protected in accordance with standards established by the Federal Oil and Gas Royalty Management Act of 1982 (30 U.S.C. 1733), the Freedom of Information Act (5 U.S.C. 552(1), (4)), and Department regulations (43 CFR 2). An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid Office of Management and Budget control number. The reporting burden for this form is estimated to average 3 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to the Information Collection Clearance Officer, Bureau of Ocean Energy Management, 381 Elden Street, Herndon, VA 20170.

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF OCEAN ENERGY MANAGEMENT**

**REQUIREMENTS FOR GEOLOGICAL AND GEOPHYSICAL EXPLORATIONS
OR SCIENTIFIC RESEARCH ON THE OUTER CONTINENTAL SHELF**

Authority

You must perform all geological and geophysical explorations or scientific research activities authorized and conducted in the Outer Continental Shelf (OCS) according to the OCS Lands Act, 30 CFR Parts 251, 551, and other applicable Federal statutes and regulations, and amendments thereto.

General Requirements of Permits and Notices

You must conduct geological and geophysical activities for mineral exploration or scientific research activities authorized under 30 CFR Parts 251 and 551 so that those activities do not:

- A. Interfere with or endanger operations under any lease or right-of-way or permit issued or maintained pursuant to the OCS Lands Act;
- B. Cause harm or damage to aquatic life or to the marine, coastal, or human environment;
- C. Cause pollution;
- D. Create hazardous or unsafe conditions;
- E. Unreasonably interfere with or harm other uses of the area; or
- F. Disturb archaeological resources.

Any person conducting geological or geophysical activities for mineral exploration or scientific research under 30 CFR Parts 251 and 551 must immediately report to the Director, BOEM:

- A. Detection of hydrocarbon occurrences;
- B. Encounters of environmental hazards that constitute an imminent threat to human activity; or
- C. Activities that adversely affect the environment, aquatic life, archaeological resources, or other uses of the area in which the exploration or scientific research activities are conducted.

Any person conducting shallow or deep stratigraphic test drilling activities under a permit for mineral exploration or scientific research under 30 CFR Parts 251 and 551 must utilize the best available and safest technologies that BOEM determines to be economically feasible.

The authorization that BOEM grants you under 30 CFR Parts 251 and 551 to conduct geological and geophysical explorations for minerals or for scientific research does not confer a right to any discovered oil, gas, or other minerals, or to a lease under the OCS Lands Act.

Time Restriction for Permits and Notices

Permitted activities approved for a specified period, including requests for extensions, and activities under a notice may not exceed 1 year.

Geological and Geophysical Activities Requiring Permits and Notices

Geological and Geophysical Explorations for Mineral Resources

You may not conduct geological and geophysical explorations for mineral resources in the OCS without an approved permit unless you conduct such activities pursuant to a lease issued or maintained under the OCS Lands Act. You must obtain separate permits for either geological or geophysical explorations for mineral resources. If BOEM disapproves an application, the statement of rejection will state the reasons for the denial and will advise the applicant of those changes needed to obtain approval.

Geological and Geophysical Scientific Research

You may not conduct geological and geophysical scientific research related to oil, gas, and sulphur in the OCS without an approved application for permit or filing of a notice. You must obtain separate permits for geological and geophysical scientific research that involves the use of solid or liquid explosives or the drilling of a deep stratigraphic test. If BOEM disapproves an application for permit, the statement of rejection will state the reasons for the denial and will advise the applicant of the changes needed to obtain approval.

You must file a notice with the BOEM at least 60 days before you begin scientific research not requiring a permit. We may inform you of all environmental laws and regulations pertaining to the OCS.

Information Required for Permits

Each applicant for a permit must complete the applicable sections of the Application for Permit (Attachment 1) and must include a public-information, page-size plat(s) showing the location of the proposed area of activity (Section B.2 or C.2). In addition, each applicant for a geological or geophysical permit must submit the appropriate attachment to section D of the application. This includes a detailed map of the proposed activity for Section D.8 (Geological Application) or Section D.12 (Geophysical Application). Only applicants for a notice of scientific research must complete a Nonexclusive Use Agreement (Attachment 2).

The information provided on the Application for Permit (excluding section D) and on the Nonexclusive Use Agreement, including continuation sheets and the page-size plat(s), is considered NON-PROPRIETARY INFORMATION. These non-proprietary portions of the application constitute the "public information" copy of Form BOEM-0327 and with the executed permit will be available to the public upon request.

The information listed in section D is considered PROPRIETARY INFORMATION and you should NOT attach it to the public information copy. BOEM will not make this information available to the public without the consent of the potential permittee or for a period mandated by law or regulation. However, BOEM may determine that earlier release is necessary for the proper development of the area permitted.

Modifications to Approved Permits

The BOEM Regional Supervisor must approve any modification to the permitted operations.

Filing Locations for Permits to Conduct Explorations for Mineral Resources and for Permits or Notices to Conduct Scientific Research

File each notice or application for a permit with an original plus three copies, totaling four copies, which include one digital copy and one public information copy (all with original signatures) at the following locations at least 60 days before you begin operations:

A. For the OCS off the State of Alaska:

Regional Supervisor for Resource Evaluation
Bureau of Ocean Energy Management
Alaska OCS Region
3801 Centerpoint Drive
Suite #500
Anchorage, Alaska 99503-5823

B. For the OCS in the Gulf of Mexico and off the Atlantic Coast:

Regional Supervisor for Resource Evaluation
Bureau of Ocean Energy Management
Gulf of Mexico OCS Region
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123-2394

C. For the OCS off the States of California, Oregon, Washington, or Hawaii:

Chief, Office of Reservoir Evaluation & Production
Bureau of Ocean Energy Management
Pacific OCS Region
770 Paseo Camarillo
Camarillo, California 93010-6092

UNITED STATES
DEPARTMENT OF THE INTERIOR
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Alaska OCS Region

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(Insert Appropriate Regional Office)

U.S. Dept. of the Interior
Bureau of Ocean Energy Mgmt.
Alaska OCS Region

APPLICATION FOR PERMIT TO CONDUCT GEOLOGICAL OR GEOPHYSICAL
EXPLORATION FOR MINERAL RESOURCES OR SCIENTIFIC RESEARCH
ON THE OUTER CONTINENTAL SHELF

(Section 11, Outer Continental Shelf Lands Act of August 7, 1953, as amended on September 18, 1978, by Public Law 95-372, 92 Statute 629, 43 U.S.C. 1340; and 30 CFR Parts 251 and 551)

ION Geophysical Corporation

Name of Applicant
2105 CityWest Boulevard, Suite 900

Number and Street
Houston, TX 77042

City, State, and Zip Code

Application is made for the following activity: (check one)

_____ Geological exploration for mineral resources

_____ Geological scientific research

X Geophysical exploration for mineral resources

_____ Geophysical scientific research

Submit: Original plus three copies, totaling four copies, which include one digital copy, and one public information copy.

To be completed by BOEM

Permit Number: 12-01

Date: OCT 12 2012

A. General Information

1. The activity will be conducted by:

ION Geophysical Corporation
Service Company Name

For ION Geophysical Corporation
Purchaser(s) of the Data

2105 CityWest Boulevard, Suite 900
Address

2105 CityWest Boulevard, Suite 900
Address

Houston, TX 77042
City, State, Zip

Houston, TX 77042
City, State, Zip

832-344-6852
Telephone/FAX Numbers

832-344-6852
Telephone/FAX Numbers

Edward.Nelson@iongeo.com
E-Mail Address

Edward.Nelson@iongeo.com
E-Mail Address

2. The purpose of the activity is: Mineral exploration
 Scientific research

3. Describe your proposed survey activities (i.e., vessel use, benthic impacts, acoustic sources, etc) and describe the environmental effects of the proposed activity, including potential adverse effects on marine life Describe what steps are planned to minimize these adverse effects (mitigation measures). For example: 1) Potential Effect; Excessive sound level Mitigation; Soft Start, MMOs, mammal exclusion zone or 2) Potential Effect; Bottom disturbance; Mitigation; ROV deployment/retrieval of bottom nodes) (use continuation sheets as necessary or provide a separate attachment):
No anticipated adverse effects. Marine mammal monitoring and mitigation are included in IHA application (NMFS) and LOA application (USFWS).

4. The expected commencement date is: October 1, 2012

The expected completion date is: December 15, 2012

5. The name of the individual(s) in charge of the field operation is:
Ed Nelson, Project Manager

May be contacted at: 2105 CityWest Boulevard, Suite 900, Houston, TX 77042

Telephone (Local) 713-789-7250 (office) 832-344-6852 (cell) (Marine) No; N/A

Email Address: Edward.Nelson@iongeo.com Radio call sign N/A

6. The vessel(s) to be used in the operation is (are):

Name (s)	Registry Number(s)	Registered owners
<u>M/V Geo Arctic</u>	<u>273458600/8409018</u>	<u>Sevmorneftegeofizika (SMNG)</u>
<u>M/V Polar Prince</u>	<u>310141/5329566</u>	<u>GX Technology</u>

7. The port from which the vessel(s) will operate is: Tuktoyaktuk, Canada

8. Briefly describe the navigation system (vessel navigation only): SPECTRA CONCEPT SYSTEM

B. Complete for Geological Exploration for Mineral Resources or Geological Scientific Research

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Alaska OCS Region

1. The type of operation(s) to be employed is: (check one)

- (a) _____ Deep stratigraphic test, or
- (b) _____ Shallow stratigraphic test with proposed total depth of _____, or
- (c) X Other N/A

2. Attach a page-size plat showing: 1) The generalized proposed location for each test, where appropriate, a polygon enclosing the test sites may be used, 2) BOEM protraction areas; coastline; point of reference; 3) Distance and direction from a point of reference to area of activity.

N/A

C. Complete for Geophysical Exploration for Mineral Resources or Geophysical Scientific Research

1. The type(s) of operation(s) to be employed is (are):

- a) Acquisition method (OBN, OBC, Streamer): Streamer
- b) Type of acquisition: (High Resolution Seismic, 2D Seismic, 3D Seismic, gravity, magnetic, CSEM, etc.):
 Marine 2D Seismic; Gravity and Magnetic Survey

2. Attach a page-size plat showing:

- a) The generalized proposed location of the activity with a representative polygon,
b) BOEM protraction areas; coastline; point of reference,
c) Distance and direction from a point of reference to area of activity.

3. List all energy source types to be used in the operation(s): (Air gun, air gun array(s), sub-bottom profiler, sparker, towed dipole, side scan sonar, etc.). A towed airgun array and echosounder

4. Explosive charges will _____ will not X be used. If applicable, indicate the type of explosive and maximum charge size (in pounds) to be used:

Type _____ Pounds _____ Equivalent Pounds of TNT _____

D. Proprietary Information Attachments

Use the appropriate form on page 9 for a "geological" permit application or the form on page 11 for a "geophysical" permit application. You must submit a separate Form BOEM-0327 to apply for each geological or geophysical permit.

E. Certification

I hereby certify that foregoing and attached information are true and correct.

Print Name: Ed Nelson

SIGNED *Ed Nelson*

DATE MAR - 9 2012

TITLE Project Manager

COMPANY NAME: ION Geophysical Corporation

TO BE COMPLETED BY BOEM

Permit No. 12-01 Assigned by Virginia Hoffman Date 3-12-2012
of BOEM

This application is hereby:

- a. X Accepted
- b. _____ Returned for reasons in the attached

SIGNED *Paul R. Wood*

TITLE Regional Supervisor

DATE 10/12/12