UNITED STATES DEPARTMENT OF THE INTERIOR
MINERALS MANAGEMENT SERVICE
Gulf of Mexico OCS Region
New Orleans, Louisiana

DRAFT
SITE-SPECIFIC ENVIRONMENTAL ASSESSMENT
No. R-2716

Exploratory Activity
High Island Area, East Addition,
South Extension, Block A-353
Lease OCS-G 7362

June 1991
Commodity Oil and Gas

SEA No. R-2716

United States Department of the Interior
Minerals Management Service
Gulf of Mexico OCS Region
New Orleans, Louisiana

OCS SITE-SPECIFIC ENVIRONMENTAL ASSESSMENT

June, 1991

Operator: Roberts & Bunch Offshore, Inc.
Plan Type: Exploration Plan
Area: High Island, East Addition, South Extension, Block A-353
Lease: OCS-G 7162
Date Submitted: May 15, 1991 and May 20, 1991
Plan Commencement Date: June 1991

Prepared by Gary J. Rutherford

Related Environmental Documents:

Final EIS for OCS Lease Sale Nos. 81, 84, 94, 98, 102, and 104, 105, 110, 112, 118, 122, 125, 135, 139, and 141
EA Nos. 500, 504, 505, 506, 507, N-1710, N-1728, N-1845, N-1893, N-1917, N-2188, N-2652, N-2200, N-2201, N-2624, S-1924, N-2758, and N-3106

Areawide EA for Exploration and Production Activities within the Four-Mile Zone of the East and West Flower Garden Banks
FINDING OF NO SIGNIFICANT IMPACT

I have considered the Exploration Plan for Roberts & Bunch Offshore, Inc., High Island Area, East Addition, South Extension, Block A-353 (OCS-G 7362), SEA No. R-2716. Based on the environmental analysis and mitigative measures contained in the site-specific environmental assessment, there is no evidence to indicate that the proposed action will significantly (40 CFR 1508.27) affect the quality of the human environment if the permit/application is approved subject to all of the mitigative measures. Preparation of an environmental impact statement is not required.

[Signature]
Regional Supervisor
Leasing and Environment
Gulf of Mexico OCS Region

[Date] 6/21/91
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ABBREVIATIONS AND ACRONYMS

AEA Areawide Environmental Assessment for Exploration and Production Activities within the Four-Mile Zone of the East and West Flower Garden Banks

CGA Clean Gulf Associates

COE Corps of Engineers

EP Exploration Plan (formally Plan of Exploration)

FWS U.S. Fish and Wildlife Service

GOM Gulf of Mexico

H₂S Hydrogen Sulfide

MMS Minerals Management Service

NCSC Naval Coastal Systems Center

NEPA National Environmental Policy Act

NPDES National Pollutant Discharge Elimination System

NTL Notice to Lessees and Operators

OCS Outer Continental Shelf

SEA Site-Specific Environmental Assessment

SER Site-Specific Environmental Report

USEPA U.S. Environmental Protection Agency
INTRODUCTION

This Site-Specific Environmental Assessment (SEA), submitted in support of an Area-Wide Environmental Assessment (AEA), is written for exploration activity proposed for High Island Area, East Addition, South Extension, Block A-353. The SEA contains site-specific and updated information for the proposed action in Block A-353 that is not contained in the AEA. The SEA was prepared using the AEA dated October 1984, entitled "Area-Wide Environmental Assessment for Exploration and Production Activities within the Four-Mile Zone of the East and West Flower Garden Banks" as a base document. This base document can be obtained through the Public Records office of the Minerals Management Service, Gulf of Mexico Region, or the Continental Shelf Office. Those sections of the AEA that are referenced in the SEA are indicated throughout the text.

In compliance with the National Environmental Policy Act (NEPA), this AEA/SEA concept implements the tiering process outlined in 40 CFR 1502.20 which encourages agencies to tier environmental documents to eliminate repetitive discussions of the same issue. By use of reference to the AEA, the SEA concentrates on the issues specific to the proposed action. The SEA conforms to the MMS and other appropriate guidelines for preparing environmental assessments in compliance with the requirements of NEPA, using information presented in the AEA.

I. DESCRIPTION OF PROPOSED ACTION

A. GENERAL

An Exploration Plan (EP) for activity in High Island Area, East Addition, South Extension, Block A-353, Lease OCS-G 7362 was filed by Roberts & Bunch Offshore, Inc., on May 15, 1984. Block A-353 is located approximately 177 km (110 mi) southeast of the nearest coastline on Galveston Island, Texas. The water depth in the block is approximately 87-94 m (285-310 ft). The lease holder and designated operator of OCS-G 7362 is Roberts & Bunch Offshore, Inc.

The objective of the proposed activity is to explore for oil and gas reserves in High Island Area, East Addition, South Extension, Block A-353. A semi-submersible drilling rig, such as the Rowan "Fort Worth" would be used to conduct the exploratory drilling of one location Well E (No. 2) in Block A-353. Location E is proposed at 650\(^{\text{FSL}}\) and 6,550\(^{\text{FEL}}\) (Figure I-1). Well E commencement date is scheduled in June, 1991, and will take approximately 20 days to complete. This action is considered routine for the Gulf of Mexico. For additional information concerning the proposed action, refer to Roberts & Bunch's EP.
B. EQUIPMENT AND SUPPORT SYSTEMS

The equipment associated with the proposed drilling rig is described in the operator's plan. The rig is required to be equipped with safety and monitoring systems so as to comply with OCS operating regulations and other regulations.

No H₂S is expected based on previous drilling experience near this area (Appendix B).

The rig used would be equipped with well safety and pollution prevention equipment and standards required by MMS OCS Operating Regulations, COE, USCG, OSHA, and EPA.

The onshore support facilities is located in Sabine Pass, Texas. The proposed activity would not require any new construction (Roberts & Bunch, 1991).

C. SCHEDULE OF ACTIVITIES

One exploration well is proposed. Drilling of the well is scheduled to start July, 1991. The drilling of the well is expected to take 20 days. Should the well prove productive, Roberts & Bunch would be required to submit a Development Operations Coordination Document to cover production.

D. TRANSPORTATION ROUTES

Supply boats and crew boats would be used to transport personnel and equipment between High Island Area, East Addition, South Extension, Block A-352, and Sabine Pass, Texas. One supply boat will be making 3 trips per week, and 1 crew boat will be making 5 trips per week. (Roberts & Bunch, 1991).

E. PERSONNEL REQUIREMENTS

The operator stated that existing employees would be adequate for the proposed operations. There would be no additional personnel required (Roberts & Bunch, 1991).

F. TECHNOLOGY

No new or unusual technology would be used in the proposed drilling activities (Roberts & Bunch, 1991).

G. CONTINGENCY PLANS

Roberts & Bunch has filed an Oil Spill Contingency Plan with the MMS. Roberts & Bunch, as a member of Clean Gulf Associates, would use the CGA equipment in the event of an oil spill.
Personnel will be on duty 24 hours a day at the Roberts & Bunch

The cleanup equipment available to is the entire equipment
inventory of Clean Gulf Associates. Clean Gulf facilities are
maintained at Intracoastal City, Venice, Grand Isle and Cameron,
La as well as Galveston and Texas City, TX. Response time for
the major pieces of oil spill containment equipment to High
Island Area, East Addition, South Extension, Block A-353, is 13.5
hours (Roberts & Bunch, 1991).

H. DISCHARGES AND EMISSIONS

1. General

Solid and liquid discharges and gaseous emissions would be
generated by offshore and onshore activities and transportation
operations resulting from the proposed plan of operation. At the
drill site High Island Area, East Addition, South Extension,
Block A-35 - all discharges to the GOM would be under a National
Pollutant Discharge Elimination System (NPDES) permit regulated
by the U.S. Environmental Protection Agency (EPA).

2. Solid Wastes

Drill Cuttings - Approximately 1,584 barrels of drill
cuttings would be generated. These cuttings would consist of
natural subsurface sediments. The estimated volume was
determined from the average hole size for each section of hole.
Drill cuttings would be disposed of by shunting (Roberts & Bunch,

Other Solid Wastes - Other solid wastes generated both
offshore and at the supply base would be disposed of according to
EPA and other applicable regulations at an approved onshore
disposal facility (Roberts & Bunch, 1991).

3. Liquid Waste - Treatment of liquid waste effluents
would be in compliance with the NPDES permit. No free oil
would be discharged into the Gulf. The quantity of discharged drill
muds was calculated using hole geometry (Roberts & Bunch, 1991).

Drilling Muds - Roberts & Bunch states that mud may be
discharged for purposes of dilution or at end-of-well. The muds
selected for use are listed in Roberts & Bunch's EP. If any oil
based mud were to be used, it would be hauled to shore for
disposal. Otherwise the muds would be discharged by shunting as
directed in the lease stipulation (Roberts & Bunch, 1991).

Sanitary Wastes and Domestic Wastes - The rig is equipped
with a DEMCO Model WT-5000, Marine Type Sanitation Unit with a
capacity of 5000 gal/day. All sewage will be fully treated with
in this unit and dumped overboard. An ENSCO Tool & Supply Scavenge Industrial Trash Compactor Model "SA" or equivalent will be utilized on rig to handle all solid domestic waste. It will then be transported to shore for disposal at an authorized disposal site (Roberts & Bunch, 1991).

Deck Drain Waste - Deck drainage will be estimated by amount of rainfall and wash water. Deck drain waste is treated in a sump to remove any oil and grease prior to overboard discharge (Roberts & Bunch, 1991).

4. Gaseous Wastes

The EP indicates that the well will be drilled in 20 days. Gaseous wastes generated from the proposed activity both onshore and offshore would come from helicopters, boats, and the drilling rig. Roberts & Bunch proposes using a semi-simmer drilling rig. An Air Emissions Review was done for exploratory wells in the block 9/24/87. Since the proposed activity involves only the revision of an approved well, no additional review is required. See Appendix B for the Air Quality Review of 9/24/87.

I. STATE CERTIFICATION

A shore base located in Texas is proposed; therefore, no Certificate of Coastal Zone Consistency is required for the proposed activities.

J. MEASURES FOR COMPLIANCE

No special monitoring programs, over and above those required by OCS Operating Regulations, Notices to Lessees and Operators, and applicable regulations, are required for the proposed action. These regulations provide for training of employees and the design, installation, operation, and maintenance of equipment in a manner which conserves and protects other resources or activities. Inspections are conducted regularly by OMS personnel to enforce all OCS operating Regulations, Notices to Lessees and Operators, etc.

Compliance with OCS Operating Regulations for this well compared to other OCS wells is not different. The OCS Operating Regulations do require pollution prevention equipment such as drip pans. Pollution control equipment and materials are available to Roberts & Bunch through its membership in Clean Gulf Associates. Through Clean Gulf Associates, training sessions for familiarization with the pollution prevention and control requirements are all part of the standard procedure for compliance with the OCS Operating Regulations for any OCS well.
No special requirements for NPDES permits are involved for this block. The general NPDES permit is applicable to this block. There will be activities within the four-mile shunt zone. All drilling fluid and drill cutting discharges will be disposed of through a shunt that will end within 10 m (33 ft) of the ocean floor. Roberts & Bunch will not dispose of well fluids containing free oil in the GOM. Any such fluids will be brought to shore for proper disposal. Roberts & Bunch has stated its intended compliance with all applicable regulations of the MMS, USEPA, and U.S. Coast Guard (Roberts & Bunch, 1991).

K. NEARBY PENDING ACTIONS

Presently in the AEA area there are several proposed actions. Phillips has an approved exploration plan in High Island Block A-377. Oryx has an approved exploration plan in Garden Banks Block 96 and an approved DOCL in High Island Block A-384. Santa Fe International has an approved exploration plan in High Island Block A-373. CNG Producing Company also has an approved exploration plan in High Island Block A-402.

II. ALTERNATIVES TO THE PROPOSED ACTION

Alternatives including approval of the proposal as originally submitted are

Nonapproval of the Proposal - Roberts & Bunch Offshore, Inc., would not be allowed to undertake the proposed exploratory activities in High Island Area, East Addition, South Extension, Block A 353. This alternative could prevent discovery and development of much needed hydrocarbon resources and would result in loss of royalty income for the United States. Considering this aspect and the fact that minimal impacts are anticipated, this alternative was not deemed necessary.

Approval with Existing Mitigation - Due to the location of the wells within the four-mile zone, shunting of all drill cuttings to within 10 m (33 ft) of the ocean floor is required. Furthermore, the lessee will ensure that all aircraft used in support of their OCS operations maintain a minimum altitude of 2,000 feet over all national wildlife refuges and national park lands. Other measures which Roberts & Bunch proposes to implement to limit pollution effects are discussed in the plan Outer Continental Shelf Operating Regulations, Notices to Lessees and Operators, and Sale 122 Lease Stipulation Nos. 1 and 2 were identified throughout this assessment as existing mitigation for potential environmental impacts associated with the proposed EP.
III. DESCRIPTION OF THE AFFECTED ENVIRONMENT

A. PHYSICAL ENVIRONMENT

1. Environmental Geology and Hazards

   a. General Description of Geology

   The water depths in Block A-353 range from 87-94 m (285-310 ft). Sediments in this block are composed primarily of mud, sandy mud (USDOI, 1990, Visual No. 4). Additional information is included in Section III. A.1.a. of the AEA.

   b. Potential Geologic Hazards

   Surface outcrops, fault scarps, shallow faulting, and possible shallow gas pockets are potential hazards or constraints of a local geologic nature.

   Additional information is included in Section III.A.1.b of the AEA.

   c. Petroleum Geology

   Information on this section is included in Section III.A.1.c of the AEA. Additional site-specific information provided by Roberts & Bunch and the Lake Jackson District of MMS is considered proprietary.

2. Meteorological Conditions

   Information in the following sections is included in Section III.A.2 of the AEA.

   a. Temperature
   b. Cloudiness and Visibility
   c. Wind
   d. Precipitation
   e. Severe Weather

3. Physical Oceanography

   Information in the following sections is included in Section III.A.3 of the AEA.

   a. Sea Temperature and Salinity
   b. Currents
c. **Tides and Sea State**

4. **Water Quality**

Information in this section is included in Section III.A.4 of the AEA.

5. **Air Quality**

**Onshore** - The onshore area affected by this proposed activity would include the support base area at Sabine Pass in Jefferson County, Texas. The nearest coastal area to the offshore operations is located in Galveston County, Texas. This coastal area is in Air Quality Control Region No. 216. Galveston County does not meet the primary standard for SO, established by the National Ambient Air Quality Standards and is therefore classified as a nonattainment area for these pollutants. Otherwise, the county is classified as better than national standards or cannot be classified for the criteria established by NAAQS for: TSP, S02, CO, and NO2. The area is not designated as a Prevention of Significant Deterioration (Class I) Area (40 CFR 81). Additional information is included in Section III.A.5 of the AEA.

**Offshore** - The air quality of the offshore area is considered better than the national standards for all air pollutants; however, due to the lack of data the area is unclassified.

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**B. BIOLOGICAL ENVIRONMENT**

1. **Coastal Habitats**

Information in this section is included in Section III.B.1 of the AEA.

2. **Offshore Habitats**

   a. **Pelagic Environment**

   Information in this section is included in Section III.B.2.a of the AEA.

   b. **Benthic Environment**

   Information in this section is included in Section III.B.2.b of the AEA.
c. Sensitive Underwater Features

Location E is within the four-mile zone of the East Flower Garden Bank. The biota and importance of the Bank are discussed in Section III.B.2.c of the AEA.

3. Endangered or Threatened Species

Information in this section is included in Section III.B.3. of the AEA.

4. Breeding Habitats and Migration Routes

Information in this section is included in Section III.B.4. of the AEA.

5. Protected Areas of Biological Concern

Information in this section is included in Section III.B.5 of the AEA.

C. SOCIOECONOMIC CONDITIONS AND CONCERNS

1. Economic and Demographic Conditions

Roberts & Bunch does not propose to hire additional employees for the proposed activities in Block A-353. Information in this section is included in Section III.C.1 of the AEA.

2. Land Use

Information in this section is included in Section III.C.2 of the AEA.

3. Onshore Support Facilities

Roberts & Bunch's support base for the proposed activity will be in Sabine Pass, Texas (see Figure B of AEA). Roberts & Bunch's support terminal contains a boat dock (Roberts & Bunch, 1991).

4. Public Opinion

A public hearing was held concerning the proposed OCS Oil and Gas Lease Sale No. 84 which included High Island Block A-353. Concerns from the public were addressed in the EIS for this lease sale.
5. Navigation

High Island Area, East Addition, South Extension, Block A-353 is located approximately 15 miles north of a shipping fairway. Additional information is included in Section III.C.5 of the AEA.

6. Military Warning/Use Areas

High Island Area, East Addition, South Extension, Block A-353 is not located within a designated military warning or use area. Boat and air traffic associated with the proposed plan is not expected to enter any military areas. Additional information is included in Section III.C.6 of the AEA.

7. Commercial Fishing

Information in this section is included in Section III.C.7 of the AEA.

8. Recreation

Information in this section is included in Section III.C.8 of the AEA.

9. Cultural Resources

Information in this section is included in Section III.C.9 of the AEA.

10. Other Commercial Uses

Information in this section is included in Section III.C.10 of the AEA.

11. Other Mineral Uses

Information in this section is included in Section III.C.11 of the AEA.

12. Pipelines and Cables

The proposed well would be approximately 14900 feet west of the nearest pipeline in Block A-352. Since the proposed operations are exploratory, there would be no pipelines constructed as a result of this activity. Additional information is included in Section III.C.12 of the AEA.

13. Ocean Dumping

Information in this section is included in Section III.C.13 of the AEA.
IV. ENVIRONMENTAL CONSEQUENCES

A. ACCIDENTAL HYDROCARBON DISCHARGES

1. Oil Spill Accidents

A complete discussion of the causes of both major and minor oil spills resulting from exploration activity in the Gulf of Mexico is included in Section IV.A.1. of the AEA.

2. Vulnerability of Coastal Land Segments to Oil Spills

A summary of the trajectory analysis (for 10 days) simulated as a part of the Oil Spill Risk Analysis is presented in Table IV-17 (USDOI, MMS, 1990). Refer to Section IV.C.1. for background information concerning these hypothetical oil spill trajectories. High Island Area, East Addition, South Extension, Block A-151 falls within oil spill Area 17 (see Figure IV-9). An oil spill occurring within this area has a less than 0.5% chance of contacting Brazoria County, Texas, Chambers County, Texas, Jefferson County, Texas, and Cameron Parish, Louisiana. Potential impacts from an accidental spill or blowout at this location are discussed in Section IV.D.2. of the Final Regional Environmental Impact Statement (USDOI, MMS, 1990).

The prospect of there being an oil spill is guarded by the utilization of state-of-the-art drilling and blowout prevention equipment and through the use of best possible drilling practices by thoroughly trained personnel. These safeguards would be reinforced by operators’ curtailment programs enforced whenever sea state and weather conditions require. In the unexpected event that an accidental oil spill should occur, Roberts & Bunch would conduct an emergency response to contain and cleanup the spilled oil. General resource mobilization and response plans are outlined in Roberts & Bunch’s approved Oil Spill Contingency Plan for the Gulf of Mexico, along with the CGA spill plan, and in Roberts & Bunch’s EP (Roberts & Bunch, 1991).

In summary, the risk due to the proposed activity appears small. Most spills would be naturally dispersed within 60 days. In addition, most spills would be subjected to containment and cleanup efforts. The operator is a member of CGA which has spill containment and cleaning equipment strategically located along the Gulf Coast. Details of Roberts & Bunch’s alert, reporting, and cleanup procedures are contained in the EP (Roberts & Bunch, 1991) and Roberts & Bunch's Oil Spill Contingency Plan. In addition, MMS conducts reviews of the various applications for compliance with OCS Orders, Notices to Lessees, etc. to insure safe drilling operations.
addition, MMS conducts reviews of the various applications for compliance with OCS Orders, Notices to Lessees, etc. to insure safe drilling operations.

3. Assumptions about the Characteristics and Fates of an Accidental Oil or Gas Discharge at the Flower Garden Banks.

Information is included in Section IV.A.3 of the AEA.

4. Effects of Oil Spills on the Environment

Refer to Section IV.A.3 of the AEA for discussions of oil spill impacts to coastal habitats, benthic communities, endangered or threatened species, other wildlife including migratory waterfowl, commercial fishing, recreation/tourism, cultural resources, water quality, and air quality.

5. Oil Spill Containment/Cleanup Capabilities and Effectiveness

Information is included in Section IV.A.5 of the AEA and in Section I.G. of the SEA.

B. IMPACTS CONCERNING THE PHYSICAL ENVIRONMENT

1. Impacts Concerning Geology

The well location is clear of any of the potential geologic hazards mentioned in Section III.A.1.b (Roberts & Bunch, 1991).

In order to identify potential geological hazards, the available geological and geophysical data for High Island Area, East Addition, South Extension, Block A-353 were reviewed by the Technical Assessment and Operations Support Section which resulted in a recommendation of approval (Appendix B). An MMS hazards review for Roberts & Bunch's proposed work indicated that normal precautions would be adequate while conducting the proposed activities.

2. Impacts Concerning Meteorology

Mitigation to be taken during hurricanes, is discussed in Section IV.B.1 of this SEA. In conditions of high winds and reduced visibility due to fog or rain, helicopter traffic and/or boat traffic between the rig and shore base would be temporarily suspended.

Interferences due to weather conditions are expected to be short-term and infrequent, producing only an insignificant effect on the movement of supplies and personnel to and from the facilities. The effect on offshore operations should be minimal. Additional information is included in Section IV.B.2 of the AEA.
3. Impacts Concerning Physical Oceanography

Oceanographic conditions which could adversely affect the operation have been taken into consideration during the planning and designing of the proposed action. However, although drilling rigs are designed to operate in rough sea conditions, precautions would be taken by Roberts & Bunch if a hurricane approached Block A-353. Activities would be halted, protective measures taken, and facilities secured. No significant impacts from normal physical oceanographic conditions would be expected during the implementation of this exploration plan.

4. Impacts on Water Quality

Since water quality is expected to quickly return to normal in the area after drilling operations have been completed, no significant impacts to the water quality of the area are expected as a result of the proposed activities. As discussed in Section I.J., all discharges are required to adhere to the standards imposed by the NPDES Permit. Refer to Section IV.A. of this SEA and the corresponding section of the AEA for a discussion of oil spill impacts to water quality. Additional information is included in Section IV.A.4 of the AEA.

5. Impacts on Air Quality

Onshore - The effects of the air emissions onshore would be negligible due to the distance of the drill sites to the coast. The percent increases in ambient concentrations contributed by the onshore secondary emissions from the proposed activities would be insignificant. Additional information is included in Section IV.B.5 of the AEA and in the operator's plan.

Offshore - Data presented in Table I-1 of this SEA and in the operator's plan indicate that the total emissions expected from the proposed activities in Block A-353 would be well below the calculated exemption levels, qualifying these activities for exemption from further air quality review. The site-specific air quality review conducted by MMS as a part of this environmental analysis concluded that there could be no significant effect on air quality from the proposed action (Appendix B). Additional information is included in Section IV.B.5 AEA and in the operator's plan.

C. IMPACTS ON THE BIOLOGICAL ENVIRONMENT

Due to the distance of Block A-353 from shore [177 km (110 mi)] and the use of an established onshore support base requiring no new construction, dredging, or filling, impacts other than those from oil spills on the area's biological environment would be insignificant. Further site-specific discussion of potential impacts to the benthos and sensitive underwater features are
1. Impacts on Coastal Habitats

No significant impact is expected on coastal habitats. Additional information is included in Section IV.C.1 of the AEA.

2. Impacts on Offshore Habitats

a. Impacts on the Pelagic Environment.

No significant impact is expected on the Pelagic Environment. Additional information is included in Section IV.C.2.a. of the AEA.

b. Impacts on the Benthic Environment.

The impacts to the benthic environment are generally discussed in Section IV.C.2.b of the AEA. Impacts to the benthos of the Flower Garden Banks are discussed in the Impacts to Sensitive Underwater Features, Section IV.C.2.c of this SEA.

c. Impacts on Sensitive Underwater Features

The biota of the East Flower Garden Bank has been determined to be worthy of protection. MMS has attached a special lease stipulation to Lease OCS-G 7362 in order to insure protection (Appendix A). The proposed well location is within the four-mile zone established by the stipulation. This stipulation requires that all drill cuttings and fluids generated within the four-mile zone be disposed of by shunting them to within 10 m (33 ft) of the seafloor. Roberts & Bunch has outlined its methods in the EP of complying with the stipulation regarding disposal of drill cuttings and drilling fluids by shunting (Roberts & Bunch, 1991).

The National Research Council (1983) concluded that most of the drilling discharge deposition is limited to within 1,000 m (3,300 ft) of the drill site. The proposed well location would be greater than 3,000 m (10,500 ft) from the No Activity Zone of the East Flower Garden Bank. Shunting has been found to be an effective mitigative measure in areas near topographic highs since the effluent is generally confined to depths greater than where the sensitive organisms are (Ibid). Water (and the shunted effluent) cannot flow from the base of the bank to the level of the living reef (USDOI, MMS, 1990). Roberts & Bunch proposes using a semi-submersible drilling rig. Since the wells would be
located approximately 2 mi from the No Activity Zone of the East Flower Garden Bank, no anchoring impacts are expected. Therefore, impacts to the East Flower Gardens are not expected to be significant. The National Marine Fisheries Service has reviewed the proposed activity in High Island Block A-351. Their comments are included in Appendix C. A discussion of their comments is included in Section V of this SEA. Additional information in this section is included in Section IV.C.2.c of the AEA.

3. Impacts on Endangered or Threatened Species

No significant impact is expected on endangered or threatened species.

Additional information is included in Section IV.C.3 of the AEA.

4. Impacts on Breeding Habitats and Migration Routes

No significant impact is expected on breeding habitats or migration routes.

Additional information is included in Section IV.C.4 of the AEA.

5. Impacts on Protected Areas of Biological Concern

No significant impacts are expected on protected areas of biological concern.

Additional information is included in Section IV.C.5 of the AEA.

D. IMPACTS ON SOCIOECONOMIC CONDITIONS AND CONCERNS

1. Impacts to Economic and Demographic Conditions

No significant impacts are expected to economic and demographic conditions.

Information in this section is included in Section IV.D.1 of the AEA and in Roberts & Bunch's EP (Roberts & Bunch, 1991).

2. Impacts on Land Use

No significant impact is expected on land use.

Information in this section is included in Section IV.D.2 of the AEA.
3. Impacts of Construction of Onshore Support Facilities

No impacts of construction of onshore support facilities can be expected since Roberts & Bunch proposes using existing facilities (Roberts & Bunch 1991).

4. Impacts of Public Opinion

No significant public opposition to the planned operation has surfaced to date.

5. Impacts on Navigation

Exploratory activities in Block A-353 should have an insignificant effect on shipping. The block is located 177 km (110 mi) offshore and lies outside of any major shipping lanes or anchorage areas in the Gulf of Mexico (USDOI, MMS, 1983a Visual No. 11). Marine traffic support of the proposed activities is not expected to significantly affect shipping activities in the Sabine Pass area, in part, because of the established support facilities already in existence and the temporary nature of the proposed activities. The impacts of the drilling rig on marine transportation (fishing and pleasure boating) could be both adverse and beneficial. Stationary structures could represent obstacles to navigation, but they also could serve as navigational aids. The operator is required to comply with U.S. Coast Guard regulations related to the safety of personnel and the display of prescribed navigational lights and signals for the safety of navigation. Roberts & Bunch is also required to obtain permits from the U.S. Army Corps of Engineers to prevent obstructions to navigation. Additional information is included in Section IV.D.5 of the AEA.

6. Impacts Concerning Military Use

No impacts to or from military use of the Gulf are expected since the drilling operations and associated traffic are not expected in any of the designated military warning areas.

7. Impacts on Commercial Fishing

Direct effects of exploratory operations on commercial fishing in Block A-353 would be the removal of a limited area of seafloor from use and the temporary degradation of water quality at the immediate area of each drill site. Although some commercial fishing could occur within the vicinity of Block A-353 no significant conflict of use is expected to develop in the area of the proposed action due to the distance from shore. Refer to Section IV.A. of this SEA and the corresponding section of the AEA for a discussion of oil spill impacts to commercial fishing. Additional information is included in Section IV.D.7 of the AEA.
8. Impacts on Recreation/Tourism

Due to the distance offshore and the temporary nature of the proposed activities, impacts to the aesthetics and recreational resources of the coastal and offshore area would be insignificant. Refer to Section IV.A. of this SEA and the corresponding section of the AEA for a discussion of oil spill impacts to recreation/tourism. Additional information is included in Section IV.D.8 of the AEA.

9. Impacts on Cultural Resources

The operator states that existing onshore support facilities would be utilized; therefore, no impacts to onshore cultural resources are anticipated. Stipulation No. 1 of Lease Sale 84 (Appendix A) provides further safeguards for the protection of presently unknown cultural resources. The operator is required to report, upon discovery of a structure or object of historical or archaeological importance, to the Regional Director, MMS, and to make every reasonable effort to preserve and protect that cultural resource. Additional information is included in Section IV.D.9 of the AEA.

10. Impacts on Other Commericable

There are no other commercial uses in Block A-353 to be affected by the exploration activity.

11. Impacts on Other Mineral Uses

There are no plans or proposals for mining other mineral resources other than oil and gas in Block A-353; therefore, no conflict of use is expected.

12. Impacts Concerning Pipelines and Cables

No conflict of use is expected because the proposed well would be greater than 14,500 feet from the nearest existing pipeline in Block A-352, and because pipelines cannot be proposed as a part of this exploration activity.

13. Impacts of Ocean Dumping

No conflict of use is expected because there are no existing ocean dumping areas designated in the area of the Flower Gardens. The operator has stated that compliance with the USEPA NPDES permit will be maintained. Additionally, OCS Operating Regulations require that the operator locate and retrieve any large debris lost overboard as a result of the proposed activities.
E. UNAVOIDABLE ADVERSE IMPACTS

Information in this section is included in Section IV.E of the AEA.

V. CONSULTATION AND COORDINATION

A copy of the plan was forwarded to the National Marine Fisheries Service with the comments of this agency included in Appendix C. No controversial issues were identified relative to Roberts & Bunch's proposed activity in Block A-353.
VI. BIBLIOGRAPHY


VII. PREPARERS

Author:
Gary J Rutherford - Geologist

Clerk Typist:
Sandra Pavlas - Typist
VIII. APPENDICES

A. LEASE STIPULATIONS
B. REVIEWS FROM MMS
C. REVIEWS FROM OTHER AGENCIES
APPENDIX A

LEASE STIPULATIONS
STIPULATION NO. 1 - CULTURAL RESOURCE

(a) "Cultural Resource" means any site, structure, or object of historic or prehistoric archaeological significance. "Operations" means any drilling, mining, or construction of placement or any structure for exploration, development, or production of the lease.

(b) If the Regional Manager (RM) believes a cultural resource may exist in the lease area, the RM will notify the lessee in writing. The lessee shall then comply with subparagraphs (1) through (3).

(1) Prior to commencing any operations, the lessee shall prepare a report, as specified by the RM, to determine the potential existence of any cultural resource that may be affected by operations. The report, prepared by an archaeologist and geophysicist, shall be based on an assessment of data from remote sensing surveys and other pertinent cultural and environmental information. The lessee shall submit this report to the RM for review.

(2) If the evidence suggests that a cultural resource may be present, the lessee shall either:

(1) Locate the site of any operation so as not to adversely affect the area where the cultural resource may be; or

(11) Establish to the satisfaction of the RM that a cultural resource does not exist or will not be adversely affected by operations. This shall be done by further archaeological investigation, conducted by an archaeologist and geophysicist, using survey equipment and techniques deemed necessary by the RM. A report on the investigation shall be submitted to the RM for review.

(3) If the RM determines that a cultural resource is likely to be present on the lease and may be adversely affected by operations, he will notify the lessee immediately. The lessee shall take no action that may adversely affect the cultural resource until the RM has told the lessee how to protect it.

(c) If the lessee discovers any cultural resource while conducting operations on the lease area, the lessee shall report the discovery immediately to the RM. The lessee shall make every reasonable effort to preserve the cultural resource until the RM has told the lessee how to protect it.

STIPULATION NO. 2 - BIOLOGICAL

<table>
<thead>
<tr>
<th>Bank Name</th>
<th>Isobath (meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mysterious Bank</td>
<td>74, 76, 78, 80, 84</td>
</tr>
<tr>
<td>Blackfish Ridge</td>
<td>70</td>
</tr>
<tr>
<td>Dream Bank</td>
<td>78, 82</td>
</tr>
<tr>
<td>Southern Bank</td>
<td>80</td>
</tr>
<tr>
<td>Hospital Bank</td>
<td>70</td>
</tr>
<tr>
<td>North Hospital Bank</td>
<td>68</td>
</tr>
<tr>
<td>Arenal Bank</td>
<td>70</td>
</tr>
<tr>
<td>South Baker Bank</td>
<td>70</td>
</tr>
<tr>
<td>Baker Bank</td>
<td>70</td>
</tr>
<tr>
<td>Big Dunn Bar</td>
<td>65</td>
</tr>
<tr>
<td>Small Dunn Bar</td>
<td>65</td>
</tr>
</tbody>
</table>
2 Fathom Bank
State Bank
Claypool Bank
Applebaum Bank
Coffee Lump
West Flower Garden Bank
East Flower Garden Bank
Keenan Bank
29 Fathom Bank
26 Fathom Bank
Geyer Bank
Fivens Bank
Bright Bank
18 Fathom Lump
Kesak Bank
Sicher Bank
Parker Bank

1 Low Relief Banks - only paragraph (a) of the stipulation applies.

"Other South Texas Banks - paragraph (c) of the stipulation
shall not apply; for production and development operations
on the provisions of paragraph (b) shall apply in both
the "1 Mile Zone" and the "3 Mile Zone."

2 Central Gulf of Mexico bank with a portion of its "1 Mile
Zone and/or "3 Mile Zone" in Western Gulf of Mexico.

"Flower Garden Banks - has a "A Mile Zone" wise "3 Mile
Zone" in the "1 Mile Zone," paragraph (c)(2) of the
stipulation shall apply in addition to paragraph (b); in
the "3 Mile Zone," only paragraph (b) shall apply.

(a) No structures, drilling rigs, or pipelines will be allowed within the
isobaths of the banks listed above.

(b) Operations within the area shown as "1 Mile Zone" (map attached) shall be
restricted by abutting all drill cuttings and drilling fluids to the bottom
through a downpipe that terminates an appropriate distance, but no more than
ten meters, from the bottom.

(c) Operations within the area shown as "3 Mile Zone" (map attached) shall be
restricted as specified in either (1) or (2) below at the option of the lessee.

(1) All drill cuttings and drilling fluids must be disposed of by
abutting the material to the bottom through a downpipe that
terminates an appropriate distance, but no more than ten meters,
from the bottom.

(2) The operator (lessee) shall submit a monitoring plan. The
monitoring plan will be designed to assess the effects of oil
and gas exploration and development operations on the biotic
communities of the nearby banks.

The monitoring program shall indicate that the monitoring
investigations will be conducted by qualified, independent
scientific personnel and that these personnel and all required
equipment will be available at the time of operations. The
monitoring team will submit its findings to the EN on a
schedule established by the EN, or immediately in case of
imminent danger to the biota of the bank resulting directly from
drilling or other operations. If in is decided that surface
disposal of drilling fluid or cuttings presents no danger to
the bank, no further monitoring of that particular well or plat­
form will be required. If, however, the monitoring program
indicates that the biota of the bank are being harmed, or if
there is a great likelihood that operation of that particular
well or platform may cause harm to the biota of the bank, the
operator shall require abutting as specified in (1) above or other
appropriate operational restrictions.
APPENDIX B

REVIEWS FROM MMS
AIR QUALITY REVIEW

CER/EA No. 1-27-83 Due Date 7-25-87 Lease(s) OCS-G 7362
Block(s) A-35-3 Area High Island E.A. E.

Onshore Emissions

Onshore Base: Sabine Pass New or Revised: Yes - No X
Onshore Emissions Calculations (If onshore base is new or revised):

\[ \begin{align*}
\text{NO}_x & \quad \text{tons/yr} \quad \text{CO} \quad \text{tons/yr} \quad \text{VOC} \quad \text{tons/yr} \\
\text{TSP} & \quad \text{tons/yr} \quad \text{SO}_2 \quad \text{tons/yr}
\end{align*} \]

Offshore Emissions

Major Sources - Offshore Emissions Calculations:

\[ \begin{align*}
\text{NO}_x & \quad 700 \quad \text{tons/yr} \quad \text{CO} \quad 100 \quad \text{tons/yr} \quad \text{VOC} \quad 50 \quad \text{tons/yr} \\
\text{TSP} & \quad 10 \quad \text{tons/yr} \quad \text{SO}_2 \quad 39 \quad \text{tons/yr}
\end{align*} \]

Minor Sources - Offshore Emissions Calculations:

\[ \begin{align*}
\text{NO}_x & \quad 56 \quad \text{tons/yr} \quad \text{CO} \quad 1044 \quad \text{tons/yr} \quad \text{VOC} \quad 1044 \quad \text{tons/yr} \\
\text{TSP} & \quad 14 \quad \text{tons/yr} \quad \text{SO}_2 \quad 11.3 \quad \text{tons/yr}
\end{align*} \]

Total Offshore Emissions:

\[ \begin{align*}
\text{NO}_x & \quad 756 \quad \text{tons/yr} \quad \text{CO} \quad 1144 \quad \text{tons/yr} \quad \text{VOC} \quad 6046 \quad \text{tons/yr} \\
\text{TSP} & \quad 54 \quad \text{tons/yr} \quad \text{SO}_2 \quad 50.3 \quad \text{tons/yr}
\end{align*} \]

Emissions Exemption Calculations:

Distance to Nearest Land in Statute Miles: 105

Exemption: For CO: \( E = 34000^{2/3} = 5.672 \) tons/yr

For NO\(_x\), VOC, TSP, SO\(_2\): \( E = 33.3 \times 3.496 \) tons/yr

There will be significant effect on air quality from the proposed action:

Yes - No X

Information Source(s): P/ & E.R.

Comments/Recommendations:

______________________________
______________________________

Elgin Tandy
Meteorologist 9-24-87 Date
OIL SPILL REVIEW

Company Name: REBECCA B.

CER/EA No.: 43-06

Lease OCS-G: 2622

Area and Block: MT A-153

Primary oil spill equipment base: ESS

Response time: 25 hours

Trajectory analysis submitted: Yes  No

The operator's response time/trajectory analysis is adequate: Yes  No

Information Sources: Visuals, EIS, Staff, Plan

Comments/Recommendations: None

Reviewer: [Signature]

Date: 11/20/70

27
Memorandum

To: Operations Support Unit (MS 5222)

From: Exploration/Development Unit (MS 5231)

Subject: Plan Type - Revised Plan of Exploration
Control Number - R-2716
Leases - OCS-G 7362
Blocks - A-353
Area - High Island
Operator - Roberts & Bunch Offshore, Inc.

Classification of Area per 250.67(c):

[ ] Zone(s) known to contain H2S
[ ] Zone(s) where the presence of H2S is unknown
[ ] Zone(s) where the absence of H2S has been confirmed

Recommendation/Comments:

[ ] Approval recommended. Normal precautions will be adequate while conducting activities proposed in this POE.

[ ] Approval is recommended with the following conditions:

[ ] Modification recommended as follows:

[ ] Disapproval recommended for the following reason(s):

[ ] Comments:

Enclosed are the following reviews as per your request:

- Hazards Review
- Geophysical
- Geological

[Signature] Unit Supervisor

Enclosures
Hazards Review

Plan Type: Revised Plan of Exploration
Leases: OCS G 7362
Blocks: A-353
Area: High Island
Control No.: R-2716

The subject proposal includes Well E (No. 2)

Seafloor Hazards: None apparent

Subsurface Hazards: None expected

Other Hazards (Pipelines, Sunken Ships, Cables, etc.): None

Preparer(s): [Signature]

[Date] 25
To: District Supervisor, LAKE JACKSON District
From: Staff Geologist, LAKE JACKSON District
Subject: Geological Review

Date: 5/20/91

To:  
From:  
Subject: Geological Review

Date: 5/20/91

OGS-G 7362-Area  

Depth 4000 Water depth 300 Rig Rockland
S. Loc. 450' F.S., 6500' F.E., 80' B.H. Loc. 350' F.E., 80' B.H.

Anticipated Depths and Thickness of:

1. (a) Potential Oil and/or Gas Bearing rocks (b) Shallow Hazards
   A. Upper Pleistocene gas sands 7,000'
   B. Non-saltable shallow sediments

2. Fresh Water Sands:
   None

3. Domal Material (Cap Rock, False Cap Rock, Salt, Shale):
   Low pressure shale 8'900'

4. Possible Lost Circulation Zones:
   Salt @ 6950

5. Possible Abnormal Pressure Zones
   7300' (E-Izag, well #1)

6. Horizons which may need Special Mud, Casing or Cementing Program
   1/4/5 above

Distance from nearest well or platform:
4,700 SW of #1

Relationship of surface location to geological structures:
Low fault traps or no faulting at 25' depth limit

Remarks:

Additional Data Needed: Map

Data Reviewed: 1984-1985 A 353, E 96 37362#1 Footing, Application Review

Recommendation: Approve

Signed P. L. Schade
Form HM5-119 (Feb. 1986)
UNITED STATES GOVERNMENT
MEMORANDUM

To: Supervisor, Exploration/Development Plans Unit, Plans, Platform and Pipeline Section, Field Operations, Gulf of Mexico OCS Region (FO-2-1)

From: Supervisor, Platform/Pipeline Unit, Plans, Platform and Pipeline Section, Field Operations, Gulf of Mexico OCS Region (FO-2-2)

Subject: Plan of Exploration for Roberts X Bunch OFPS-4885, H Island, Area, Block A 353, Lease OCS-G 726

30 CFR 250.34 Control No. R-2716

Proposed Well/Platform:

Identification and Location

Existing Pipelines Within 500 Feet

WELL 6(2) 45' EIL + 6550' R = None

Remarks:

Frank Jones
Unit Supervisor
APPENDIX C

REVIEWS FROM OTHER AGENCIES
Mr. J. Rogers Pearcy, Regional Director  
U.S. Department of the Interior  
Minerals Management Service, FO-2-1  
1201 Elmwood Park Blvd.  
New Orleans, LA 70123-2394  

Dear Mr. Pearcy:

The National Marine Fisheries Service has reviewed the Revised Plan of Exploration prepared by Robert & Bunch for Lease OCS-G 7362, Block A-353 High Island Area (Control No. R-2716).

Robert & Bunch propose to drill one additional well, designated as Well No. 2. This well is within the "4-Mile Zone" of the East Flower Gardens, and therefore, is subject to Minerals Management Service's topographic features stipulations. The leasee has indicated the stipulation involving the shunting of all drill solids and liquids to within 10 meters of the bottom, as defined in Sect. C, (1) of the lease stipulations listed in recent Environmental Impact Statements for Western Gulf of Mexico OCS lease sales, will be adhered to.

Therefore, the NMFS has no changes to recommend on the subject plan of exploration.

Thank you for the opportunity to provide these comments.

Sincerely yours,

[Signature]

Andreas Mager, Jr.  
Assistant Regional Director  
Habitat Conservation Division
ORIGINAL LOCATIONS

REVISED LOCATION

HIGH ISLAND BLOCK A-353
OCS-G-7362

REVISED PLAN OF EXPLORATION

SCALE 1" = 2000'

35