

# EXPIRED

E14-008

ARKeX Ltd



# United States Department of the Interior

## BUREAU OF OCEAN ENERGY MANAGEMENT

Gulf of Mexico OCS Region  
1201 Elmwood Park Boulevard  
New Orleans, LA 70123-2394

JUL 1 0 2015

In Reply Refer To: MS GM 881A

### **CERTIFIED MAIL – RETURN RECEIPT REQUESTED**

ARKeX Limited  
Attention: Mr. Richard Foster-Turner  
11490 Westheimer, Suite 850  
Houston, TX 77077

Dear Mr. Foster-Turner:

Your application received June 09, 2014, requests a Federal permit to conduct geophysical operations in the area specified on the map accompanying the application. ARKeX Limited will conduct the multi-client Airborne Gravity Gradient and Magnetic operations on the U.S. Atlantic OCS.

A permit designated OCS Permit E14-008, is hereby granted to conduct geophysical exploration operations on the OCS in the area and manner described in the application subject to the enclosed Permit for Geophysical Exploration for Mineral Resources on the OCS, this letter, and the enclosed Standard Stipulations. **Before starting acquisition, you are required to notify BOEM of your survey start date. BOEM must also be advised of the end date immediately upon survey completion.** In reference to Mitigation 1, BOEM must receive verification that all co-pilots have completed the NMFS-approved Marine Species Awareness Training (MSAT) prior to commencement of operations.

**Note:** Prior to approval of a permit extension request, BOEM must also receive a certification from DOD and NASA that coordination between the permittee and each of these agencies is satisfactory.

**Note:** Prior to beginning operations, you must inform BOEM which aircraft listed on your application will be used to collect data.

Our National Environmental Policy Act (NEPA) review of the subject action is complete and results in a Finding of No Significant Impact (FONSI). This FONSI is conditioned on the imposition of the following mitigative measures to ensure environmental protection, consistent environmental policy, and safety as required by NEPA. This FONSI is valid only insofar as the following conditions are imposed:

#### **Mitigations:**

1. **PROTECTED SPECIES OBSERVER:** There shall be one Protected Species Observer (PSO) sitting in the forward co-pilot position that will interact with the pilot to monitor and advise on potentially sensitive marine mammal and sea turtle occurrences at sea. Protected species observers and pilots shall complete the NMFS-approved Marine Species Awareness Training (MSAT) by viewing the


U.S. Navy MSAT digital versatile disk (DVD). Verification of the training shall be made available to BOEM and/or BSEE upon request.

2. **INJURED/DEAD – PROTECTED SPECIES REPORTING:** Data on protected species observations must be recorded by the protected species observer based using standard marine mammal observer data protocols. In the event that an operator discovers an injured, dead, or entangled marine mammal, the sighting and associated data (time, date, location) need to be reported within 24 hours of the discovery. Photographs, video footage, or other documentation of the stranded animal sighting should be sent to BOEM and BSEE. The final Biological Opinion for the *Programmatic Environmental Impact Statement for Geological and Geophysical Activities in the Mid- and South Atlantic Planning Areas* (<http://www.boem.gov/Final-Biological-Opinion-19-July-2013/>) discusses the form of protected species observer reports. Please direct any questions or correspondence pertaining to these requirements to [protectedspecies@bsee.gov](mailto:protectedspecies@bsee.gov).
3. **GUIDANCE FOR AIRCRAFT AVOIDANCE:** The permittee and/or operator will abide by aircraft avoidance measures for all aircraft surveys as specified below:
  - The permittee and/or operator must ensure that all aircraft maintain a vigilant watch for marine mammals, sea turtles, and other protected species in order to avoid harassment; and
  - For marine mammals, sea turtles, and other protected species in the water, the aircraft shall deviate from the survey to avoid over-flights. The permittee and/or operator shall avoid over-flights by a minimum of 200 m (656 ft) lateral distance and an altitude of 200 m above sea level (ASL).
  - The permittee and/or operator must ensure that aircraft operators are briefed to ensure they are familiar with the above requirements.
4. **ADDITIONAL AIRCRAFT CONDITIONS:** For the proposed Airborne Gravity Gradient and Magnetic Survey the following conditions of approval are required:
  - Operations shall be limited to daylight hours, in conditions of good visibility.
  - During transit, all aircraft shall travel at a minimum of 1,000 ft (305 m) ASL, provided weather and aircraft safety considerations permit.
  - A 400 ft (122 m) minimum flight altitude is required during survey activities.
  - Thorough pre-flight briefings among the observer crew and/or pilots shall be conducted to discuss sensitive areas, such as any Dynamic Management Areas (DMAs) and mid-Atlantic Seasonal Management Areas (SMAs), and marine mammal and sea turtle species that could be encountered during the day's survey work. See 50 CFR 224.105 for specific locations of SMAs. Current DMAs can be found on Interactive North Atlantic Right Whale Sightings Map at <http://www.nefsc.noaa.gov/psb/surveys/>.
  - Maintain video footage of all survey flights. This video, along with observer reports, shall be submitted via email to [protectedspecies@bsee.gov](mailto:protectedspecies@bsee.gov) or via hardcopy every two weeks to Bureau of Safety and Environmental Enforcement, Gulf of Mexico OCS Region, 1201 Elmwood Park Blvd, New Orleans, LA 70123-2394; Attention: Environmental Enforcement Branch (MS GE466).

If you have any questions, please call Teree Campbell at (504) 736-3231 ([teree.campbell@boem.gov](mailto:teree.campbell@boem.gov)) or the Office of Resource Evaluation, Data Acquisition and Special Projects Unit at (504) 736-2455 ([GGPermitsGOMR@boem.gov](mailto:GGPermitsGOMR@boem.gov)).

Sincerely,



 Matthew G. Wilson  
Regional Supervisor  
Gulf of Mexico Region  
Office of Resource Evaluation

Enclosure

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF OCEAN ENERGY MANAGEMENT

Gulf of Mexico

(Insert Appropriate Regional Office)

PERMIT FOR GEOPHYSICAL EXPLORATION  
FOR MINERAL RESOURCES OR SCIENTIFIC RESEARCH  
ON THE OUTER CONTINENTAL SHELF

In consideration of the terms and conditions contained herein and the authorization granted hereby, this permit is entered into by and between the United States of America (the Government), acting through the Bureau of Ocean Energy Management (BOEM) of the Department of the Interior, and

ARKeX Limited

(Name of Permittee)

c/o 11490 Westheimer, Suite 850

(Number and Street)

Houston, TX 77077

(City, State, and Zip Code)

PERMIT NUMBER: E14-008      DATE: 25 Jun 14

This permit is issued pursuant to the authority of the Outer Continental Shelf Lands Act, as amended, (43 U.S.C. 1331 et seq.), hereinafter called the "Act," and Title 30 Code of Federal Regulations Parts 251 and 551 (Geological and Geophysical (G&G) Explorations of the Outer Continental Shelf).

**Paperwork Reduction Act of 1995 (PRA) Statement:** This permit refers to information collection requirements contained in 30 CFR Parts 251 and 551 regulations. The Office of Management and Budget (OMB) has approved those reporting requirements under OMB Control Number 1010-0048.

## **Section I. Authorization**

The Government authorizes the permittee to conduct:

Geophysical exploration for mineral resources as defined in 30 CFR 551.1.

Geophysical scientific research as defined in 30 CFR 551.1. A permit is required for any geophysical investigation that involves the use of solid or liquid explosives or developing data and information for proprietary use or sale.

This permit authorizes the permittee to conduct the above geophysical activity during the period from July 10, 2015 to Sept. 10, 2015 in the following area(s):  
see attached map. Extensions of the time period specified above must be requested in writing. A permit plus extensions for activities will be limited to a period of not more than 1 year from the original issuance date of the permit. Inspection and reporting of geophysical exploration activities, suspension and cancellation of authority to conduct exploration or scientific research activities under permit, and penalties and appeals will be carried out in accordance with 30 CFR 551.8, 551.9, and 551.10.

The authority of the Regional Director may be delegated to the Regional Supervisor for Resource Evaluation for the purposes of this permit.

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## **Section II. Type(s) of Operations and Technique(s)**

- A. The permittee will employ the following type(s) of operations:  
Airborne Gravity Gradient and Magnetic Survey  
and will utilize the following instruments and/or technique(s) in such operations:  
Full tensor FTGeX system from Lockheed Martin incorporating latest LM and ARKeX proprietary technologies, RMS DAARC and Riegl LMS-Q240-80i LiDAR system
- B. The permittee will conduct all activities in compliance with the terms and conditions of this permit, including the "Stipulations," "Special Provisions," and the approved "Application for Permit," which are attached to and incorporated into this permit.
- C. The permittee will conduct all geophysical exploration or scientific research activities in compliance with the Act, the regulations in 30 CFR Parts 251 and 551, and other applicable statutes and regulations whether such statutes and regulations are enacted, promulgated, issued, or amended before or after this permit is issued. Some of the provisions of 30 CFR Parts 251 and 551 are restated in this permit for emphasis. However, all of the provisions of 30 CFR Parts 251 and 551 apply to this permit.

## **Section III. Reports on Operations**

- A. The permittee must submit status reports on a two month basis in a manner approved or prescribed by the Regional Supervisor, Resource Evaluation (hereinafter referred to as Supervisor). The report must include a daily log of operations and a map (preferably on a scale of 1:100,000) showing traverse lines according to Bureau of Ocean Energy Management (BOEM) area and block numbers.

- B. The permittee must submit to the Supervisor a final report within 30 days after the completion of operations. The final report must contain the following:
1. A description of the work performed and areal extent including number of line miles for 2-D or high resolution surveys or OCS blocks for 3-D geophysical data acquired;
  2. Chart(s), map(s), or plat(s) depicting the areas and blocks in which any exploration or scientific research activities were conducted. These graphics must clearly indicate the location of the activities so that the data produced from the activities can be accurately located and identified
  3. The dates on which the actual geophysical exploration or scientific research activities were performed;
  4. A narrative summary of any: (a) hydrocarbon occurrences or environmental hazards observed and (b) adverse effects of the geophysical exploration or scientific research activities on the environment, aquatic life, archaeological resources, or other uses of the area in which the activities were conducted;
  5. The estimated date on which the processed or interpreted data or information will be available for inspection by BOEM;
  6. A final edited navigation file on suitable storage medium of all data or sample locations in latitude/longitude degrees including datum used. The navigation for 2D lines should include line name and locations for the first, last and every tenth SP. For 3D surveys, please supply a navigation file for the acquired track lines that includes the location of the first and last SP and/or the corner locations for the area acquired. Contact the G&G permitting office for the specific navigation required for this permitted activity. The digital file is to be formatted in standard SEG-P1, UKOOA P1-90 or other current, standard industry format, coded in ASCII. A printed data listing and a format statement are to be included;
  7. Identification of geocentric ellipsoid (NAD 27 or NAD 83) used as a reference for the data or sample locations; and
  8. Such other descriptions of the activities conducted as may be specified by the Supervisor.
- C. The last status report and the final report can be combined into one report.

#### **Section IV. Submission, Inspection, and Selection of Geophysical Data and Information**

- A. The permittee must notify the Supervisor, in writing, when the permittee has completed the initial processing and interpretation of any geophysical data and information collected under an exploration permit or a scientific research permit that involves developing data and information for proprietary use or sale. If the Supervisor asks if the permittee has further processed or interpreted any geophysical data and information collected under a permit, the permittee must respond within 30 days. If further processing of the data and information is conducted, it is the responsibility of the permittee to keep the most current resulting products available in the event the Supervisor requests the current status of data processing. At any time within 10 years after receiving notification of the completion of the acquisition activities conducted under the permit, the Supervisor may request that the permittee submit for inspection and possible retention all or part of the geophysical data, processed geophysical information, and interpreted geophysical information.

- B. The Supervisor will have the right to inspect and select the geophysical data, processed geophysical information, or interpreted geophysical information. This inspection will be performed on the permittee's premises unless the Supervisor requests that the permittee submit the data or information to the Supervisor for inspection. Such submission must be within 30 days following the receipt of the Supervisor's request unless the Supervisor authorizes a later delivery date. If the inspection is done on the permittee's premises, the permittee must submit the geophysical data or information selected within 30 days following receipt of the Supervisor's request, unless the Supervisor authorizes a longer period of time for delivery. The data or information requested for inspection or selected by the Supervisor must be submitted regardless of whether the permittee and the Government have or have not concluded an agreement for reimbursement. If the Supervisor decides to retain all or a portion of the geophysical data or information, the Supervisor will notify the permittee, in writing, of this decision.
- C. In the event that a third party obtains geophysical data, processed geophysical information, or interpreted geophysical information from a permittee, or from another third party, by sale, trade, license agreement, or other means:
1. The third party recipient of the data and information assumes the obligations under this section except for notification of initial processing and interpretation of the data and information and is subject to the penalty provisions of 30 CFR Part 550, Subpart N; and
  2. A permittee or third party that sells, trades, licenses, or otherwise provides the data and information to a third party must advise the recipient, in writing, that accepting these obligations is a condition precedent of the sale, trade, license, or other agreement; and
  3. Except for license agreements, a permittee or third party that sells, trades, or otherwise provides data and information to a third party must advise the Supervisor in writing within 30 days of the sale, trade, or other agreement, including the identity of the recipient of the data and information; or
  4. With regard to license agreements, a permittee or third party that licenses data and information to a third party, within 30 days of a request by the Supervisor, must advise the Supervisor, in writing, of the license agreement, including the identity of the recipient of the data and information.
- D. Each submission of geophysical data, processed geophysical information, and interpreted geophysical information must contain, unless otherwise specified by the Supervisor, the following:
1. An accurate and complete record of each geophysical survey conducted under the permit, including digital navigational data and final location maps of all surveys;
  2. All seismic data developed under a permit presented in a format and of a quality suitable for processing;
  3. Processed geophysical information derived from seismic data with extraneous signals and interference removed, presented in a format and of a quality suitable for interpretive evaluation, reflecting state-of-the-art processing techniques; and
  4. Other geophysical data, processed geophysical information, and interpreted geophysical information obtained from, but not limited to, shallow and deep subbottom profiles, bathymetry, side-scan sonar, gravity, magnetic, and electrical surveys, and special studies such as refraction, shear wave, and velocity surveys.



## **Section V. Reimbursement to Permittees**

- A. After the delivery of geophysical data, processed geophysical information, and interpreted geophysical information requested by the Supervisor in accordance with subsection IV of this permit, and upon receipt of a request for reimbursement and a determination by BOEM that the requested reimbursement is proper, BOEM will reimburse the permittee or third party for the reasonable costs of reproducing the submitted data and information at the permittee's or third party's lowest rate or at the lowest commercial rate established in the area, whichever is less.
- B. If the processing was in a form and manner other than that used in the normal conduct of the permittee's business at BOEM's request, BOEM will reimburse the permittee or third party for the reasonable costs of processing or reprocessing such data. Requests for reimbursement must identify processing costs separate from acquisition costs.
- C. The permittee or third party will not be reimbursed for the costs of acquiring or interpreting geophysical information.
- D. Data and information required under section IV.D.1. of this permit are not considered to be geophysical data or processed geophysical information and must be provided by the permittee at no cost to the Government.

## **Section VI. Disclosure of Data and Information to the Public**

- A. BOEM will make data and information submitted by a permittee available in accordance with the requirements and subject to the limitations of the Freedom of Information Act (5 U.S.C. 552) and the implementing regulations (43 CFR Part 2), the requirements of the Act, and the regulations contained in 30 CFR Parts 250 and 550 (Oil and Gas and Sulphur Operations in the Outer Continental Shelf), 30 CFR Parts 251 and 551, and 30 CFR Parts 252 and 552 (Outer Continental Shelf (OCS) Oil and Gas Information Program).
- B. Except as specified in this section, or Section VIII, or in 30 CFR Parts 250, 252, 550, and 552, no data or information determined by BOEM or the Bureau of Safety and Environmental Enforcement to be exempt from public disclosure under subsection A of this section will be provided to any affected State or be made available to the executive of any affected local government or to the public, unless the permittee or third party and all persons to whom such permittee has sold, traded, or licensed the data or information under promise of confidentiality agree to such an action.
- C. Geophysical data and processed or interpreted geophysical information submitted under a permit, and retained by BOEM, will be disclosed as follows:
  - 1. Except for deep stratigraphic tests, BOEM will make available to the public geophysical data 50 years after the date of issuance of the permit under which the data were collected (see 30 CFR 551.12 (a) (b) (c) and (d)).
  - 2. Except for deep stratigraphic tests, BOEM will make available to the public processed geophysical information and interpreted geophysical information 25 years after the date of issuance of the permit under which the original data were collected (see 30 CFR 551.12(a), (b), (c) and (d)).
  - 3. BOEM will make available to the public all geophysical data and information and geophysical interpretations related to a deep stratigraphic test, at the earlier of the following times: (a) 25

years after the completion of the test, or (b) for a lease sale held after the test well is completed, 60 calendar days after the Department of the Interior executes the first lease for a block, any part of which is within 50 geographic miles (92.6 kilometers) of the site of the completed test.

- D. All line-specific preplot or postplot plat(s), and navigation tapes, including but not limited to seismic survey traverses and shotpoint locations, submitted as a requirement of 30 CFR 251.7, 551.7 or 551.12, will be considered as "PROPRIETARY INFORMATION." Such information will not be made available to the public without the consent of the permittee for a period of 25 years from the date of issuance of the permit, unless the Director, BOEM, determines that earlier release is necessary for the proper development of the area permitted.
- E. All other information submitted as a requirement of 30 CFR 551.8 and determined by BOEM to be exempt from public disclosure will be considered as "PROPRIETARY." Such data and information will not be made available to the public without the consent of the permittee for a period of up to 25 years from the date of issuance of the permit as addressed in 30 CFR 551.14, unless the Director, BOEM, determines that earlier release is necessary for the proper development of the area permitted. The executed permit will be considered as "PROPRIETARY" except the public information copy which will be available to the public upon request.
- F. The identities of third party recipients of data and information collected under a permit will be kept confidential. The identities will not be released unless the permittee and the third parties agree to the disclosure.

#### **Section VII. Disclosure to Independent Contractors**

BOEM reserves the right to disclose any data or information acquired from a permittee to an independent contractor or agent for the purpose of reproducing, processing, reprocessing, or interpreting such data or information. When practicable, BOEM will advise the permittee who provided the data or information of intent to disclose the data or information to an independent contractor or agent. BOEM's notice of intent will afford the permittee a period of not less than 5 working days within which to comment on the intended action. When BOEM so advises a permittee of the intent to disclose data or information to an independent contractor or agent, all other owners of such data or information will be deemed to have been notified of BOEM's intent. Prior to any such disclosure, the contractor or agent will be required to execute a written commitment not to sell, trade, license, or disclose any data or information to anyone without the express consent of BOEM.

#### **Section VIII. Sharing of Information with Affected States**

- A. At the time of soliciting nominations for the leasing of lands within 3 geographic miles of the seaward boundary of any coastal State, BOEM, pursuant to the provisions of 30 CFR Parts 252.7 552.7 and subsections 8(g) and 26(e) (43 U.S.C. 1337(g) and 1352(e)) of the Act, will provide the Governor of the State (or the Governor's designated representative) the following information that has been acquired by BOEM on such lands proposed to be offered for leasing:
  - 1. All information on the geographical, geological, and ecological characteristics of the areas and regions proposed to be offered for leasing;
  - 2. An estimate of the oil and gas reserves in the area proposed for leasing; and

3. An identification of any field, geological structure, or trap located within 3 miles of the seaward boundary of the State.
- B. After the time of receipt of nominations for any area of the OCS within 3 geographic miles of the seaward boundary of any coastal State and Area Identification in accordance with the provisions of Subparts D and E of 30 CFR Part 556, BOEM, in consultation with the Governor of the State (or the Governor's designated representative), will determine whether any tracts being given further consideration for leasing may contain one or more oil or gas reservoirs underlying both the OCS and lands subject to the jurisdiction of the State.
- C. At any time prior to a sale, information acquired by BOEM that pertains to the identification of potential and/or proven common hydrocarbon-bearing areas within 3 geographic miles of the seaward boundary of any such State will be shared, upon request by the Governor and pursuant to the provisions of 30 CFR Parts 252.7 and 552.7 and subsections 8(g) and 26(e) of the Act, with the Governor of such State (or the Governor's designated representative).
- D. Knowledge obtained by a State official who receives information under subsections A, B, and C of this section will be subject to the requirements and limitations of the Act and the regulations contained in 30 CFR Parts 250, 251, 252, 550, 551, and 552.

#### **Section IX. Permit Modifications**

The Department will have the right at any time to modify or amend any provisions of this permit, except that the Department will not have such right with respect to the provisions of Sections VI, VII, and VIII hereof, unless required by an Act of Congress.

**IN WITNESS WHEREOF** the parties have executed this permit and it will be effective as of the date of signature by the Supervisor.

**PERMITTEE:**

**THE UNITED STATES OF AMERICA:**

  
(Signature of Permittee)

Richard Foster-Turner  
(Type or Print Name of Permittee)

Chief Operating Officer  
(Title)

05 June 2014  
(Date)

  
(Signature of Regional Supervisor)

Michael A. Cerato  
(Type or Print Name of Regional Supervisor)

July 10, 2015  
(Date)

### Standard Stipulations

In performance of any operations under the Permit and Agreement for Outer Continental Shelf Geophysical or Geological Exploration for Mineral Resources or Scientific Research, the Permittee shall comply with the following Stipulations:

1. Any serious accident, personal injury, or loss of property shall be immediately reported to the Regional Supervisor.
2. In compliance with Section III-B(6) of this permit, digital navigation data shall be recorded on suitable storage media in SEG-P1 or UKOOA P1-90 or other current, industry standard format coded in ASCII. This data shall be provided to BOEM with the permit Final Report.
3. As part of the requirements of 30 CFR 551.8(c) regarding status reports, before starting acquisition, you are required to notify BOEM of your survey start date. BOEM must also be advised of the end date immediately upon survey completion.
4. The final report is due within 30 days after the completion of operations as specified by Section III B of this permit.