#### UNITED STATES GOVERNMENT MEMORANDUM

November 25, 2003

To:

Public Information (MS 5034)

From:

Plan Coordinator, FO, Plans Section (MS

5231)

Subject:

Public Information copy of plan

Control #

N-07958

Type

Initial Development Operations Coordinations Document

Lease(s)

OCS-G24932 Block - 197 Ship Shoal Area

Operator

Stone Energy Corporation

Description -

Caisson and Wells B and C

Rig Type

JACKUP

Attached is a copy of the subject plan.

It has been deemed submitted as of this date and is under review for approval.

Michelle Griffitt Plan Coordinator

Jonach Supple

| Site Type/Name | Botm Lse/Area/Blk | Surface Location   | Surf Lse/Area/Blk |
|----------------|-------------------|--------------------|-------------------|
| CAIS/B         | 4                 | 4075 FNL, 2120 FEL | G24932/SS/197     |
| CAIS/C         | .•                | 2300 FSL, 5040 FWL | G24932/SS/197     |
| WELL/B         | G24932/SS/197     | 4075 FNL, 2120 FEL | G24932/SS/197     |
| WELL/C         | G24932/SS/197     | 2300 FSL, 5040 FWL | G24932/SS/197     |

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NOTED - SCHEXNAILDRE





P.O. Box 52807 Lafayette, Louisiana 70505 625 East Kaliste Saloom Road Lafayette, Louisiana 70508 Telephone: (337) 237-0410 Fax: (337) 233-2276

November 13, 2003

U.S. Department of Interior Minerals Management Service 1201 Elmwood Park Blvd. New Orleans, LA 70123

Attn:

Mr. Nick Wetzel

Section Chief Plans Section

Office of Field Operations

RE:

Initial DOCD

Ship Shoal Block 197

OCS-G 24932 Offshore, Louisiana

Mr. Wetzel,

In accordance with the provisions of Title 30 CFR 250, Stone Energy Corp. hereby submits for your review and approval nine (9) copies of an Initial Development Operations Coordination Document for Lease OCS-G 24932, Ship Shoal Block 197, Offshore Louisiana. Five (5) copies are "Proprietary Information" and four (4) copies are "Public Information". Excluded from the Public Information are certain geologic discussions, depths of well, bottom hole location and structure map.

Stone Energy Corp. anticipates activities will commence under this proposed Initial DOCD on or about January 15, 2004 or as soon as the applicable permits are approved. Any assistance you can give to expedite the approval of this plan will be greatly appreciated.

Should you require additional information, please contact me at (337) 237-0410.

Sincerely,

Amy Fell

Compliance Assistant

Enclosures:

(5) Copies of Initial DOCD (Proprietary)

(4) Copies of Initial DOCD (Public)

(3) Bindesr Arch and Hazard Study

(3) CD's Arch & Hazard Study

(1) Folder -Navigation Data

(3) Folders- Arch & Shallow Hazard Statements w/ Arch and Hazard Maps

(1) Folder- Set of Raw Hazard Survey Data

(2) Seismic Maps

CONTROL NO. N-7958

REVIEWER: Michelle Griffitt

PHONE: (504) 736-2975

# INITIAL DEVELOPMENT OPERATIONS COORDINATION DOCUMENT

#### **FOR**

## STONE ENERGY CORP.

GULF OF MEXICO OFFSHORE, LOUISIANA

### SHIP SHOAL 197 LEASE OCS-G 24932

COMPANY CONTACT
Tom Shinn
Stone Energy Corp.
P.O. Box 52807
Lafayette, LA 70505
Phone: (337) 237-0410

Fax: (337) 233-2276

**NOVEMBER 2003** 

## **INDEX**

|        | ]   | <u>PAGE</u> |
|--------|---|-------------|
| I.     | HISTORY OF LEASE  | . 1         |
| II.    | LEASE STIPULATIONS  | 1           |
| III.   | BONDING REQUIREMENTS  | 1           |
| IV.    | SCHEDULE OF OPERATIONS  | 2           |
| V.     | NEW OR UNUSUAL TECHNOLOGY                                       | 2           |
| VI.    | DESCRIPTION OF DRILLING UNIT AND POLLUTION PREVENTION EQUIPMENT | 2           |
| VII.   | DESCRIPTION OF PLATFORM   | 2,3         |
| VIII.  | WELL LOCATIONS  | 4           |
| IX.    | STRUCTURE MAP / GEOLOGIC CROSS-SECTION                          | 4           |
| X.     | WATER DEPTH   | 4           |
| XI.    | SHALLOW HAZARDS   | 4           |
| XII.   | LOCATION OF THE LEASE AND ONSHORE FACILITIES                    | 4           |
| XIII.  | OIL SPILL RESPONSE PLAN/ WORST CASE SCENARIO TABLE              | 1,5,6,7     |
| XIV.   | DISCHARGES  | 7,8         |
| XV.    | HYDROGEN SULFIDE  | 8           |
| XVI.   | AIR QUALITY REPORT  | 8           |
| XVII.  | ENVIRONMENTAL IMPACT ANALYSIS                                   | 8           |
| XVIII. | COASTAL ZONE CONSISTENCY CERTIFICATION                          | 8           |
| XIX.   | BIOLOGICAL INFORMATION  | 8           |
| XX.    | AUTHORIZED REPRESENTATIVE                                       | 9           |
| XXI.   | ATTACHMENTS   | 9           |

# STONE ENERGY CORP. INITIAL DEVELOPMENT OPERATIONS COORDINATION DOCUMENT SHIP SHOAL 197 OCS-G 24932

Stone Energy Corp. (Stone), as owner and operator of subject lease, submits the following information for planned development and production activities in, offshore, Louisiana. This proposed INITIAL DEVELOPMENT OPERATIONS COORDINATION DOCUMENT (INITIAL DOCD) in accordance with the regulations contained in Title 30 CFR 250.204 and more specifically defined in the Minerals Management Service (MMS) Notice to Lessees (NTL) and Operators dated August 29, 2002.

#### I. HISTORY OF LEASE

LEASE OCS-G 24932 was acquired at Gulf of Mexico Lease Sale No. 185 on March 19, 2003 issued with an effective date of July 1, 2003. Stone Energy currently holds the lease. Stone Energy is designated operator of the lease.

#### II. LEASE STIPULATIONS

In response to the Military Areas Stipulation being invoked in this block, Stone will contact the command headquarters for Military Warning Area W-59A (Naval Air Station, New Orleans, LA Telephone – 504-391-8696 or 8687 for the purpose of entering into an agreement concerning the control of electromagnetic emissions and the use of boats and aircraft in the warning areas.

SHIP SHOAL 197 is one of the blocks listed on the Letter to Lessees (LTL) issued by MMS on September 5, 1995 as being within the high-probability area for prehistoric and historic archaeological resources on the OCS. An Archeological and Shallow Hazards Report by Fugro Geoservices, Inc. dated September 26, 2003, is being submitted with this Initial DOCD. Stone Energy Corporation will take no action that will adversely affect any archeological resource. If an archeological resource is discovered while conducting operations in the lease area, Stone Energy will report the discovery immediately, and will make every reasonable effort to preserve the resource until the Regional Director advises how to protect it.

#### III. BONDING REQUIREMENTS

In fulfillment of the requirements of MMS Notice to Lessees and Operators (NTL) 98-18N, dated December 28, 1998, which amends Title 30 CFR Part 256 surety bond requirements applicable to OCS lessees and operators, please be advised that Stone has in place a \$3 million area wide bond number (61S103620560BCM) to cover operations on this lease in the Gulf of Mexico.

#### IV. SCHEDULE OF OPERATIONS

Under this proposed INITIAL DEVELOPMENT OPERATIONS COORDINATION DOCUMENT, Stone plans to drill two (2) developmental well Locations "B" & "C", install caissons and pipelines to SS 198 "G" Platform.

Life of Reserves – Excluded from Public Copy

Estimated 55 drilling days for well. The following schedule details the chronological order of the proposed events leading to the full start up of drilling and completion:

| Proposed Activity                     | ESTIMATED START DATE             |
|---------------------------------------|----------------------------------|
| Drill, evaluate and complete well "B" | January 15, 2004 – March 9, 2004 |
| Drill, evaluate and complete well "C" | March 10, 2004– May 3, 2004      |
| Install single well caissons          | May 4, 2004 – May 17, 2004       |
| Install Pipelines to SS 198 "G"       | May 18, 2004 – May 31, 2004      |
| Commence Production                   | June 1, 2004                     |

#### V. NEW OR UNUSUAL TECHNOLOGY

No new techniques or unusual technology will be required for these operations.

# VI. DESCRIPTION OF DRILLING UNIT AND POLLUTION PREVENTION EQUIPMENT

Safety features on the drilling rig will include well control and blowout prevention equipment as described in 30 CFR 250.400. The appropriate life rafts, life jackets, ring buoys, etc., as prescribed by the U.S. Coast Guard, will be maintained on the facility at all times. In addition, the rig and platform will be equipped with typical pollution control equipment including, but not limited to, deck drains, sumps, drip pans and sewage treatment facilities.

Drilling and completion operations will be done with a typical jack-up rig. The rig specifications are and will be made part of the Application for Permit to Drill.

The goal of this developmental program is the gathering of information on the productivity of the leased area, in a safe manner, with minimal disruption of the environment. Production operations will be conducted by qualified Stone representatives. Regular training of operations personnel is a necessary complement to the pollution prevention features in the design of equipment and operations.

#### VII. DESCRIPTION OF PLATFORM

Under this proposed INITIAL DEVELOPMENT OPERATIONS COORDINATION DOCUMENT, Stone plans to drill and produce two (2) developmental well on SS 198 Lease OCS G-24932. Install caisson at each surface location and pipelines to SS 198 'G'. Our



development plans are contingent upon the results of the drilling program, which may modify the existing structure.

Description of Platform installation- The jacket, piles and deck section or sections, the components which make up the caisson will go out to location via a material barge, pushed by tugs. At location will be a derrick or lift barge to perform the installation of the platform. The derrick or lift barge to be use could either be of a type which uses anchors to hold the barge in place during operations, or be a dynamic positioning type, which uses threshers to hold the barge in place during operations. The type of derrick or lift barge to be used by Stone Energy as related to this plan will depend on pricing and availability.

Once on location the jacket will be lower to sea floor by flooding the legs. The derrick or lift barge will then hold the jacket in place up right, while the piles are driven through the jacket legs into the seafloor to secure the jacket section in place.

The deck will be lifted off the material barge by the derrick barge or lift barge and tabbed into the legs of the jacket. The deck will be leveled and welded in place.

At this point installation operations of the proposed caissons will be completed and the material barge and derrick barge will be released.

Operations will then begin to complete the final deck piping, and hook-up of the pipelines to prepare the caisson for production operations.

#### Transportation to shore -

A 3" bulk gas line will run from Location 'B' (caisson to be installed) to SS 198 'G'. Length is approximately 22,000' from Location 'B' to SS 198 'G'. A 3" bulk gas line will run from Location 'C' (caisson to be installed) to SS 198 'G'. Length is approximately 12,000' from Location 'B' to SS 198 'G'. Maximum Flow Rate for Location 'B' is .5 MMCFPD and 500 BOPD and Maximum Flow Rate for Location 'C' is 5.0 MMCFPD and 50 BOPD, and shut-in time of any proposed pipelines is 1 to 2. 5 minutes. Existing saleslines will be utilized at SS 198 'G'

#### Description & Location Of Primary onshore Terminal-

The condensate from SS 198 "G" is Stone Energy's Pipeline that ties into Sleeping Turtle, then Eugene Island flowline system Burns Terminal in Burn, Louisiana.

The gas production from SS 197, OCS-24932, Locations "B" and "C" will be transported to SS 198, OCS-24932, "G" Platform via a proposed 8-inch pipeline for separation, processing and metering for sales and royalty purposes. Once metered at SS 198 "G" Platform the gas will be depart that facility via an existing 16-inch gas Tennessee Gas pipeline for delivery into the Blue Water System, Operations System No. 28.0 for final delivery to the Cocodrie Terminal in Cocodrie, Louisiana.

#### VIII. WELL LOCATIONS

The locations of the SHIP SHOAL 197 wells are shown on the "OCS Plan Information Plan" included as **Attachment "A"**. The bottom-hole locations are considered Proprietary and are excluded from the Public Information copies of the plan.

#### IX. STRUCTURE MAP / GEOLOGIC CROSS-SECTIONS

Current structure maps drawn to the top of the prospective hydrocarbon accumulation showing the surface and bottom-hole locations of the development wells are included as **Attachment "B"**. This attachment also includes a cross-section map depicting the proposed well locations and the geologic name and age of the anticipated structures. This information is considered Proprietary and excluded from Public Information copies of the plan.

#### X. WATER DEPTH

Water depth across the block surveyed is approximately 90 ft to 108 ft in OCS G-24932. Water depth at the proposed locations is 105 ft. A Bathymetry Map is included as **Attachment "G"**.

#### XI. SHALLOW HAZARDS

Shallow Hazard Statement for proposed surface locations is included as Attachment "L".

#### XII. LOCATION OF THE LEASE AND ONSHORE FACILITIES

SHIP SHOAL 197 is located approximately 35 miles from the nearest Louisiana coastline and approximately 71 miles from the shore base located in Fourchon, Louisiana. A vicinity map of SHIP SHOAL 197 relative to the shoreline and onshore base is included in this plan as **Attachment** "C".

The onshore support base required to support these offshore operations will be located at Fourchon, Louisiana. This will serve as port of debarkation for supplies and crews. No onshore expansion or construction is anticipated with respect to the proposed activities. This base is capable of providing the services necessary for the proposed activities. It has 24-hour service, a radio tower with a phone patch, dock space, equipment and supply storage base, drinking and drill water, etc.

Stone Energy Corporation anticipates using on helicopter, one supply boat, and one crew boat to support their SHIP SHOAL 197. The helicopter will travel to the location as needed. The crew boat will travel to the location a total of two times per week, and the supply boat will travel to the location a total of two times per week.

#### XIII. OIL SPILL RESPONSE PLAN

All drilling, completion, and production operations shall be performed in accordance with industry standards to prevent pollution of the environment. Stone Energy Corporation is the only entity covered in the Regional Oil Spill Response Plan on file with the MMS. OSRP update 4/02/03pending approval and lastly modified 5/07/03. ES&H submitted a correction for

development plans are contingent upon the results of the drilling program, which may modify the existing structure. A Typical well Protector Caisson is included as **Attachment "O".** 

**Description of Platform installation**- The jacket, piles and deck section or sections, the components which make up the caisson will go out to location via a material barge, pushed by tugs. At location will be a derrick or lift barge to perform the installation of the platform. The derrick or lift barge to be use could either be of a type which uses anchors to hold the barge in place during operations, or be a dynamic positioning type, which uses threshers to hold the barge in place during operations. The type of derrick or lift barge to be used by Stone Energy as related to this plan will depend on pricing and availability.

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WCD- it remains EW 305 and eliminating Stone Energy L.L.C. Stone Energy requests that the activities proposed in this INITIAL DOCD be covered by our OSRP.

This plan designates an Oil Spill Response Team consisting of contract personnel through Environmental Safety and Health Consulting Services, Inc. 877-437-2634. This team's duties are to eliminate the source of any spill, remove all sources of possible ignition, and deploy the most reliable means to monitor the movement of a slick, and contain and remove the slick if possible. Stone's Oil Spill Response Team attends drills for familiarization with pollution control equipment and operations procedures on an annual basis.

Stone is a member company of Clean Gulf Associates (CGA). The CGA stores pollution control equipment throughout the Gulf Coast.

In the event of a spill, the primary location for the procurement of clean-up equipment would be the CGA stockpile at Houma, Louisiana. Houma, Louisiana is the staging area for CGA's equipment. Additional clean-up equipment could be mobilized from Galveston and Ingleside, Texas and Fort Jackson and Lake Charles, Louisiana CGA stockpile areas. The Houma stockpile is located approximately 72 miles from the block SHIP SHOAL 197.

Worst Case Discharge = (Daily Volume from Uncontrolled Blowout) + (Maximum capacity of Oil Storage Tanks and Flowlines at Facility) + (Volume of Oil Leaked from Break in Pipelines Connected to the Facility)

Worst Case Discharge = 500 + 0 + 0 = 500 barrels

The Worst Case Discharge scenario calculated in accordance with 30 CFR 254.21 through 254.29 will be more than 1,000 barrels. OSRP update 4/02/03 pending approval and lastly modified 5/07/03. ES&H submitted a correction for WCD- it remains EW 305 and eliminating Stone Energy L.L.C.

Worst Case Scenario Comparison Table

| Category                                       | Regional OSRP         | INITIAL DOCD    |
|--|-----------------------|-----------------|
|  | Production -          | Developmental   |
| Type of Activity                               |                       | Drilling        |
| Facility Designation                           | EW 305 A              | SHIP SHOAL 197  |
| Distance to Nearest Shoreline (miles)          | 32 miles (> 10 miles) | 35 miles        |
| Volume   |                       |                 |
| Storage tanks (total)                          | 25 BBLS               | 0 BBLS          |
| Flowlines (on facility)                        | 0 BBLS                | 0BBLS           |
| Lease term pipelines                           | 2480 BBLS             | 0 BBLS          |
| Uncontrolled blowout (volume per day)          | 4576 BBLS             | 500 BBLS        |
| Total Volume                                   | 7081 BBLS             | 500 BBLS        |
| Type of Oil(s)-(crude oil, condensate, diesel) | Crude Oil             | Crude Oil       |
| API Gravity(s)                                 | 33.8°                 | Estimated 36.1° |

"Since Stone Energy Corporation has the capability to respond to the worst-case spill scenario included in its regional OSRP. OSRP update 4/02/03 pending approval and lastly modified 5/07/03. ES&H submitted a correction for WCD- it remains EW 305 and eliminating Stone Energy L.L.C., Since the worst-case scenario determined for our INITIAL DOCD does not replace the worst-case scenario in out regional OSRP, I hereby certify that Stone Energy Corporation has the capability to respond, to the maximum extent practicable, to a worst-case discharge, or a substantial threat of such a discharge, resulting from the activities proposed in our INITIAL DOCD."

Facility Tanks, productions vessels.

| <u> </u>     | <b>A</b> |                 |           |                 |               |  |  |
|--------------|----------|-----------------|-----------|-----------------|---------------|--|--|
| Type of      | Type of  | Tank            | Number of | Total           | Fluid         |  |  |
| Storage Tank | Facility | Capacity (bbls) | Tanks     | Capacity (bbls) | Gravity (API) |  |  |
| Fuel Oil     | Jack up  | 1000            | 2         | 2000            | No. 2 Diesel  |  |  |
| Production   | N/A      | N/A             | N/A       | N/A             | N/A           |  |  |

There are no oil storage tanks at SHIP SHOAL 197 Locations "B" & "C"

Diesel oil supply vessels.

|   | <u></u>       |                  |                   |                                     |
|---|---------------|------------------|-------------------|-------------------------------------|
|   | Size of fuel  | Capacity of Fuel | Frequency         | Route Fuel Supply                   |
| ĺ | Supply Vessel | Supply Vessel    | of Fuel Transfers | Vessel Will Take                    |
|   | 190 feet      | 1,500 bbls       | Weekly            | From the shorebase in Fourchon, LA, |
|   |               |                  |                   | SS 198, Then to SS 197              |

Support vessels fuel tanks.

| Type of Vessel  | Number in Field<br>Simultaneously | Estimated ;Maximum Fuel Tank Storage Capacity |
|-----------------|-----------------------------------|---|
| Tug boats       | 1                                 | 1000  |
| Supply vessels  | 1                                 | 1500  |
| Service vessels | 2                                 | 1000  |
| Crew vessels    | 1                                 | 400   |

**Produced liquid hydrocarbons transportation vessels.** Liquid hydrocarbons will be transported by pipeline.

Oil and synthetic-based drilling fluids.

| Type of Drilling | Estimated Volume of | Mud Disposal     | Estimated Volume of | Cuttings Disposal |
|------------------|---------------------|------------------|---------------------|-------------------|
| Fluid            | Mud Used per Well   | Method           | Cuttings Generated  | Method            |
| Oil-based        | 1200                | Onshore Disposal | 2150                | Onshore disposal  |
| Synthetic-based  | 1200                | Recycle          | 2150                | Discharge*        |

<sup>\*</sup>Stone Energy has approval under EPA General Permit #GMG 290000 set forth in Part II.D.10 of the permit and 40 CFR 122.22.

#### Blow Out Scenario.

| Estimated Spill Flow Rate                           | 500 BOPD             |
|---|----------------------|
| Volume  | 27,500 BCPD          |
| Time Frame  | 55 DAYS              |
| Potential for well to bridge over                   | Moderate Probability |
| Likelihood for surface intervention to stop blowout | Moderate Probability |
| Availability of rig to drill relief well            | High Probability     |
| Rig Package constraints                             | None                 |
| Estimated time to drill relief well                 | 55DAYS               |

Spill response sites.

| Primary response sites | Preplanned Staging Location(s) |  |  |
|------------------------|--------------------------------|--|--|
| Houma, LA              | Houma, LA                      |  |  |

**Spill response.** Stone Energy has ensured, by means of contract, an experienced Spill Management Team as well as an extensive response resource contractor team in order to ensure it is well prepared to address the issues involved. Whenever possible, Stone Energy Corporation will attempt to use alternative response to dissipate an oil slick before it can impact land segments. Mechanical recovery and containment equipment will also be deployed to the spill site in a proactive manner. **Attachment "I"**.

Pollution prevention measures. Stone Energy will ensure our Spill Management Team is well versed with the probable impacted land segment, which in this case the spill originating at the Ship Shoal Area is Cameron, LA and Vermilion, LA. In addition, ensure safety briefings are conducted. The pollution prevention will consist of identifying the hazardous spilled material, control the source, maximize protection of environmentally sensitive areas and contain and recover spilled material. The early spill detection measure will consist of using aircraft, whenever possible. In the event of a night-time spill- the use of Infa-Red sensing cameras are capable of detecting petroleum on the water during the day or at night and in all weather conditions. Attachment "J".

#### XIV. DISCHARGES

All discharges associated with the proposed activities will be in accordance with regulations implemented by MMS, U.S. Environmental Protection Agency (EPA) and U.S. Coast Guard (USCG). Wastes and Discharges Attachment "K".

In accordance with EPA's Gulf of Mexico NPDES General Permit, discharges will contain no free oil and will be monitored and in compliance with the general permit. Any drilling fluid contaminated with oil will be transported to shore for proper disposal at an authorized disposal site.

EPA Region VI will be advised prior to and upon completion of discharges for the proposed drilling and production operations addressed in the subject Plan. Surveillance of fluids is accomplished through daily inventory of mud and chemicals added to the system, in addition to monthly and end-of-well LC50 toxicity tests required by EPA.

Produced water will be discharged from the platform. The discharge will be monitored to ensure the absence of sheen, and all testing will be performed as required by EPA Permit No. GMG290000.

Solid domestic wastes will be transported to shore for proper disposal at an authorized disposal site, and sewage will be treated on location by USCG approved marine sanitation devices on the drilling rig.

Typical mud components, which may be used in the drilling of the proposed wells, are included in **Attachment "D".** The quantities and rates of discharge are included as **Attachment "E"**.

#### XV. HYDROGEN SULFIDE

In accordance with Title 30 CFR 250.417 (c), Stone Energy requests that Ship Shoal Block 198 be classified by Minerals Management Service as an area where absence of hydrogen sulfide has been confirmed. The basis of this request is that the objective sands in proposed wells B and C correlate with sands field that have been drilled and produced in similar hydrocarbon traps in SS 198. Based on analysis of produced fluids these reservoirs have been determined to be hydrogen sulfide-free.

#### XVI. PROJECTED AIR EMISSIONS

An Air Quality Report has been prepared and is included as **Attachment "F"**.

#### XVII. ENVIRONMENTAL IMPACT ANALYSIS

An Environmental Impact Analysis was prepared and is included with this application as Attachment "M".

#### XVIII. COASTAL ZONE CONSISTENCY CERTIFICATION

Issues identified in the Louisiana Coastal Zone Management Program include the following: general coastal use guidelines, levees, linear facilities (pipelines), dredged soil deposition, shoreline modifications, surface alterations, hydrologic and sediment transport modifications, waste disposal, uses that result in the alteration of waters draining into coastal waters, oil, gas or other mineral activities, and air and water quality.

A Certificate of Coastal Zone Management Consistency for Louisiana and Statement regarding proposed activities to comply with Louisiana's approved Coastal management Program and with the applicable enforceable policies has been prepared and is included as **Attachment "O"**.

#### IX. BIOLOGICAL AND PHYSICAL INFORMATION

Stone Energy does not propose using a semi submersible drilling rig to be placed within 500 feet of the no- activity zone of an identified topographic feature. Stone Energy will utilize a jack-up drilling rig. Due to the water depth and proposed surface location there is not "Deepwater Chemosynthetic Communities" Stone Energy does not propose bottom-disturbing activities, within 100 feet of any pinnacle trend feature with vertical relief equal to or greater than 8 feet.

#### XX. AUTHORIZED REPRESENTATIVE

Inquiries may be made to the following authorized representative:

Stone Energy Corp.

P.O. Box 52807

Lafayette, LA 70505

Phone: (337) 237-0410 Fax: (337) 233-2276 ATTN: Tom Shinn

Safety and Compliance Manager

#### XXI. ATTACHMENTS

Attachment A - OCS Plan Information Form and Plat

Attachment B - Structure Maps, Cross Sections, Geo Pressure Statement

Attachment C - Vicinity Map

Attachment D - Typical Mud Components

Attachment E - Quantities and Rates of Discharge

Attachment F - Air Quality Report
Attachment G - Bathymetry Map

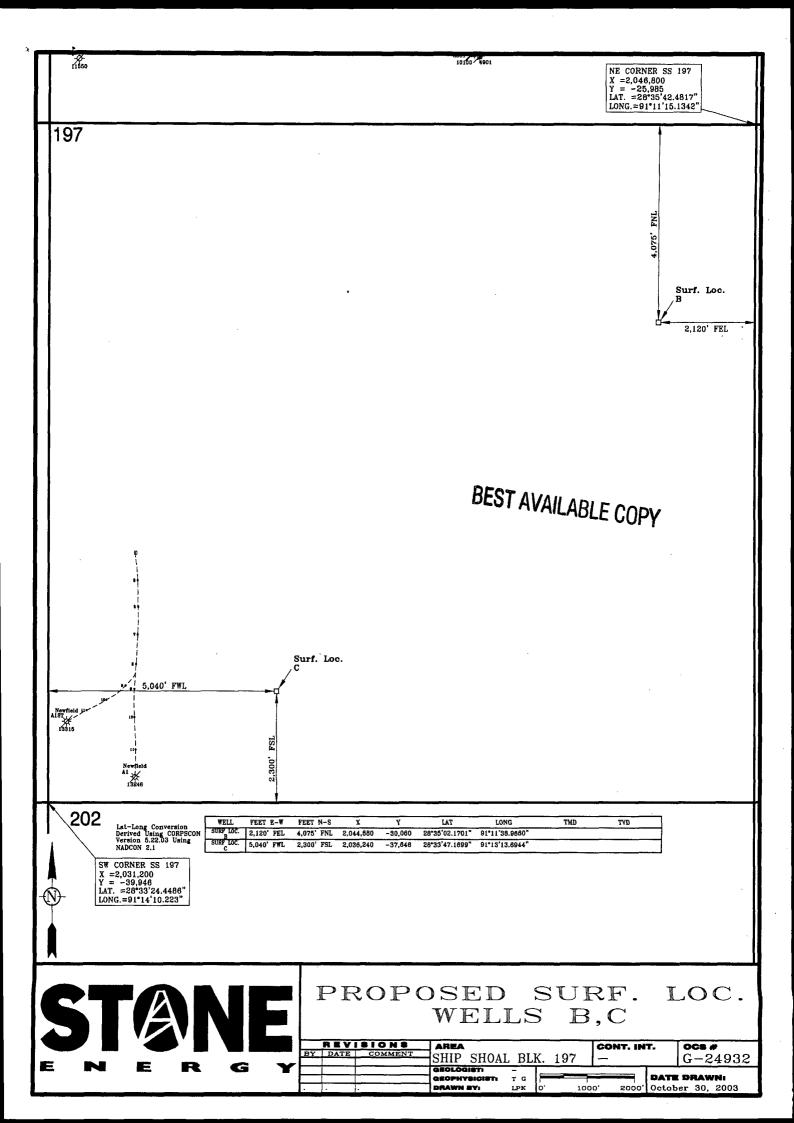
Attachment H - BOP and Diverter Schematic

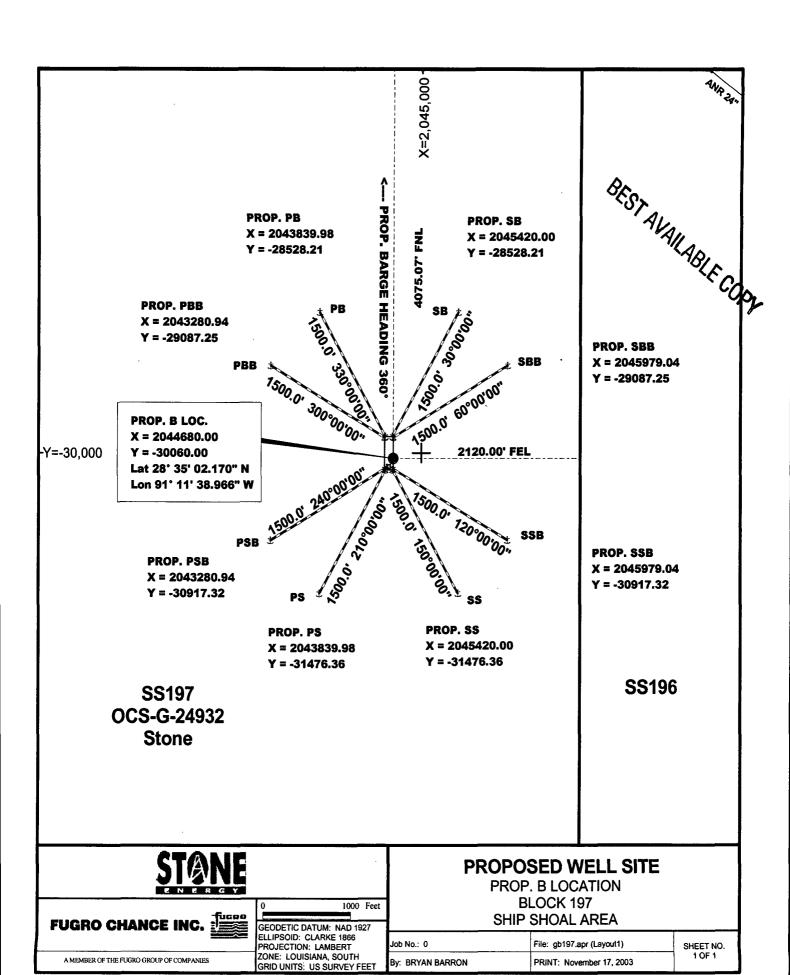
Attachment I - Spill Response

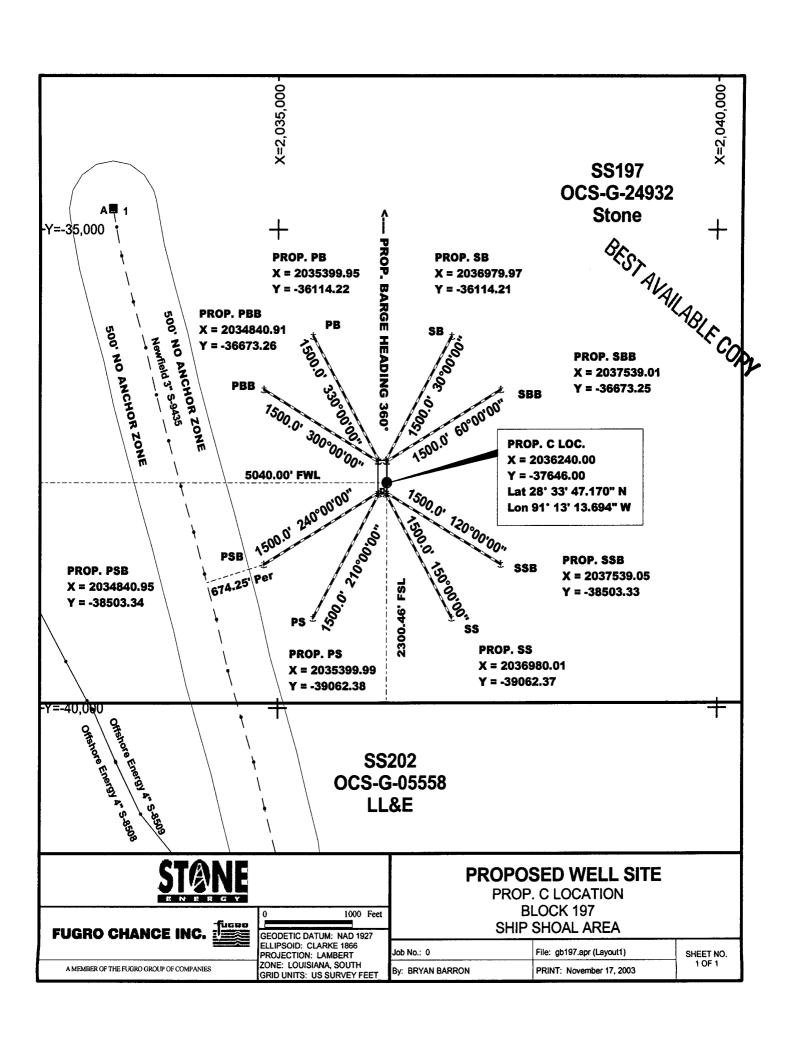
Attachment J - Pollution Prevention
Attachment K - Wastes and Discharges
Attachment L - Shallow Hazard Statement

Attachment M - Environmental Impact Analysis

Attachment N - Certificate of Coastal Zone Consistency







# APPENDIX J PLAN INFORMATION FORM

In order to facilitate data entry and review your OCS plan, we encourage you to use the attached optional "Plan Information Form."

OMB Control No. 1010-0049 Expiration Date:

OCS PLAN INFORMATION FORM (USE SEPARATE FORM FOR EACH LEASE)

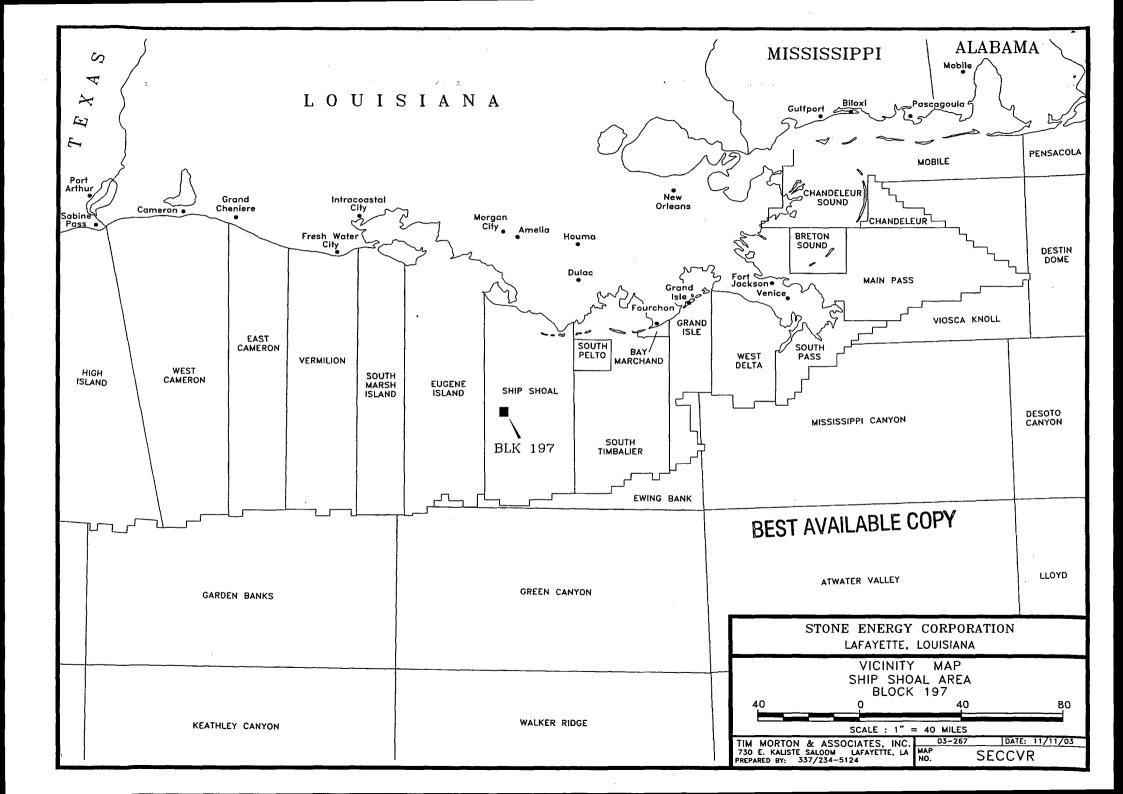
| EXPLORATION PLAN                                 | DEVE        | DEVELOPMENT OPERATIONS COORDINATION DOCUMENT |                     |                  |  | ENT      | x            | DEVELOPMENT & PRODUCTION PLAN                         |
|--|-------------|--|---------------------|------------------|--|----------|--------------|---|
| OPERATOR: Stone Energy                           | Corporation |  |                     |                  | ADDRESS: P.O.                                    | . Box 52 | 2807         |   |
| MMS OPERATOR NO.:01834                           |             |  | Lafayette, LA 70505 |                  |  |          |              |   |
| CONTACT PERSON: Tom                              | Shinn       |  |                     |                  | PHONE NO. (33                                    | 37) 237- | 0410         | ·   |
| PROPOSED START DATE: 01/15/04 RIG TYPE: JU SS PF |             |  | E: JU SS PF         | DS OTHER         | OS OTHER DISTANCE TO CLOSEST LAND (IN MILES): 35 |          |              |   |
| NEW OR UNUSUAL TECHNOLOGY YES                    |             | YES  | NO                  | ONSHOR           | ONSHORE SUPPORT BASE(S): Fourchon, La            |          |              | n, La   |
|  |             |  |                     |                  | · · · · · · · · · · · · · · · · · · ·            |          | <del> </del> |   |
| NARRATIVE DESCRIPTION                            | ON OF PROP  | OSED ACT                                     | IVITIES: Dri        | ll, evaluate, an | d complete Locatio                               | ns 'B' a | and 'C       | ', install caisson at each surface, install pipelines |
| To SS 198 'G'                                    |             |  |                     |                  |  |          |              |   |
|  |             |  |                     |                  | PR   | OJECT    | NAM          | E, IF APPLICABLE:                                     |

#### PROPOSED WELL/STRUCTURE LOCATIONS

| WELL/                | SURFACE LOCATION BOTTOM-HOLE      |                       |                             |                            |  |  |  |
|----------------------|-----------------------------------|-----------------------|-----------------------------|----------------------------|--|--|--|
| STRUCTURE            | SURFACE LOC                       | ATION                 |                             |                            |  |  |  |
|                      |                                   |                       | LOCATION (FOR WELLS)        |                            |  |  |  |
| NAME                 |                                   |                       |                             |                            |  |  |  |
|                      | CALLS: 2120' FEL and 4075' FN     | <u>L</u> OF           | CALLS: OM                   | IITTED and OMITTED OF      |  |  |  |
| Well <u>B</u>        | LEASE: OCS 24932, Ship Shoal ARE  | Ā,                    | L                           | 24932, Ship Shoal AREA,    |  |  |  |
| _                    | BLOCK 197                         |                       | BLOCK 197                   | ,                          |  |  |  |
| Name: Ship Shoal 197 | X: 2,044,680                      |                       | X: OMITTE                   | D                          |  |  |  |
|                      | Y: -30,060                        |                       | Y: OMITTE                   |                            |  |  |  |
|                      |                                   |                       |                             | ···                        |  |  |  |
|                      | LAT: <u>28°35'02.1701"</u>        |                       | LAT: OMIT                   | TED                        |  |  |  |
|                      | LONG: 91°11'38.9660"              |                       | LONG: OM                    | ITTED                      |  |  |  |
|                      |                                   | Land Control Control  |                             | T 041                      |  |  |  |
|                      | TVD(IN FEET): OMITTED             | MD (IN FEET): OMITTED | 1                           | WATER DEPTH (IN FEET): 94' |  |  |  |
|                      | CALLS: 5040' F W L and 2300' F S  | LOF                   | CALLS: OM                   | IITTED and OMITTED OF      |  |  |  |
| Well <u>C</u>        | LEASE: OCS 24932, Ship Shoal ARE. |                       | 1                           | 24932, Ship Shoal AREA,    |  |  |  |
| _                    | BLOCK 197                         | •                     | BLOCK 197                   |                            |  |  |  |
| Name: Ship Shoal 197 | X: 2,036,240                      |                       |                             | X: OMITTED                 |  |  |  |
|                      | Y: -37,646                        |                       | Y: OMITTED                  |                            |  |  |  |
|                      |                                   |                       |                             |                            |  |  |  |
|                      | LAT: 28°33'47.1699"               |                       | LAT: OMITTED                |                            |  |  |  |
|                      | LONG: 91°13'13.6944"              |                       | LONG: OMITTED               |                            |  |  |  |
|                      | TVD(DIFFET) OMITTED               | A CO COLUMN CALIFORN  | WATER DEPTH (IN FEET): 104' |                            |  |  |  |
|                      | TVD(IN FEET): OMITTED             | MD (IN FEET): OMITTED |                             | WATER DEPTH (IN FEET): 104 |  |  |  |
|                      | CALLS: and O                      | F                     | CALLS:                      | and OF                     |  |  |  |
| Well                 | LEASE: OCS AREA,                  |                       | LEASE: OCS                  | AREA,                      |  |  |  |
|                      | BLOCK                             |                       | BLOCK                       |                            |  |  |  |
| Name:                | X:                                |                       | X:                          |                            |  |  |  |
|                      | Y:                                |                       | Y:                          |                            |  |  |  |
|                      |                                   |                       |                             |                            |  |  |  |
|                      | LAT:                              |                       | LAT:                        |                            |  |  |  |
|                      | LONG:                             |                       | LONG:                       |                            |  |  |  |
|                      | TVD (IN FEET):                    | MD (IN FEET):         | <u> </u>                    | WATER DEPTH (IN FEET):     |  |  |  |
|                      | 1 v D (II v I LD1).               | MID (MATEET).         |                             | WATER DEI III (IIV FEET).  |  |  |  |
|                      | CALLS: and OF                     |                       | CALLS:                      | and OF                     |  |  |  |
| Platform or Well     | LEASE: OCS AREA,                  |                       | LEASE: OCS                  | AREA,                      |  |  |  |
|                      | BLOCK                             |                       | BLOCK                       |                            |  |  |  |
| Name:                | X:                                |                       | X:                          |                            |  |  |  |
|                      | Y:                                |                       | Y:                          |                            |  |  |  |
|                      |                                   |                       |                             |                            |  |  |  |

# STRUCTURE MAPS & GEOLOGIC CROSS-SECTIONS ARE EXCLUDED FROM PUBLIC INFORMATION COPIES OF PLAN

# **VICINITY MAP**



# DRILLING FLUID PRODUCT LIST

# DRILLING FLUID ADDITIVES PRODUCT CROSS REFERENCE

| MILPARK + (1)             | BAROID 2                  |  | EDESCRIPTION :                                    |
|---------------------------|---------------------------|--|---|
| AWEIGHT MATIERIALS        |                           | 21 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |   |
| MIL-BAR                   | BAROID                    | M-I BAR                                | API bante, 4.2 specific gravity                   |
| DENSIMIX                  | BARODENSE                 | FER-OX                                 | Macaceous nematite                                |
| W.O. 30                   | BARACAB                   | LO-WATE                                | Calcium Carbonate                                 |
| WISCOSIFIERS              | and the second second     |  |   |
| MILGEL                    | AQUAGEL                   | M-I GEL                                | API-grade Wyoming bentonite                       |
| MILGEL NT                 | AQUAGEL GOLD SEAL         |  | Untreated Wyoming bentonite                       |
| SALTWATER GEL             | ZEOGEL                    | SALT GEL                               | API-grade attapulgite                             |
| SUPER-COL                 | QUIK-GEL                  | KWIK-THIK                              | High-yield bentonite, treated                     |
| NEW-VIS                   |                           |  | Organic polymer blend                             |
| XCD POLYMER               | XCD POLYMER               | XCD POLYMER                            | XC Dispersable                                    |
| MIL-BEN                   | SHUR-GEL                  |  | Bentonite-OCMA Spec DCFP4                         |
| DEFLOCEULANTS             |                           |  |   |
| MIL-TEMP                  | THERMA-THIN DP            | MELANEX-T                              | High-temperature deflocculant                     |
| NEW-THIN                  | THERMA-THIN               | TACKLE (Liquid)                        | Polymeric deflocculant                            |
| UNI-CAL                   | Q-BROXIN                  | SPERSENE                               | Chrome lignosulfonate                             |
| UNI-CAL CF                | Q-B II                    | SPERSENE CF                            | Chrome-free lignosulfate                          |
| MIL-KEM                   | LIGNOX                    | RD 2000                                | Lime mud thinner                                  |
| SAPP                      | SAPP                      | SAPP                                   | Sodium acid pyrophosphate                         |
| OILFOS                    | BARAFOS                   | PHOS                                   | Sodium tetraphosphate                             |
| MIL-THIN                  | THERMA-THIN               | THIN X (Liquid)                        | Anionic copolymer thinner                         |
|                           | raceanies es estata de la |  |   |
| BIO-LOSE                  |                           |  | Modified polysacchande                            |
| CHEMTROL X                | DURENEX                   | RESINEX                                | Polymer blend, high-temperature                   |
| FILTREX                   | BARANEX                   | RESINEX                                | Polyanionic lignin resin                          |
| LIGCO                     | CARBONOX                  | TANNATHIN                              | Lignite   |
| LIGCON                    | CC-16                     | CAUSTLIG                               | Causticized lignite                               |
| MILSTARCH                 | IMPERMEX<br>DOLVAC        | MY-LO-GEL<br>SP-101                    | Pregelatinized starch Sodium polyacrylate         |
| NEW-TROL<br>PERMA-LOSE HT | POLYAC<br>DEXTRID         | POLY-SAL                               | Nonfermenting starch, high-temp.                  |
| PYRO-TROL                 | THERMA-CHEK               | POLY RX                                | Polymeric, high-temperature                       |
| KEM-SEAL                  | THERMA-CHEK               | FOLLINA                                | Copolymer, high-temperature                       |
| MIL-PAC                   | PAC R                     | POLYPAC                                | Polyanionic cellulose                             |
| MIL-PAC LV                | PACL                      | POLYPAC                                | Low-viscosity polyanionic cellulose               |
| MILPARK CMC HV            | CELLEX (High Vis)         | CMC HV                                 | Sodium carboxymethylcellulose                     |
| MILPARK CMC LV            | CELLEX                    | CMC LV                                 | Sodium carboxymethycelllulose                     |
|                           | UCHEMICALS : E YE         |  |   |
| MIL-GARD                  | NO-SULF                   | SULF-X                                 | Basic zinc carbonate                              |
| MIL-GARD R                | BARASCAV-L                | SULF-X ES                              | Chelated Zinc                                     |
| NOXYGEN                   | COAT-888; BARACOR 113     | OXYGEN SCAVE                           |   |
| SCALE-BAN                 | SURFLO-H35; BARACOR 129   | SI-1000                                | Scale Inhibitor                                   |
| AMI-TEC                   | BARA FILM; BARACOR 300    | CONQOR 202;                            | Film-forming amine                                |
|                           | COAT-B 1400; COAT-C 1815  | CONQOR 101;                            | · ·   |
|                           |                           | CONQOR 303                             |   |
| #CARBOEDRILLEGIEMU        | DADDITIVES.               | THE SECTION AND ADDRESS.               |   |
| CARBO-MUL                 | INVERMUL NT; VERSACOAT    | VERSAWET                               | Emulsifier (and weting agent) primarily           |
| CARBO-MUL HT              | EZ MUL NT                 |  | High-temperature emulsifier and wetting agent     |
| CARBO-TEC                 | INVERMUL                  | VERSAMUL                               | Emulsifier  |
| CARBO-GEL                 | GELTONE II                | VERSAGEL                               | Organophyllic clay nectonte                       |
| CARBO-VIS                 | GELTONE II                | VERSAMOD                               | Organophyiiic clay                                |
| CARBO-TROL                |                           | VERSATROL                              | Filtration control arent                          |
| CARBO-TROL A-9            | DURATONE HT               | VERSALIG                               | Nonasphaltic filtration control, high-temperature |
| SURF-COTE                 | DRILTREAT or OMC          | VERSAWET                               | Oil wetting agent for oil muds                    |
| CARBO-MIX                 | DRILTREAT                 |  | Nonionic emulsifier, high-activity                |
| CARBO-TEC HW              |                           |  | HW oil mud emulsifier                             |

#### **DRILLING FLUID ADDITIVES** PRODUCT CROSS REFERENCE

| MILIPARK                            | BAROID SALESANE                    |  | DESCRIPTION CONTROL OF ACCE            |
|-------------------------------------|------------------------------------|--|--|
| SHAUE CONTROL AND                   |                                    |  |  |
| ALPEX                               |                                    |  | Aluminum complex                       |
| BIO-DRILL 1402                      |                                    |  | Oil mud alternative                    |
| NEW-DRILLL                          | EZ MUD                             | POLY-PLUS  | PHPA liquid                            |
| NEW-DRILL HP                        |                                    |  | Powdered PHPA                          |
| NEW-DRILL PLUS                      | EZ MUD DP                          |  | Powdered PHPA                          |
| SHALE-BOND                          | SHALE-BAN                          | HOLECOAT   | Resinous shale stabilizer              |
| PROTECTOMAGIC                       |                                    |  | Oil-soluble blown asphalt              |
| PROTECTOMAGIC M                     | AK-70                              | STABIL-HOLE  | Water-dispersants. Blown asphalt       |
| SPOTHING HUUDS!                     |                                    |  |  |
| BLACK MAGIC                         |                                    |  | Oil-base spotting fluid                |
| BLACK MAGIC LT                      | EX SPOT                            |  | Low toxicity oil-base spotting fluid   |
| BLACK MAGIC SFT                     |                                    | OIL-FAZE   | Oil -based spotting fluid concentrate  |
| MIL-FREE                            | SCOT-FREE: ENVIRO-SPOT             | PIPE-LAX   | Liquid spotting fluid                  |
| BIO-SPOT                            | ENVIRO-SPOT                        |  | Nontoxic water-base spotting fluid     |
| BIO-SPOT II                         |                                    |  | Nontoxic water-base spotting fluid     |
| MIL-SPOT 2                          | SCOT-FREE                          | PIPE-LAX W   | Weighted (oil-base) spotting fluid     |
|                                     |                                    |  | concentrate                            |
| ALUERICANTIS                        |                                    |  |  |
| AQUA-MAGIC                          |                                    |  | Low-toxicity lubricant                 |
| LUBRI-FILM                          | EP MUDLUBE                         | E.P. LUBE  | Extreme-pressure lubricant             |
| MIL-LUBE                            |                                    | LUBE-106   | General lubricant                      |
| ं क्रेड्यांनेस्ट्रान्स्राह्यं स्थान | Swere Services                     |  |  |
| AMPLI-FOAM                          | DRILFOAM                           | FOAMER 80  | Mist and stiff foaming agent           |
| MIL CLEAN                           | BAROID RIG WASH                    | KLEEN-UP   | Biodegradable detergent                |
|                                     | BARA-KLEAN                         | · · · · · · · · · · · · · · · · · · ·  | gg                                     |
| MILPARK MD                          | CON-DET                            | DD   | Drilling Detergent                     |
| #DEFOAMING AGENTS                   |                                    | ANNEXA CONTRACTOR  |  |
| LD-8                                | BARA DEFOAM                        | DEFOAM-X   | Hydrocarbon-base refoamer              |
| W.O. DEFOAM                         | BARA BRINE; DEFOAM                 | DEFOAM-A   | Alcohol-base, saltwater muds           |
| ALUMINUM STEARATE                   | ALUMINUM STEARATE                  | ALUMINUM STEARATE  | Aluminum Stearate                      |
| PLOSTACIE CULTATION NIMI            |                                    |  |  |
| CHEK-LOSS                           |                                    |  | Seepage loss control differential      |
|                                     |                                    |  | sticking preventative                  |
| MIL-CEDAR FIBER                     | PLUG-GIT                           | M-I CEDAR FIBER  | Cedar fiber                            |
| MIL-FIBER                           | FIBERTEX                           | M-I FIBER  | Fiber blend                            |
| MILFLAKE                            | JELFLAKE                           | FLAKE  | Shredded cellophane flake              |
| MILMICA                             | MICATEX                            | MICA   | (Muscovite) mica graded                |
| MIL-PLUG                            |                                    | NUT-PLUG   | Ground pecan shells                    |
| MIL-SEAL                            | BARO-SEAL                          | KWIKSEAL   | Blended lost-circulation material      |
| COTTONSEED HULLS                    | Cottonseed Hulls                   | Cottonseed Hulls   | Cottonseed Hulls                       |
| PAPER                               |                                    |  | Ground paper                           |
| WALNUT SHELLS                       | WALL-NUT                           |  | Ground walnut shells                   |
| MAGNE-SET                           |                                    |  | Acid-soluble cement                    |
| WORKOVER AND COM                    | RUSTION FLUID/ADDIMINES            | region in the large of the   |  |
| MUD-PAC                             | COAT-44 & 45                       | CONQOR 404; X-CORE   | Corrosion (packer fluid) inhibitor     |
| BRINE-PAC                           | BARACOR-A                          | `  | Corrosion inhibitor clean brine fluids |
| W.O. 21L                            | LIQUI-VIS                          | VIS-L  | Liquid HEC polymer                     |
| <b>PERESERVATIVES</b>               |                                    |  |  |
| DRYOCIDE                            | -                                  | The state of the s | Dry (biodegradable) biocide            |
| X-CIDE 207                          | BARA B466                          | BACBAN II & III  | Biocide                                |
| X-CIDE 207 is a registered to       | rademark of Petrotite Corporation. |  |  |

X-CIDE 207 is a registered trademark of Petrotite Corporation.
DRYOCIDE is a registered trademark of Nalco Chemical Company.
XCD (in XCD POLYMER) is a registered trademark of Marck & Co., Inc.
OILFOS is a registered trademark of Monsanto Company.

# STONE ENERGY CORP. INITIAL DEVELOPMENT OPERATIONS COORDINATION DOCUMENT LEASE OCS-G 24932 SHIP SHOAL 197

## QUANTITIES AND RATES OF DISCHARGES<sup>(1)</sup>

(PUBLIC INFORMATION)

| WELL | <u>DEPTH</u>       | HOLE SIZE    | QUANTITY(bbls)(2) | DISCHARGE RATE*                               |
|------|--------------------|--------------|-------------------|---|
| "C"  | OMITTED<br>OMITTED | 20"<br>13 ½" | 466<br>637        | Maximum 1000 bbls/hr.<br>Maximum 1000 bbls/hr |
|      | OMITTED            | 9 7/8'''     | 966               | Maximum 1000 bbls/hr                          |
| "D"  | OMITTED            | 20"          | 466               | Maximum 1000 bbls/hr.                         |
|      | OMITTED            | 13 ½"        | 425               | Maximum 1000 bbls/hr                          |
|      | OMITTED            | 9 7/8""      | 762               | Maximum 1000 bbls/hr                          |

PUBLIC INFORMATION

A list of mud additives that may be used while conducting drilling operations is shown in Attachment "F". Mud and drill cuttings will be discharged at the well site in accordance with EPA regulations.

Mud and drill cuttings which have been contaminated with oil will be transported to shore for proper disposal at an authorized disposal site.

(1) Discharge consists of cuttings and drilling fluid.

<sup>\*</sup> The discharge rate will not exceed 1000 bbls/hr., in accordance with EPA regulations.

<sup>(2)</sup> Quantity (bbls) = Capacity of hole (cuttings) + 20% (loss of drilling fluids).

# AIR QUALITY REPORT

| COMPANY         | Stone Energy Corporation |  |
|-----------------|--------------------------|--|
| AREA            | Ship Shoal               |  |
| BLOCK           | 197                      |  |
| LEASE           | OCS-G-24932              |  |
| PLATFORM        | G                        |  |
| WELL            | B&C                      |  |
| COMPANY CONTACT | Amy Fell                 |  |
| TELEPHONE NO.   | 337/237-0410             |  |
| REMARKS         |                          |  |

| "Yes" | "No" | Air Quality Screening Questions   |
|-------|------|---|
|       | No   | Is any calculated Complex Total (CT) Emission amount (in tons) associated with your proposed exploration activities more than 90% of the amounts calculated using the following formulas: CT = 3400D2/3 for CO, and CT = 33.3D for the other air pollutants (where D = distance to shore in miles)? |
|       | No   | Do your emission calculations include any emission reduction measures or modified emission factors?   |
|       | No   | Does or will the facility complex associated with your proposed development and production activities process production from eight or more wells?  |
|       | No   | Do you expect to encounter H2S at concentrations greater than 20 parts per million (ppm)?   |
|       | No   | Do you propose to flare or vent natural gas in excess of the criteria set forth under 250.1105(a)(2) and (3)?   |
|       | No   | Do you propose to burn produced hydrocarbon liquids?  |
|       | No   | Are your proposed development and production activities located within 25 miles from shore?   |
|       | No   | Are your proposed development and production activities located within 200 kilometers of the Breton Wilderness Area?  |

#### If ALL questions are answered "No":

Fill in the information below about your lease term pipelines and submit only this coversheet with your plan.

#### If ANY question is answered "Yes":

Prepare and submit a full set of spreadsheets with your plan.

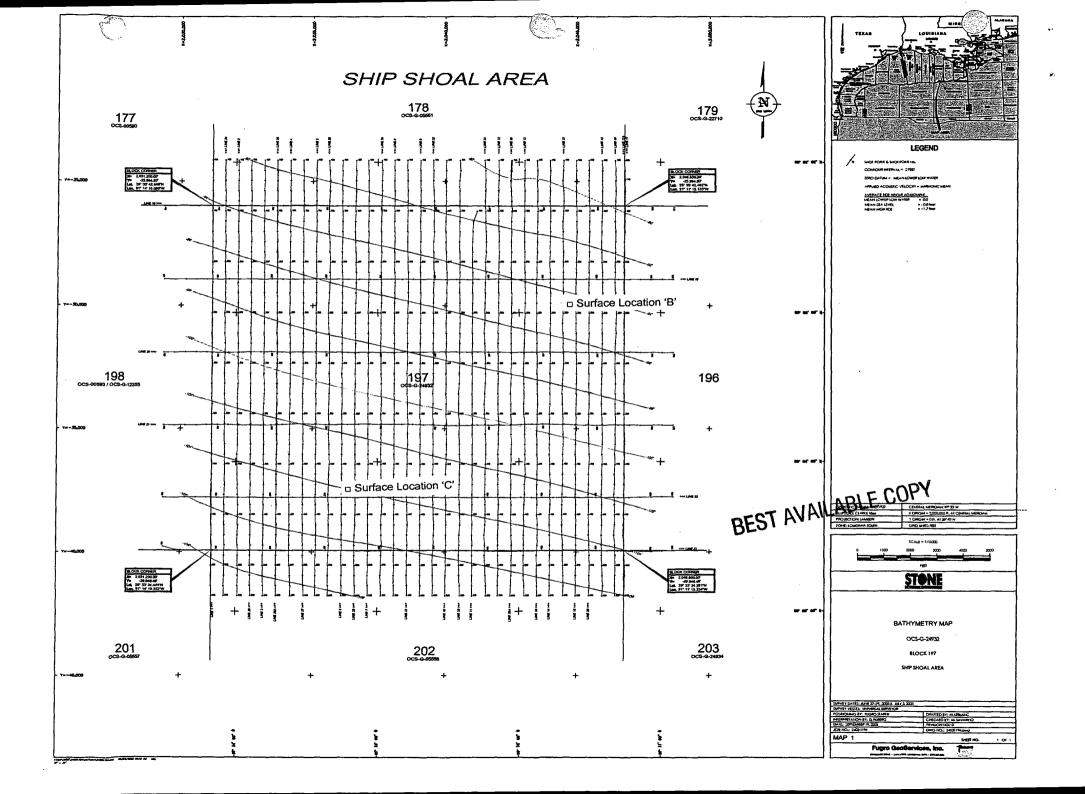
| EASE TERM | I PIPELINE CONSTRUCTION | N INFORMATION:                    |  |  |  |  |
|-----------|-------------------------|-----------------------------------|--|--|--|--|
| YEAR      | NUMBER OF<br>PIPELINES  | TOTAL NUMBER OF CONSTRUCTION DAYS |  |  |  |  |
| 2004      | 2                       | 14                                |  |  |  |  |
| 2005      |                         |                                   |  |  |  |  |
| 2006      |                         |                                   |  |  |  |  |
| 2007      |                         |                                   |  |  |  |  |
| 2008      |                         |                                   |  |  |  |  |
| 2009      |                         |                                   |  |  |  |  |
| 2010      |                         |                                   |  |  |  |  |
| 2011      |                         |                                   |  |  |  |  |
| 2012      |                         |                                   |  |  |  |  |
| 2013      |                         |                                   |  |  |  |  |
| 2014      |                         |                                   |  |  |  |  |

#### STONE ENERGY CORPORATION SHIP SHOAL AREA BLOCK 197 OCS-G-24932

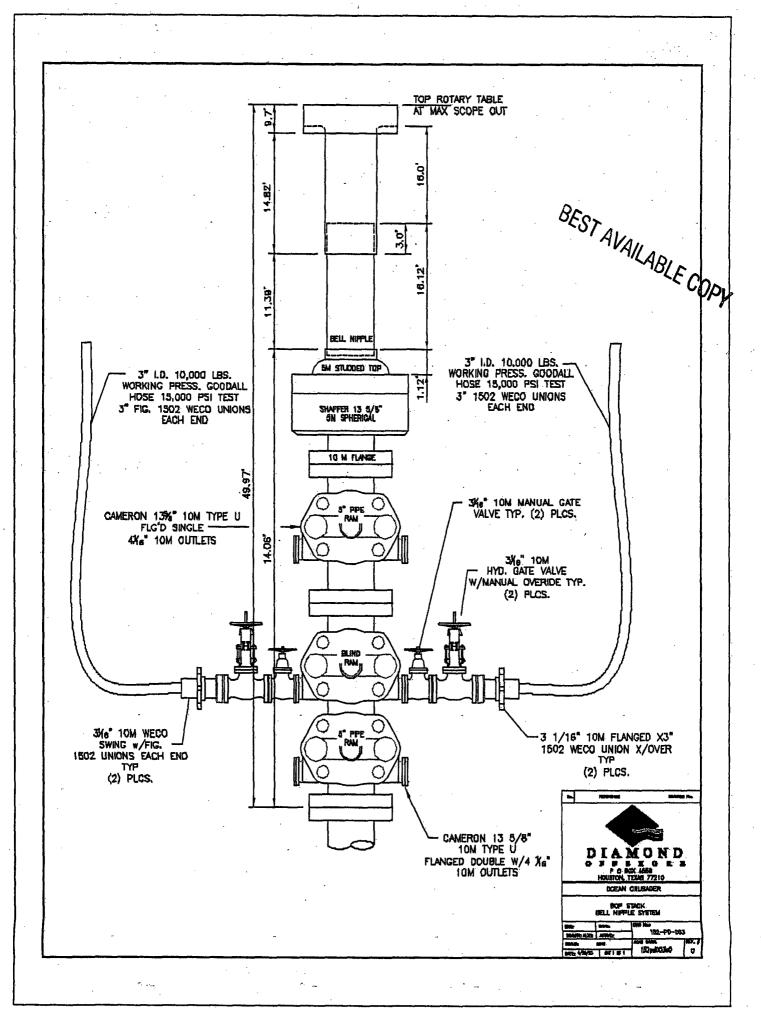
| Air Pollutant                    | Plan<br>Emission<br>Amounts<br>(tons) | Calculated Exemption Amounts (tons) | Calculated Complex Total Emission Amounts (tons)* |
|----------------------------------|---------------------------------------|-------------------------------------|---|
| Carbon monoxide (CO)             | 146.65                                | 36379.57                            | 146.65  |
| Particulate matter (PM)          | 19.55                                 | 1165.50                             | 19.55   |
| Sulphur dioxide (SO2)            | 89.70                                 | 1165.50                             | 89.70   |
| Nitrogen oxides (NOx)            | 672.14                                | 1165.50                             | 672.14  |
| Volatile organic compounds (VOC) | 20.42                                 | 1165.50                             | 20.42   |

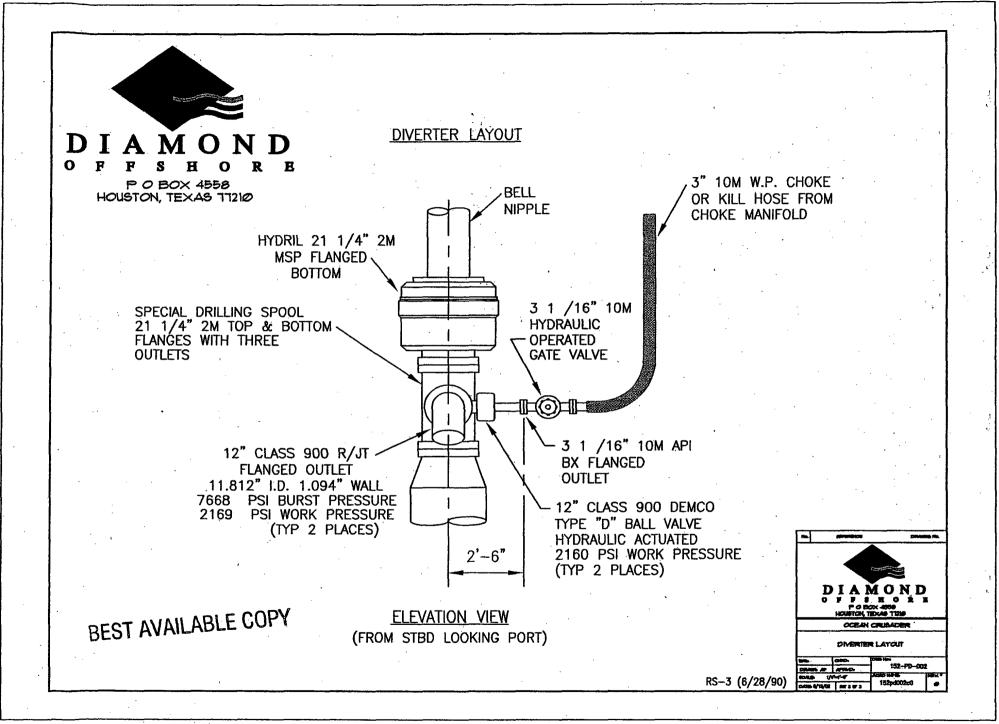
Contact: Joe Morton, P.E., 337/234-5124, jmorton@mortoninc.com

# **BATHYMETRY MAP**



## **BOP AND DIVERTER SCHEMATIC**





# **SPILL RESPONSE**

|               |             | OFFSHO                       | RE SKIMMING E    | QUIPMENT (CLEA     | V GULF SUPPLIE        | ED)                  |                                       |
|---------------|-------------|------------------------------|------------------|--------------------|-----------------------|----------------------|---------------------------------------|
| TYPE          | QUANTITY    | RECOVERY CAPACITY            | STORAGE CAPACITY | MAN POWER REQUIRED | Operating Limitations | Location             | Estimated Response Times              |
| HOSS BARGE    | 1           | 43,000 Bbls derated capacity | 4,130 Bbls       | 12                 | 7 Foot Seas           | CGA/Houma            | 28.5 Hours                            |
| TUG BOATS     | 3           | None                         | None             | 4                  | None                  | Delta Towing/Houma   | 28.5 Hours                            |
| TIMBALIER BAY | 1           | 2,800 Bbls derated capacity  | 50 Bbls          | 4                  | 6 Foot Seas           | CGA/Houma            | 13.5 Hours                            |
| FRU UNIT      | 1           | 3,400 Bbls derated capacity  | 188 Bbis         | 6                  | 4 Foot Seas           | CGA/Lake Charles     | 13.5 Hours                            |
| UTILITY BOAT  | 1           | None                         | 500 Bbls         | 2                  | None                  | Trico Marine/Cameron | 13.5 Hours                            |
| STORAGE BARGE | 3           | None                         | 15,000 Bbls      | 6                  | 6 Foot Seas           | Delta Towing/Houma   | 15.0 Hours                            |
|               |             |                              |                  |                    | Ę                     |                      |                                       |
|               |             |                              |                  |                    |                       |                      | <del>"- ''</del>                      |
|               |             |                              |                  |                    |                       |                      |                                       |
|               |             |                              |                  |                    | 1.                    |                      |                                       |
|               |             |                              |                  |                    |                       |                      | · · · · · · · · · · · · · · · · · · · |
|               |             |                              |                  |                    | ·                     |                      | <del></del>                           |
|               |             |                              |                  |                    | :                     |                      |                                       |
|               |             |                              |                  |                    | ;                     |                      |                                       |
|               |             |                              |                  |                    | 1.                    |                      | · · · · · · · · · · · · · · · · · · · |
|               |             |                              |                  |                    |                       |                      |                                       |
|               |             |                              |                  | ·                  |                       |                      |                                       |
|               |             |                              |                  |                    |                       |                      | · · · · · · · · · · · · · · · · · · · |
|               |             |                              |                  |                    |                       |                      |                                       |
|               | <del></del> |                              | <u> </u>         |                    |                       |                      |                                       |
|               |             |                              |                  |                    |                       |                      |                                       |
|               |             |                              |                  |                    |                       | ·                    |                                       |
|               |             |                              |                  |                    |                       |                      |                                       |
|               | ,           |                              | :                |                    |                       |                      |                                       |
|               |             |                              |                  |                    |                       |                      |                                       |

# **POLLUTION PREVENTION**

#### LAND SEGMENT IDENTIFICATION

According to the risk assessment analysis conducted by the Minerals Management Service as part of their OSRAM project, spills originating in the Ship Shoal 197, Launching Area C38, have the potential for impacting land segments from Matagorda County, TX to Terrebonne Parish, LA within 30 days of oil persisting on the water. The probabilities of impacts are summarized below. The most likely impacted areas are the Cameron, LA and Vermillion, LA Areas.

| PROBABILITY OF LAND | IMPACT FROM SI | nip Shoal 197 ( | % Chance) |
|---------------------|----------------|-----------------|-----------|
| LAND AREA           | 3 DAYS         | 10 DAYS         | 30 DAYS   |
| Matagorda, TX       | =              | -               | 3         |
| Brazoria, TX        | _              | · <b>-</b>      | 3         |
| Chambers, TX        | -              | -               | 8         |
| Jefferson, TX       | -              | 1"              | 8         |
| Cameron, LA         |                | . 10            | 25        |
| Vermillion, LA      | <b>-</b>       | 8               | 14        |
| Iberia, LA          | -              | 4               | 7         |
| St. Mary, LA        |                | 2               | 3         |
| Terrebonne, LA      | 1              | 2               | 4         |

## WASTES AND DISCHARGES

## Wastes and Discharges Information Table 1. Discharges Table (Wastes to be discharged overboard)

| Type of Waste<br>Approximate<br>Composition   | Amount to be<br>Discharged<br>(volume or rate)                             | Maximum Discharge Rate                                    | Treatment and/or Storage, Discharge Location*, * and Discharge Method                  |
|---|--|---|--|
| Water-based drilling fluids   | 820 bbl/well   | 220 bbl/hr  | SS 197 Loc 'B'&'C' Discharge at Surface  |
| Drill cuttings associated with water-based fluids   | 4700 bbl/well  | 2200 bbl/hr   | SS 197 Loc 'B'&'C' Discharge at Surface  |
| Drill cuttings associated with synthetic drilling fluids                                  | Not Applicable   | Not Applicable  | Not Applicable   |
| Muds, cuttings and<br>cement at the seafloor –<br>Subsea Wells only                       | Not Applicable   | Not Applicable  | Not Applicable   |
| Well Completion, Treatment, or Workover Fluids  | Compl- 2800 bbl/well<br>Workover-300 bbl/well<br>Treatment-250 bbl/well    | 300 bbl/well<br>every 3 years after initial<br>completion | SS 197 Loc 'B'&'C' Discharge used fluids overboard, return excess to shore for credit. |
| Miscellaneous discharges (permitted under NPDES) (Excess cement with cementing chemicals) | 500 bbl/well   | 900 bbl/hr  | SS 197 Loc 'B'&'C' Discharge at Surface  |
| Uncontaminated fresh or seawater (cooling water)  | 216,000 bbl/well<br>(drilling/rig operations)<br>avg. daily – 2500 bbl/day | 150 bbl/hr  | SS 197 Loc 'B'&'C' Discharge at Surface  |
| Uncontaminated ballast seawater   | 32,000 bbl<br>per well   | 15,000 bbl/hr   | SS 197 Loc 'B'&'C' Discharge at Surface  |
| Uncontaminated bilge water  | Not Applicable   | Not Applicable  | SS 197 Loc 'B'&'C' Discharge at Surface  |
| Desalinization Unit   | 402,000 bbl/well<br>6700 bbl/day   | Not Applicable  | SS 197 Loc 'B'&'C' Discharge at Surface  |
| Sanitary wastes   | 20 gal/person/day  | Not Applicable  | SS 197 Loc 'B'&'C' Chlorinate & Discharge at Surface                                   |
| Domestic waste-food   | 1800/well<br>30 gal/day  | Not Applicable  | SS 197 Loc 'B'&'C' Discharge at Surface  |
| Deck Drainage   | 1)Dependant upon rainfall<br>2)Wash/Rinse water<br>-1500 bbl (25bbl/day)   | 1) 0-4,000 bbl/day<br>2) 100 bbl/day                      | SS 197 Loc 'B'&'C' Discharge at Surface with no oil & grease                           |

<sup>•</sup> Area, block, MMS facility ID (if available)

## Wastes and Discharges Information Table 1. Discharges Table (Wastes to be discharged overboard) PAGE 2 – <u>PRODUCTION</u> <u>PLATFORM ID: 20617 1</u>

| Type of Waste Approximate Composition | Amount to be Discharged (volume or rate)     | Maximum<br>Discharge Rate | Treatment and/or. Storage, Discharge Location*, * and Discharge Method |
|---------------------------------------|--|---------------------------|--|
| Produced Water                        | 730,000 bbl/yr                               | 2000 bbl/day              | SS 198 "G" Treated to Remove oil & grease. Discharge overboard         |
| Sanitary wastes                       | 20 gal/person/day                            | Not Applicable            | SS 198 "G" Chlorinate & Discharge                                      |
| Deck Drainage                         | 0 - 365 bbl/yr<br>Dependant upon<br>rainfall | 1 bbl/day                 | SS 198 "G" Treated to remove oil & grease. Discharged overboard        |

## Wastes and Discharges Information Table 2. Disposal Table (Wastes to be disposed of, not discharged overboard) <u>PLATFORM ID: 20617 1</u>

| Type of Waste<br>Approximate<br>Composition        | Amount              | Rate per Day      | Name/Location of Disposal Facility     | Treatment and/or<br>Storage,<br>Transport and Disposal-<br>Method                           |
|--|---------------------|-------------------|--|---|
| Spent oil-based<br>drilling fluids and<br>cuttings | Not<br>Applicable   | Not<br>Applicable | Not Applicable                         | Not Applicable  |
| Spent synthetic-based drilling fluids and cuttings | Not<br>Applicable   | Not<br>Applicable | Not Applicable                         | Not Applicable  |
| Workover fluids                                    | 150 bbl             | 5 bbl/day         | Energy Logistic, Inc.<br>Fourchon, LA. | Transport in USCG approved temporary storage tank on offshore service vessels to shorebase. |
| Trash and debris                                   | 60,000 ft 1/well    | 12 ft 1 well/day  | Energy Logistic, Inc.<br>Fourchon, LA  | Transport in storage bins on offshore service vessels to shorebase                          |
| PRODUCTION   |                     |                   |  |   |
| Oil-contaminated<br>Produced sand                  | 200 lb/yr           | 0.2 bbl/day       | Newpark<br>Intracoastal, LA            | Store in cutting box<br>and transport to land<br>farm                                       |
| Waste Oil  | 100 lb/yr           | 0.1 bbl/day       | Stone Energy,<br>Intracoastal, LA      | Tote tanks or drums<br>and transported<br>onshore and picked up<br>by vendors               |
| Scrap Iron   | 1000 lb             | 2.7 bbl/day       | Stone Energy,<br>Intracoastal, LA      | Transport in scrap iron bin to shore location   |
| Workover fluids                                    | 150 bbl             | 5 bbl/day         | Stone Energy<br>Intracoastal, LA.      | Transport in USCG approved temporary storage tank on offshore service vessels to shorebase. |
| Trash and debris                                   | 724 ft <sup>3</sup> | 2 ft <sup>3</sup> | Stone Energy,<br>Intracoastal, LA      | Transport in compactor bas or trash bin   |
| Chemical product wastes                            | 100 bbl             | 2 bbl/day         | Stone Energy,<br>Intracoastal, LA      | Transport in barrels on<br>Crew boat to shore<br>location                                   |

## SHALLOW HAZARD STATEMENT

#### STONE ENERGY CORP OCS G 24932, BLOCK 197, LOCATIONS B, C

SHIP SHOAL AREA, OFFSHORE LOUISIANA

October 28, 2003

#### Shallow Drilling Hazards - Archaeological Statement

On September 26, 2003 Fugro Geophysical Services Inc. completed a geophysical and archaeological survey of Ship Shoal Block 197 as contractor for Stone Energy Corp. The purpose of the study was to examine seafloor and subsurface conditions within the survey area and inspect for potential hazards to future drilling and construction activity. Comments in this statement are based on survey data and the report entitled <u>Archaeological and Hazard Survey Block 197 (OCS G 24932)</u> Ship Shoal Area Gulf of Mexico, September 26, 2003.

The survey field operations were conducted aboard the M/V Universal Surveyor on June 27 to July 3, 2003. Horizontal positioning of the survey vessel was accomplished with the Fugro STARFIX® system. Survey instruments include the Odem Hydrographics DF3200 (200 kHz) digital sounder, O.R.E. GeoPulse Subbottom Profiler, Marine Magnetics SeaSPY Proton Magnetometer, EdgeTech SMS-260-TH 100 kHz Side Scan Sonar, 90 cubic inch G.I. Air Gun Profiler, OYO DAS-1 GEOSPACE Recording System. The SeaCat SBE 19-01 Velocimeter was used to measure sound velocity in seawater.

The survey grid consists of 33 primary N - S tracklines spaced 150 meters apart (lines 1 - 17A, 24 -39) and 6 E - W tielines spaced 900 meters apart (lines 18 - 23). The trackline grid was designed to provide 100 percent sonar imagery and magnetic coverage and a representative sampling of seismic and magnetic systems to conform to MMS guidelines in effect at the time of the survey.

Water depths in the survey area range from -90 feet to -108 feet below sea level. Seafloor sediments in the area are reported to be silty clay. Regional core studies indicate that shear strength of the upper 50 feet of sediments range 200 to 600 lbs./sq.ft. Sidescan sonar reveals a relatively smooth and uniform textured seafloor across the area. Pinger records show dense laminar continuous sediment down to 50'. Below 50' the records appear amorphous, indicating possible interstitial biogenic gas. No evidence of active venting or percolation of gas into the water column is seen on pinger records.

The shallow structure map (Map 4) shows a seismic correlation marker dipping uniformly from 580 ms in the northwest corner of the block to 645 ms at the southeast corner. A 5000' long down-to-the-north fault segment is traced on Map 2 at the northeast corner of Block 197.

Seismic amplitude anomalies or "bright spots" occur on the seismic lines at 100 ms to 1100 ms depths as shown on the Archeological and Hazard Map (Map 2). Location B will drill and log an amplitude anomaly at 400' - 600' below sea level. Location C is on the edge of a deeper anomaly at 900' – 1000' below sea level.

Manmade features in the study area include well structures and pipelines plotted on Map 2. The table on page 8 lists these features in SS 197 and surrounding area. Appendix B is a list of identified and unidentified magnetic anomalies. The table on Map 2 lists the 20 unidentified magnetic anomalies posted on the map. These anomalies are interpreted as modern debris. None of these anomalies are close to proposed locations B and C.

No high probability areas for prehistoric archeological sites are recorded in the pinger profiles. There are no unidentified sonar contacts.

Stone Energy Corporation plans to drill from the following surface locations in Ship Shoal Block 197:

Location B X = 2,044,680 Y = -30,060

Lat: 28° 35' 02.1701" Long: 91° 11' 38.9660"

Location C X = 2,036,240 Y = -37,646

Lat: 28° 33' 47.1699" Long: 91° 13' 13.6944"

Location  $\underline{B}$  is in 94 feet of water in an area free from shallow faults, well structures, pipelines or magnetic anomalies. The location within a large amplitude anomaly (bright spot) at 400 - 600 ms. This bright spot is a possible gas-bearing zone which will be carefully drilled and logged in Stone Energy's planned operations.

Location  $\underline{C}$  is in 104 feet of water in an area free from shallow faults, well structures, pipelines or magnetic anomalies. The location is 2300 feet east of a Newfield 3" pipeline. The proposed C location falls on the edge of a seismic amplitude anomaly at 900 - 1100 ms mapped to the west and south. Caution and awareness will be used in drilling through the zone so that it will pose little or no threat to drilling operations.

Attached are sample copies of the geophysical data strip charts pertaining to the proposed surface locations B and C.

Sincerely,

Theodore M. Gard

Geologist

Nick M. Repar

Chief Geophysicist

Wish m Ryan

## **ENVIRONMENTAL IMPACT ANALYSIS**

ATTACHMENT "M"

# **Environmental Impact Analysis**

Ship Shoal Area Block 197 OCS-G-24932

November 11, 2003

Prepared for Stone Energy Corporation by Tim Morton & Associates, Inc.

Filename: C:\2003\Stone\SS\267-Blk197\EIASS197.wpd

## **Table of Contents**

| 1. Description of the Proposed Activity     |
|---|
| II. Impact-Producing Factors                |
| III. Analysis of Impact-Producing Factors   |
| A. Site-specific at Offshore Location       |
| 1. Designated Topographic Features          |
| 2. Pinnacle Trend Area Live Bottoms         |
| 3. Eastern Gulf Live Bottoms                |
| 4. Chemosynthetic Communities               |
| 5. Water Quality                            |
| 6. Fisheries                                |
| 7. Marine Mammals                           |
| 8. Sea Turtles                              |
| 9. Air Quality                              |
| 10. Shipwreck Sites (known or potential)    |
| 11. Prehistoric Archaeological Sites        |
| B. Vicinity of Offshore Location            |
| 1. Essential Fish Habitat                   |
| 2. Marine and Pelagic Birds                 |
| 3. Public Health and Safety                 |
| C. Coastal and Onshore                      |
| 1. Beaches                                  |
| 2. Wetlands 10                              |
| 3. Shore Birds and Coastal Nesting Birds    |
| 4. Coastal Wildlife Refuges 1               |
| 5. Wilderness Areas                         |
| D. Other Environmental Resources Identified |
| IV. Impacts on Proposed Activities          |
| V. Alternatives 12                          |
| VI. Mitigation Measures                     |
| VII. Consultation                           |
| VIII Deferences                             |

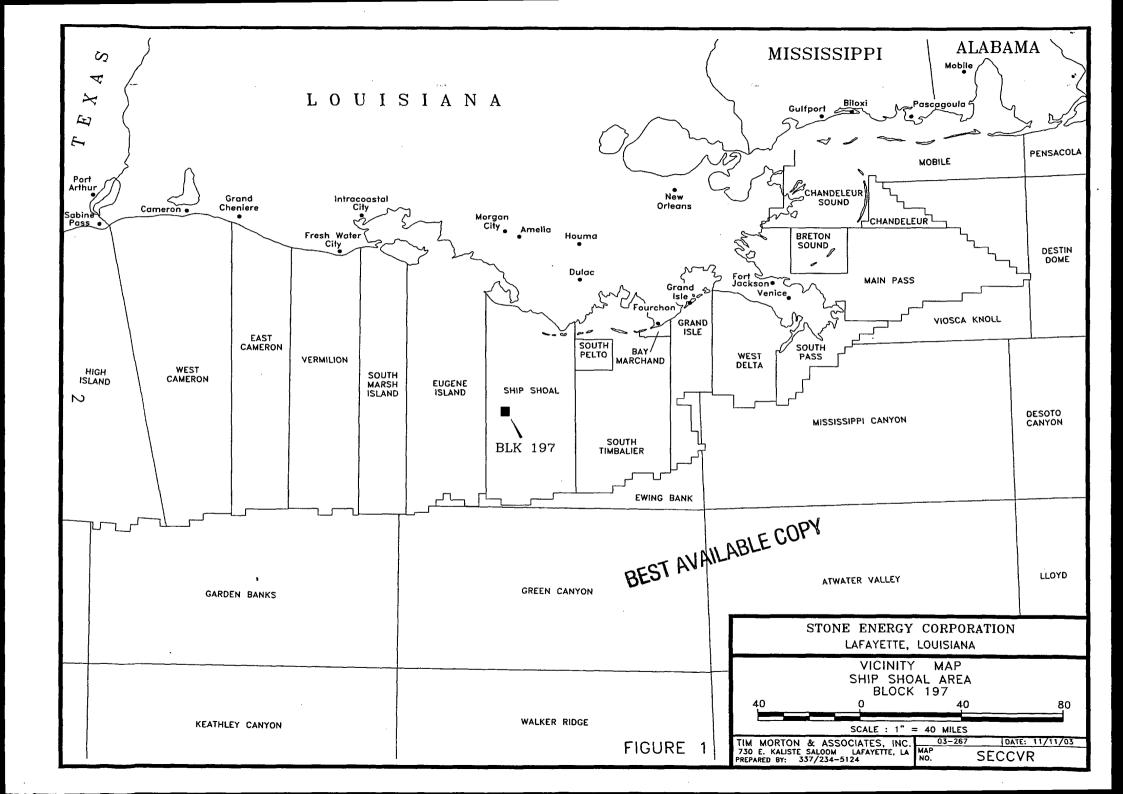
## I. Description of the Proposed Activity

This environmental impact analysis addresses the activity proposed by Stone Energy Corporation (Stone) for Eugene Island Area Block 49 (OCS-G-24932). The approximate location of the activity is presented on a general vicinity map of the Outer Continental Shelf (OCS) lease areas off the coast of Louisiana (Figure 1).

Stone proposes to utilize a jackup rig to drill two wells in Ship Shoal Area Block 197. If the wells are successful, Stone proposes to install single well caissons at each surface location and install flowlines from the proposed caissons to their existing "G" platform located in Ship Shoal Area Block 198. More specific information can be found in the attached Development Operations Coordination Document (DOCD).

The proposed activities will be carried out by Stone with a guarantee of the following:

- The best available and safest technologies will be utilized throughout the projects. This includes meeting all applicable requirements for equipment types, general project layout, safety systems, equipment and monitoring systems.
- All operations will be covered by a Minerals Management Service (MMS) approved Oil Spill Response Plan.
- All applicable Federal, State, and local requirements regarding air emissions, water quality, and discharge for the proposed activities, as well as any other permit conditions, will be complied with.



## **II. Impact-Producing Factors**

|  | Impact Producing Factors (IPF's) Categories and Examples Refer to a recent GOM OCS Lease Sale EIS for a more complete list of IPF's |                     |  |             |                    |              |
|--|---|---------------------|--|-------------|--------------------|--------------|
|  |   |                     |  |             |                    | Other IPF's  |
|  | (air, noise,  | (muds, cuttings,    | disturbances   | sent to     | (e.g., oil spills, | you identify |
|  | light, etc.)  | other discharges    | to the seafloor  | shore for   | chemical spills,   |              |
|  |   | to the water column | (rig or anchor   | treatment   | H2S releases)      |              |
| Environmental  |   | or seafloor)        | emplacements, etc.)  | or disposal |                    |              |
| Resources  |   |                     |  |             |                    |              |
| Site-specific at Offshore Location   |   | 6                   |  | ·           | T                  |              |
| Designated topographic features  |   |                     |  |             |                    |              |
| Pinnacle Trend area live-bottoms   |   |                     |  |             |                    |              |
| Eastern Gulf live bottoms  |   |                     |  |             |                    | *            |
| Chemosynthetic communities   |   |                     |  |             |                    |              |
| Water quality  |   | X                   |  |             | X                  |              |
| Fisheries.   |   |                     |  |             | X                  |              |
| Marine mammals   | X   |                     |  |             | X                  |              |
| Seajturtles  | X   |                     |  |             | X                  |              |
| Air quality  | X   |                     |  |             |                    |              |
| Shipwreck sites (known or potential)   |   |                     |  |             |                    |              |
| Prehistoric archaeological sites   |   |                     | X  |             |                    |              |
| and the second second  |   |                     |  |             |                    | ١,           |
| Vicinity of Offshore Location  |   |                     |  | I           |                    |              |
| Essential fish habitat   |   |                     |  |             | X                  |              |
| Marine and pelagic birds   |   |                     |  |             | X                  |              |
| Public health and safety   |   |                     |  |             |                    |              |
| And the second s |   |                     |  |             |                    |              |
| Coastal and Onshore  | T   | Ī                   |  |             | 37                 |              |
| Beaches  |   |                     | The state of the s |             | X                  |              |
| Wetlands   | 37  |                     |  | ,           | X                  |              |
| Shore birds and coastal nesting birds  | X   |                     |  |             | X                  |              |
| Coastal wildlife refuges   |   |                     | , , , <del>, , , , , , , , , , , , , , , , </del>  |             | X                  |              |
| Wilderness areas   |   |                     |  |             | X                  |              |
| on 2   |   |                     |  |             |                    |              |
| Other Resources You Identify   |   | T                   |  |             | I I                |              |
|  |   |                     |  |             |                    |              |
| The second secon |   |                     |  |             |                    |              |
|  |   |                     |  |             | <u> </u>           |              |

## III. Analysis of Impact-Producing Factors

#### A. Site-specific at Offshore Location

#### 1. Designated Topographic Features

After a review of impact-producing factors (including effluents, physical disturbances to the seafloor, and accidents) resulting from activities proposed in the DOCD, there will be no adverse impacts to topographic features. Ship Shoal Area Block 197 is located approximately 32 miles north-northwest of Ewing Bank, the nearest known topographic feature.

The following discussion of topographic features is summarized from the Final Environmental Impact Statement (USDOI, OCS EIS/EA MMS 2002-052). The Topographic Lease Stipulation has been used on leases since 1973, and this experience shows conclusively that the stipulation effectively prevents damage to the biota of these banks from routine oil and gas activities. In the unlikely event of an accidental surface or subsurface oil spill, concentrated oil is not expected to impact sessile biota on topographic features. Crests of designated topographic features in the northern Gulf of Mexico are found below 10 meters; therefore, concentrated oil from a surface spill is not likely to reach sessile biota. Subsurface spills could result in the formation and settling of oil-saturated material, and oil-sediment particles could come into contact with living coral tissue; however, a subsurface spill should rise to the surface, and any oil remaining at depth would probably be swept clear of the banks by currents moving around the banks (Rezak et al., 1983). Activities proposed in the DOCD will be covered by Stone's Oil Spill Response Plan (OSRP).

#### 2. Pinnacle Trend Area Live Bottoms

After a review of impact-producing factors (including effluents, physical disturbances to the seafloor, and accidents) resulting from activities proposed in the DOCD, there will be no adverse impacts to pinnacle trend live bottoms. Ship Shoal Area Block 197 is located approximately 170 miles from Main Pass Area Block 290, the nearest block protected by the pinnacle trend live bottom stipulation.

The following discussion of pinnacle trend area live bottoms is summarized from the Final Environmental Impact Statement (USDOI, OCS EIS/EA MMS 2002-052). By identifying the individual pinnacles present at the activity site, the lessee would be directed to avoid placement of the drilling rig and anchors on the sensitive areas. Thus, mechanical damage to the pinnacles is eliminated when measures required by the stipulation are imposed. The stipulation does not address the discharge of effluents near the pinnacles because the pinnacle trend is subjected to heavy natural sedimentation and is at considerable depths. The rapid dilution of drill cuttings and muds will minimize the potential of significant concentration of effluents on the pinnacles.

In the unlikely event of an accidental surface or subsurface oil spill, concentrated oil is not expected to impact biota of the pinnacle trend. Any surface oil spill resulting from a proposed action would likely have no impact on the biota of the pinnacle trend because the crests of these features are much deeper than 20 meters. All evidence to date indicates that accidental oil discharges that occur at the seafloor from a pipeline or blowout would rise in the water column, surfacing almost directly over the source

location, and thus not impact pinnacles. Activities proposed in the DOCD will be covered by Stone's Oil Spill Response Plan (OSRP).

#### 3. Eastern Gulf Live Bottoms

After a review of impact-producing factors (including effluents, physical disturbances to the seafloor, and accidents) resulting from activities proposed in the DOCD, there will be no adverse impacts to eastern gulf live bottoms. Ship Shoal Area Block 197 is located approximately 208 miles west of the nearest block protected by the eastern gulf live bottom stipulation.

The following discussion of eastern gulf live bottoms is summarized from the Final Environmental Impact Statement (USDOI, OCS EIS/EA MMS 2000-077). Through detection and avoidance, the eastern gulf live bottom lease stipulation minimizes the likelihood of mechanical damage from OCS activities associated with rig and anchor emplacement to the sessile and pelagic communities associated with the crest and flanks of such features. Since this area is subject to heavy natural sedimentation, this stipulation does not include and specific measures to protect the pinnacles from the discharge of effluents.

In the unlikely event of an accidental surface or subsurface oil spill, concentrated oil is not expected to impact eastern gulf live bottoms because of the depth of the features and dilution of spills by currents and/or quickly rising oil. Activities proposed in the DOCD will be covered by Stone's Oil Spill Response Plan (OSRP).

#### 4. Chemosynthetic Communities

After a review of impact-producing factors (including effluents, physical disturbances to the seafloor, and accidents) resulting from activities proposed in the DOCD, there will be no adverse impacts to chemosynthetic communities. Bottom-disturbing activities proposed in this DOCD will not impact any deepwater chemosynthetic communities as the water depths at the proposed surface locations range from 94 feet to 104 feet.

The following discussion of chemosynthetic communities is summarized from the Final Environmental Impact Statement (USDOI, OCS EIS/EA MMS 2002-052). Impacts to chemosynthetic communities from any oil released would be a remote possibility. Release of hydrocarbons associated with a blowout should not present a possibility for impact to chemosynthetic communities located a minimum of 457 meters (1,500 feet) from well sites. Ship Shoal Area Block 197 is located approximately 95 miles northnorthwest of Green Canyon Area Block 140, the nearest block with a known chemosynthetic community. Activities proposed in the DOCD will be covered by Stone's Oil Spill Response Plan (OSRP).

#### 5. Water Quality

After a review of impact-producing factors (including effluents and accidents) resulting from activities proposed in the DOCD, there are potential impacts to water quality. The discharges generated as a result of drilling and production activities associated with this DOCD will be discharged upon successful bioassay test as per NPDES discharge guidelines. Solids wastes; typically paper, plastic, cloth, and metal, will be collected and transported to shore for disposal at an approved disposal facility. Solid wastes generated from the transportation vessels, normally just garbage, will be collected and returned to

shore for disposal with the drilling rig refuse. Scrap metal and other metal wastes will be recycled or sold as scrap and will not be shipped to a disposal facility with the other refuse. Sanitary wastes will be treated in approved marine sanitation devices as required by the Clean Water Act. All biodegradable wastes, such as kitchen food scraps, will be comminuted or ground and discharged in accordance with Annex V of MARPOL 73/78. Hazardous wastes from the drilling rig, such as paint, or paint thinner, will be collected in sealed metal containers and transported to an approved disposal site in accordance with RCRA guidelines. All applicable Federal, State, and local requirements regarding water quality and discharge for the proposed activities, as well as any other permit conditions, will be complied with.

The following discussion of potential impacts to water quality is summarized from the Final Environmental Impact Statement (USDOI, OCS EIS/EA MMS 2002-052). In the unlikely event of an accidental surface or subsurface oil spill, a variety of physical, chemical, and biological processes act to disperse the oil slick, such as spreading, evaporation of the more volatile constituents, dissolution into the water column, emulsification of small droplets, agglomeration sinking, microbial modification, photochemical modification, and biological ingestion and excretion. The water quality would be temporarily affected by the dissolved components and small oil droplets that do not rise to the surface or are mixed down by surface turbulence. Dispersion by currents and microbial degradation would remove the oil from the water column or dilute the constituents to background levels. Activities proposed in the DOCD will be covered by Stone's Oil Spill Response Plan (OSRP).

#### 6. Fisheries

After a review of impact-producing factors (including accidental oil spills) resulting from activities proposed in the DOCD, there are potential impacts to fisheries. In the unlikely event of an accidental surface or subsurface oil spill, there is the potential for some detrimental effects to fisheries.

The following discussion of potential impacts to fisheries is summarized from the Final Environmental Impact Statement (USDOI, OCS EIS/EA MMS 2002-052). The Gulf sturgeon (<u>Ancipenser oxyrincus desotoi</u>) is the only listed threatened fish species in the Gulf of Mexico. The Gulf sturgeon could be impacted by oil spills. Contact with spilled oil could cause irritation of gill epithelium and disturbance of liver function in Gulf sturgeon. The likelihood of spill occurrence and contact to the Gulf sturgeon is very low.

Should a spill occur in the area of mobile adult finfish or shellfish, the effects would likely be sublethal and the extent of the damage would be reduced to the capability of adult fish and shellfish to avoid a spill, to metabolize hydrocarbons, and to excrete both metabolites and parent compounds. Activities proposed in the DOCD will be covered by Stone's Oil Spill Response Plan (OSRP).

#### 7. Marine Mammals

After a review of impact-producing factors (including vessel traffic, noise, accidental oil spills, and loss of trash and debris) resulting from activities proposed in the DOCD, there are potential impacts to marine mammals. Endangered or threatened marine mammal species which might occur in the Gulf of Mexico are West Indian manatee (Trichechus

manatus), northern right whale (<u>Eubalaena glacialis</u>), fin whale (<u>Balaenoptera physalus</u>), humpback whale (<u>Megaptera novaeangliae</u>), sei whale (<u>B. borealis</u>), sperm whale (<u>Physeter macrocephalus</u>), and blue whale (<u>B. musculus</u>)(USDOI, OCS EIS/EA MMS 2002-052). Several non-endangered and non-threatened mammal species of whales and dolphins also occur in the Gulf of Mexico.

The following discussion of potential impacts to marine mammals is summarized from the Final Environmental Impact Statement (USDOI, OCS EIS/EA MMS 2002-052). Small numbers of marine mammals could be killed or injured by chance collision with service vessels and by eating indigestible debris, particularly plastic items, lost from service vessels, drilling rigs, and fixed and floating platforms. Sperm whales are one of the 11 whale species that are hit commonly by ships (Laist et al., 2001). Collisions between OCS vessels and cetaceans within the project area are expected to be unusual events.

Deaths due to structure removals are not expected due to existing mitigation measures or those being developed for structures placed in oceanic waters. There is no conclusive evidence whether anthropogenic noise has or has not caused long-term displacements of, or reductions in, marine mammal populations. Contaminants in waste discharges and drilling muds might indirectly affect marine mammals through food-chain biomagnification, although the scope of effects and their magnitude are not known.

Chronic and sporadic sublethal effects could occur that may stress and/or weaken individuals of a local group or population and make them more susceptible to infection from natural or anthropogenic sources. Few lethal effects are expected from oil spills, chance collisions with service vessels and ingestion of plastic material. Oil spills of any size are estimated to be aperiodic events that may contact cetaceans. Disturbance (e.g. noise) may stress animals, weaken their immune systems, and make them more vulnerable to parasites and diseases that normally would not be fatal.

The net result of any disturbance would depend on the size and percentage of the population affected, ecological importance of the disturbed area, environmental and biological parameters that influence an animal's sensitivity to disturbance and stress, and the accommodation time in response to prolonged disturbance (Geraci and St. Aubin, 1980). Routine oil and gas activities are not expected to have long-term adverse effects on the size and productivity of any marine mammal species or population stock endemic to the northern Gulf of Mexico.

#### 8. Sea Turtles

After a review of impact-producing factors (including vessel traffic, noise, accidental oil spills, and loss of trash and debris) resulting from activities proposed in the DOCD, there are potential impacts to sea turtles. Endangered or threatened sea turtle species which might occur in the Gulf of Mexico are Kemp's ridley turtle (Lepidochelys kempii), green turtle (Chelonia mydas), hawksbill turtle (Eretmochelys imbricata), leatherback turtle (Dermochelys coriacea), and loggerhead turtle (Caretta caretta) (USDOI, Region IV Endangered Species Notebook).

The following discussion of potential impacts to sea turtles is summarized from the Final Environmental Impact Statement (USDOI, OCS EIS/EA MMS 2002-052). Routine

activities resulting from a proposed action have the potential to harm individual sea turtles. These animals could be impacted by the degradation of water quality resulting from operational discharges; noise generated by helicopter and vessel traffic, platforms, and drillships; brightly-lit platforms; explosive removals of offshore structures; vessel collisions; and jetsam and flotsam generated by service vessels and OCS facilities. Lethal effects are most likely to be from chance collisions with OCS service vessels and ingestion of plastic materials. "Takes" due to explosive removals are expected to be rare due to mitigation measures already established (e.g. National Marine Fisheries Service (NMFS) Observer Program) and in development. Most OCS activities are expected to have sublethal effects. Contaminants in waste discharges and drilling muds might indirectly affect sea turtles through food-chain biomagnification; there is uncertainty concerning the possible effects. Chronic sublethal effects (e.g. stress) resulting in persistent physiological or behavioral changes and/or avoidance of impacted areas could cause declines in survival or fecundity, and result in either population declines, however, such declines are not expected. The routine activities of a proposed action are unlikely to have significant adverse effects on the size and recovery of any sea turtle species or population in the Gulf of Mexico.

In the unlikely event of an accidental surface or subsurface oil spill, sea turtles could be adversely impacted. Oil spills and oil-spill-response activities are potential threats that could have lethal effects on turtles. Contact with oil, consumption of oil particles, and oil-contaminated prey could seriously affect individual sea turtles. Oil-spill-response planning and the habitat protection requirements of the Oil Pollution Act of 1990 should mitigate these threats.

#### 9. Air Quality

Estimated air emissions associated with the proposed activities have been calculated and were determined to be below the MMS exemption levels for particulates, sulfur oxides, nitrogen oxides, volatile organic compounds and carbon monoxide. There would be a limited degree of air quality degradation in the immediate vicinity of the proposed activities; however, the emissions associated with the proposed activities are not projected to have significant effects on onshore air quality.

#### 10. Shipwreck Sites (known or potential)

After a review of impact-producing factors (including physical disturbances to the seafloor) resulting from activities proposed in the DOCD, there are no potential impacts to known or potential shipwreck sites. The area of proposed activities falls outside the zone designated as an area with a high probability of historic shipwrecks.

#### 11. Prehistoric Archaeological Sites

After a review of impact-producing factors (including physical disturbances to the seafloor) resulting from activities proposed in the DOCD, there are potential impacts to prehistoric archaeological sites. The area of proposed activities falls within the zone designated as an area with a high probability of pre-historic archeological resources. An Archaeological and Hazard Study of Block 197 (OCS-G-24932) Ship Shoal Area was performed by Fugro Geophysical Services Inc. in September 2003. A Shallow Drilling Hazards - Archaeological Statement was prepared utilizing information in this study. As noted in the Archaeological Statement, no high probability areas for prehistoric archeological sites are recorded in the pinger profiles..

#### **B.** Vicinity of Offshore Location

#### 1. Essential Fish Habitat

After a review of impact-producing factors (including accidental oil spills) resulting from activities proposed in the DOCD, there are potential impacts to essential fish habitat. In the unlikely event of an accidental surface or subsurface oil spill, there is the potential for some detrimental effects to essential fish habitat.

The following discussion of potential impacts to essential fish habitat is summarized from the Final Environmental Impact Statement (USDOI, OCS EIS/EA MMS 2002-052). Should a spill occur in the area of a mobile adult finfish or shellfish, the effects would likely be sublethal and the extent of the damage would be reduced to the capability of adult fish and shellfish to avoid a spill, to metabolize hydrocarbons, and to excrete both metabolites and parent compounds. Activities proposed in the DOCD will be covered by Stone's Oil Spill Response Plan (OSRP).

#### 2. Marine and Pelagic Birds

After a review of impact-producing factors (including vessel traffic, noise, accidental oil spills, and loss of trash and debris) resulting from activities proposed in the DOCD, there are potential impacts to marine and pelagic birds.

The following discussion of potential impacts to marine and pelagic birds is summarized from the Final Environmental Impact Statement (USDOI, OCS EIS/EA MMS 2002-052). The majority of effects on endangered/threatened and non-endangered/non-threatened marine birds are expected to be sublethal: behavioral effects, sublethal exposure to or intake of OCS-related contaminants or discarded debris, temporary disturbances, and displacement of localized groups from impacted habitats. Chronic sublethal stress, however, is often undetectable in birds. As a result of stress, individuals may weaken, facilitating infection and disease; then migratory species may not have the strength to reach their destination. No significant habitat impacts are expected to occur directly from routine activities resulting from a proposed action.

Oil spills pose the greatest potential direct and indirect impacts to marine birds. Birds that are heavily oiled are usually killed. If physical oiling of individuals or local groups of birds occurs, some degree of both acute and chronic physiological stress associated with direct and secondary uptake of oil would be expected. Lightly oiled birds can sustain tissue and organ damage from oil ingested during feeding and grooming or from oil that is inhaled. Stress and shock enhance the effects of exposure and poisoning. Low levels of oil could stress birds by interfering with food detection, feeding impulses, predator avoidance, territory definition, homing of migratory species, susceptibility to physiological disorders, disease resistance, growth rates, reproduction, and respiration. Reproductive success can be affected by the toxins in oil. Indirect effects occur by fouling of nesting habitat, and displacement of individuals, breeding pairs, or populations to less favorable habitats. Dispersants used in spill cleanup activity can have toxic effects similar to oil on the reproductive success of marine birds. Activities proposed in the DOCD will be covered by Stone's Oil Spill Response Plan (OSRP).

#### 3. Public Health and Safety

After a review of impact-producing factors (including an accidental  $H_2S$  release) resulting from activities proposed in the DOCD, there will be no adverse impacts to public health and safety. Stone requests that Ship Shoal Area Block 197 be classified as an area where the absence of  $H_2S$  has been confirmed.

#### C. Coastal and Onshore

#### 1. Beaches

After a review of impact-producing factors (including accidental oil spills) resulting from activities proposed in the DOCD, there are potential impacts to beaches. Ship Shoal Area Block 197 is located approximately 35 miles from Terrebonne Parish, Louisiana. Due to the distance from shore and the available oil spill response capabilities, no adverse impacts to beaches are anticipated as a result of the proposed activities. Activities proposed in the DOCD will be covered by Stone's Oil Spill Response Plan (OSRP).

#### 2. Wetlands

After a review of impact-producing factors (including accidental oil spills) resulting from activities proposed in the DOCD, there are potential impacts to wetlands. Ship Shoal Area Block 197 is located approximately 35 miles from Terrebonne Parish, Louisiana. Due to the distance from shore and the available oil spill response capabilities, no adverse impacts to wetlands are anticipated as a result of the proposed activities. Activities proposed in the DOCD will be covered by Stone's Oil Spill Response Plan (OSRP).

#### 3. Shore Birds and Coastal Nesting Birds

After a review of impact-producing factors (including vessel traffic, noise, accidental oil spills, and loss of trash and debris) resulting from activities proposed in the DOCD, there are potential impacts to shore birds and coastal nesting birds. Ship Shoal Area Block 197 is located approximately 35 miles from Terrebonne Parish, Louisiana. Due to the distance from shore and the available oil spill response capabilities, no adverse impacts to shore birds and coastal nesting birds are anticipated as a result of the proposed activities.

The following discussion of potential impacts to shore birds and coastal nesting birds is summarized from the Final Environmental Impact Statement (USDOI, OCS EIS/EA MMS 2002-052). The majority of effects on endangered/threatened and non-endangered/non-threatened shore birds and coastal nesting birds are expected to be sublethal: behavioral effects, sublethal exposure to or intake of OCS-related contaminants or discarded debris, temporary disturbances, and displacement of localized groups from impacted habitats. Chronic sublethal stress, however, is often undetectable in birds. As a result of stress, individuals may weaken, facilitating infection and disease; then migratory species may not have the strength to reach their destination. No significant habitat impacts are expected to occur directly from routine activities resulting from a proposed action. Secondary impacts to coastal habitats will occur over the long-term and may ultimately displace species from traditional sites to alternative sites.

Oil spills pose the greatest potential direct and indirect impacts to shore birds and coastal nesting birds. Birds that are heavily oiled are usually killed. If physical oiling of individuals or local groups of birds occurs, some degree of both acute and chronic physiological stress associated with direct and secondary uptake of oil would be expected. Small coastal spills, pipeline spills, and spills from accidents in navigated waterways can contact and affect the different groups of coastal birds, most commonly marsh birds, waders, waterfowl, and certain shorebirds. Lightly oiled birds can sustain tissue and organ damage from oil ingested during feeding and grooming or from oil that is inhaled. Stress and shock enhance the effects of exposure and poisoning. Low levels of oil could stress birds by interfering with food detection, feeding impulses, predator avoidance, territory definition, homing of migratory species, susceptibility to physiological disorders, disease resistance, growth rates, reproduction, and respiration. Reproductive success can be affected by the toxins in oil. Indirect effects occur by fouling of nesting habitat, and displacement of individuals, breeding pairs, or populations to less favorable habitats. Dispersants used in spill cleanup activity can have toxic effects similar to oil on the reproductive success of marine birds. Activities proposed in the DOCD will be covered by Stone's Oil Spill Response Plan (OSRP).

#### 4. Coastal Wildlife Refuges

After a review of impact-producing factors (including accidental oil spills) resulting from activities proposed in the DOCD, there are potential impacts to coastal wildlife refuges. Ship Shoal Area Block 197 is located approximately 51 miles south of Atchafalaya Delta Wildlife Management Area the nearest coastal wildlife refuge. Due to the distance from this refuge and the available oil spill response capabilities, no adverse impacts to coastal wildlife refuges are anticipated as a result of the proposed activities. Activities proposed in the DOCD will be covered by Stone's Oil Spill Response Plan (OSRP).

#### 5. Wilderness Areas

After a review of impact-producing factors (including accidental oil spills) resulting from activities proposed in the DOCD, there are potential impacts to wilderness areas. Ship Shoal Area Block 197 is located approximately 35 miles from Terrebonne Parish, Louisiana. Due to the distance from shore and the available oil spill response capabilities, no adverse impacts to wilderness areas are anticipated as a result of the proposed activities. Activities proposed in the DOCD will be covered by Stone's Oil Spill Response Plan (OSRP).

#### D. Other Environmental Resources Identified

None

### IV. Impacts on Proposed Activities

A Shallow Drilling Hazards - Archaeological Statement was prepared for the proposed surface location. The surface location was evaluated for any seafloor and subsurface geological and manmade features and conditions that may adversely affect operations. No impacts are expected on the proposed activities from site-specific environmental conditions.

#### V. Alternatives

No alternatives to the proposed activities were considered to reduce environmental impacts.

### VI. Mitigation Measures

No mitigation measures other than those required by regulation will be employed to avoid, diminish, or eliminate potential impacts on environmental resources.

#### VII. Consultation

No agencies or persons were consulted regarding potential impacts associated with the proposes activities. Therefore, a list of such entities has not been provided.

## VIII. References

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## CERTIFICATE OF COASTAL ZONE CONSISTENCY

## COASTAL ZONE MANAGEMENT CONSISTENCY CERTIFICATE DEVELOPMENT OPERATIONS COORDINATION DOCUMENT GULF OF MEXICO

FOR

SHIP SHOAL AREA BLOCK 197

OCS-G-24932

SUBMITTED TO:

MS. AMY FELL

STONE ENERGY CORPORATION

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(337/237-0410)

NOVEMBER 11, 2003

PREPARED BY:

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REGULATORY & ENVIRONMENTAL CONSULTANTS

PROJECT NO. 03-267

COASTAL ZONE MANAGEMENT
CONSISTENCY CERTIFICATION

DEVELOPMENT/PRODUCTION

Type of Plan

SHIP SHOAL AREA BLOCK 197

Area and Block

OCS-G-24932

Lease Number

The proposed activities described in detail in the attached Plan comply with Louisiana's approved Coastal Management Program and all relevant enforceable policies and will be conducted in a manner consistent with such Program.

STONE ENERGY CORPORATION

Lessee or Operator

Umy Jul Certifying Official

Date

11-13-03

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