

**BAY MARCHAND-SOUTH
TIMBALIER RG3D**

Lafourche & Jefferson Parish, Louisiana

- LEGEND -

- Survey Outline
- Parish Boundary



0 6,000 12,000
Feet

8 December 2011

Prepared by:
COASTAL LAND SERVICES, INC.

Minors: Leases, Right of Way and Geophysical Permit Acquisition and Contract Administration of Title
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Global Geophysical Services, Inc.
Bay Marchand-South Timbalier RG3D
Project Description

Global Geophysical Services, Inc., is proposing a modification to expand the original 276.00 square mile 3D seismic survey in LaFourche and Jefferson Parishes, Louisiana to include an additional 83.076 square miles in LaFourche Parish, Louisiana located in Timbalier Bay, in the forthcoming months. The purpose of this survey is to provide a high-resolution image of the subsurface geological features that will allow the client to effectively evaluate the hydrocarbon reserves underlying the project area.

The proposed inland portion of the 3D survey requires the deployment of motion sensing devices GSR (geospace seismic recorders) which would be deployed on land/marsh/inland waters and will be placed at regular intervals of 164 feet, with spacing between receiver lines of 1,640 feet. This will be accomplished using airboats equipped with GPS which will allow crews to make one pass to survey and deploy GSR's. The GSR locations can be adjusted in order to minimize the impact on vegetation. There will not be any energy sources used in conjunction with the inland portion of the survey only GSR's.

Within the transition from the shoreline to open water (Gulf of Mexico/Timbalier Bay), OBC's (Ocean Bottom Cables) will be placed on the gulf floor with spacing between receiver lines of 1,640 feet and connected to the recording vessel (Jack-up Rig) located in federal waters. The survey design will incorporate air gun energy sources (no explosives will be used), which will be shot at 164 foot intervals in the Gulf of Mexico and 82 foot intervals in Timbalier Bay. The attached map shows the location of the project area, as well as source and receiver point locations.

The parameters of the 3D seismic survey are as follows:

1. Types of equipment to be used:

Airboats for Survey and Deployment of GSR's (inland and marsh)
Jack-up Rig for recording (located in federal waters)
Cable Vessels (jet drive)
Utility Vessels for support

2. 164 feet between source points
3. 656.2 feet between source lines (open water only)
4. 164 feet between receiver points
5. 1,640 feet between receiver lines

Specifications of equipment proposed for use within the project area:

Type of Equipment	Length	Width	Draft
Airboats	15'	7'	0 to 1.5'
3 ea. Cable Vessels (jet drive)	55'	15'	3'
2 ea. Utility Vessels	120'	28'	5'
Source Vessel	75'	15'	4'
Recording Vessel (located in federal waters)			5'

Recording operations, will be supported by airboats, cable and recording vessels where applicable. Once enough equipment is laid out to complete a recording group, the recording crew would proceed with operations.

Clean-up would be conducted in conjunction with operations. After all recording is completed in each swath (area between two receiver lines), all equipment, trash, and flagging would be completely picked up from the area and placed in bags for removal by airboats.

According to information obtained from the Louisiana Department of Wildlife and Fisheries Oyster Lease Survey Section online database, there are a total of eleven oyster leases within the project areas and a five hundred foot buffer thereof. A letter and copy of the permit application were sent to each of these leaseholders to inform them of proposed operations in the area.

Global Geophysical Services, Inc. will offset operations in accordance with agency recommendations for the protection of cultural resources and threatened and endangered species.



- LEGEND -

- Pre-Plot Source Points
- Pre-Plot Receiver Lines

7 January 2011

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BAY MARCHAND-SOUTH
TIMBALIER RG3D
Lafourche & Jefferson Parish, Louisiana

Spacing Diagram





- LEGEND -

- Pre-Plot Source Points
- Pre-Plot Receiver Lines

8 December 2011

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BAY MARCHAND-SOUTH TIMBALIER RG3D (Revised Area)

Lafourche & Jefferson Parish, Louisiana

Spacing Diagram



0.75" dia. OBC



OBC Cable Spacing

1,640 Feet

Length 18,000'-80,000'

GULF OF MEXICO

**BAY MARCHAND-SOUTH
TIMBALIER RG3D**
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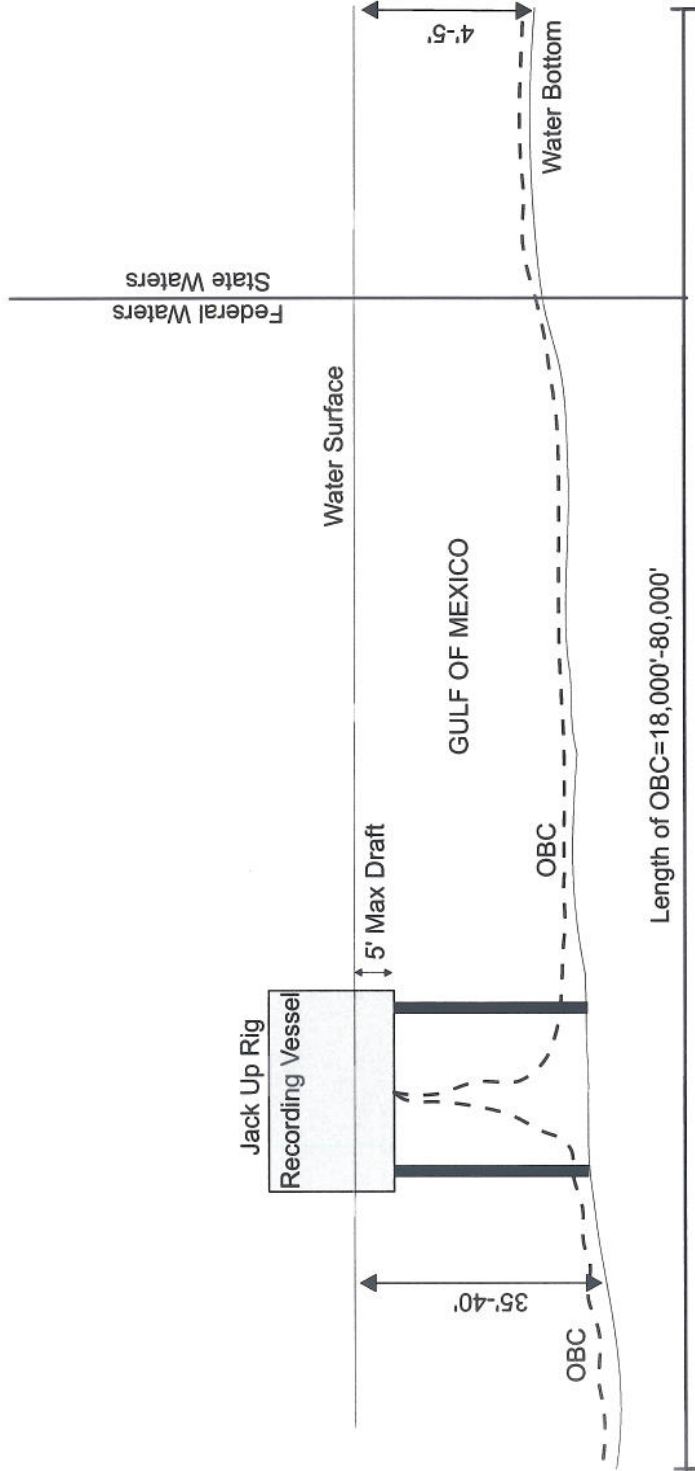
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Plan View of OBC



BAY MARCHAND-SOUTH
TIMBALIER RG3D
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Section View

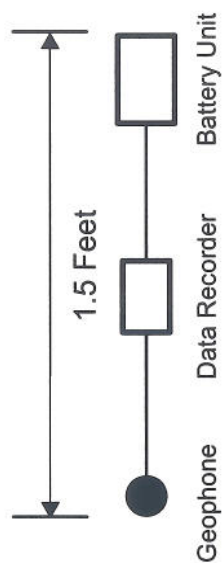


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Airboat ROW & Workspace

16 Feet



16 Feet Maximum Workspace

BAY MARCHAND-SOUTH TIMBALIER RG3D Lafourche & Jefferson Parish, Louisiana

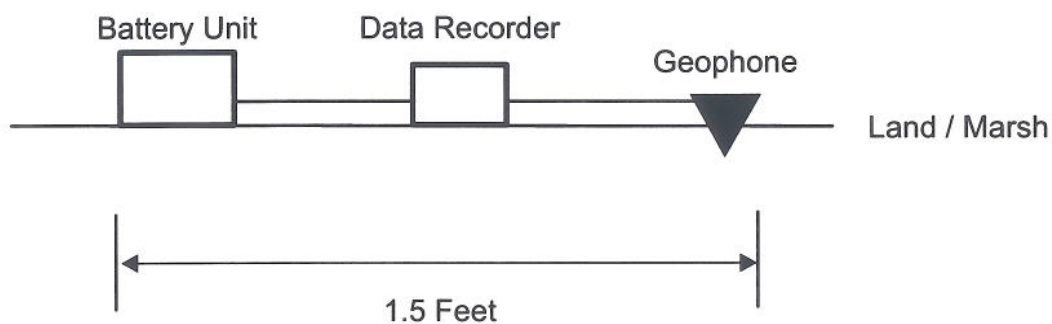
Plan View of
Receiver on Land/Marsh



7 January 2011

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**Cross Section View of
Geospace Seismic Recorder**



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