June 6, 2005

To:

Public Information (MS 5034)

From:

Plan Coordinator, FO, Plans Section (MS

5231)

Subject:

Public Information copy of plan

Control #

N-08455

Type

Initial Exploration Plan

Lease(s)

OCS-G23892 Block - 96 Ship Shoal Area

OCS-G24924 Block - 111 Ship Shoal Area

Operator -

Bois d'Arc Offshore Ltd.

Description -

Wells A & B and J & K wwith well protector structure

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.

Plan Coordinator

Site Type/Name	Botm Lse/Area/Blk	Surface Location	Surf Lse/Area/Blk
WP/A		975 FNL, 7050 FWL	G24924/SS/111
WELL/A	G23892/SS/96	975 FNL, 7050 FWL	G24924/SS/111
WELL/B	G23892/SS/96	975 FNL, 7050 FWL	G24924/SS/111
WELL/J	G24924/SS/111	975 FNL, 7050 FWL	G24924/SS/111
WELL/K	G24924/SS/111	975 FNL, 7050 FWL	G24924/SS/111

600 Travis, Suite 6275 Houston, Texas 77002

RALS MANAGEMENT SERVICE

JUN 0 3 2005

RECEIVED

Tel: 713.228.0438 Fax:713.228.1759 boistexas@aol.com

CONTROL No. N-8453 REVIEWER: Robert Stringfellow

June 1, 2005

PHONE: (504) 736-2437

Mr. Donald C. Howard Regional Supervisor Office of Field Operations Minerals Management Service U. S. Department of the Interior 1201 Elmwood Park Boulevard New Orleans, Louisiana 70123-2394

Attn: Mr. Nick Wetzel

Plans Unit Supervisor

RE: Joint Initial Exploration Plan

> Leases OCS-G 23892 and 24924, Ship Shoal Blocks 96 and 111 OCS Federal Waters, Gulf of Mexico, Offshore, Louisiana

#### Gentlemen:

As designated operator of Leases OCS-G 23892 and 24924, Ship Shoal Blocks 96 and 111, Bois d'Arc Offshore, Ltd. (Bois d'Arc) hereby submits a Joint Initial Exploration Plan providing for the drilling, completion and testing of four (4) new wells from a common surface location in Ship Shoal Block 111.

Additionally, in support of this plan, please find enclosed three (3) copies (1 digital/2 hard copy) of the Geophysical Survey Report conducted over Ship Shoal Block 111 and portions of Ship Shoal Blocks 95 and 96 by Tesla Offshore. The purpose of this report is to identify any potential drilling hazards to our proposed exploration operations.

If you need any additional data, or if you have any questions, please contact our regulatory coordinators, Valerie Land or Brenda Montalvo, J. Connor Consulting, Inc., at (281) 578-3388 or valerie.land@jccteam.com or brenda.montalyo@jccteam.com.

Sincerely,

Gary W. Blackie

Garyw Blackie Ludl

Manager

**GWB:VDL Enclosures** 



# JOINT INITIAL EXPLORATION PLAN

Lease Numbers:	OCS-G 23892 and 24924
Area/Block:	Ship Shoal Blocks 96 and 111
Prospect Name:	Not Applicable
Offshore:	Louisiana
Submitted by:	Bois d'Arc Offshore Ltd. 600 Travis Street Suite 5200 Houston, Texas 77002
	Rich Smiley (713) 227-8800 rsmiley@boisdarcenergy.com
Estimated start up date:	July 15, 2005
Authorized Representative: Valerie Land J. Connor Consulting, Inc. 16225 Park Ten Place, Suite 700 Houston, Texas 77084 (281) 578-3388	No. Copies Being Submitted:  Proprietary: 5 Public Info: 4  For MMS: Plan No.

Assigned to:

(281) 578-3388

valerie.land@jccteam.com

#### **BOIS d'ARC OFFSHORE LTD.**

#### JOINT INITIAL EXPLORATION PLAN

#### **LEASES OCS-G 23892 AND 24924**

### SHIP SHOAL BLOCKS 96 AND 111

APPENDIX A Contents of Plan

APPENDIX B General Information

APPENDIX C Geological, Geophysical & H<sub>2</sub>S Information

APPENDIX D Biological and Physical Information

APPENDIX E Wastes and Discharge Information

APPENDIX F Oil Spill Information

APPENDIX G Air Emissions Information

APPENDIX H Environmental Impact Analysis

APPENDIX I Coastal Zone Management Consistency Information

APPENDIX I OCS Plan Information Form

# APPENDIX A CONTENTS OF PLAN

Bois d'Arc Offshore Ltd. (Bois d'Arc) is the designated operator of the subject oil and gas leases.

#### (A) DESCRIPTION, OBJECTIVES AND SCHEDULE

This EP covers the drilling, completion and potential testing of four (4) wells from a common surface location in Ship Shoal Block 111 and the installation of a well protector type structure. The well protector structure will be installed using the drilling unit.

#### (B) LOCATION

Included as *Attachments A-1 through A-4* are maps showing the proposed surface and bottom hole locations of the subject wells. Also included as *Attachment A-5* is the bathymetry map depicting water depths across the block. Additional well information is included on the OCS Plan Information Form.

#### (C) DRILLING UNIT

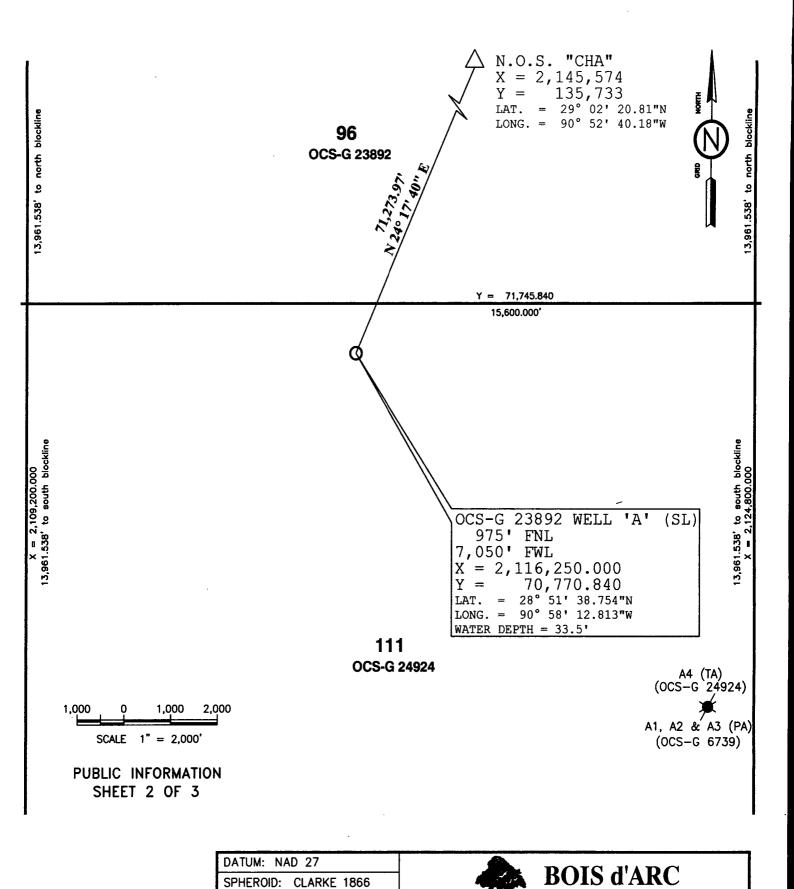
A description of the drilling unit is included in Appendix J, on the Plan Information Form. Rig specifications will be made a part of each Application for Permit to Drill.

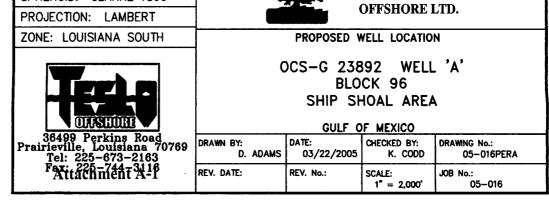
Safety features on the drilling unit will include well control, pollution prevention, and blowout prevention equipment as described in Title 30 CFR Part 250, Subparts C, D, E, and G; and as further clarified by MMS Notices to Lessees, and current policy making invoked by the MMS, Environmental Protection Agency and the U.S. Coast Guard. Appropriate life rafts, life jackets, ring buoys, etc., will be maintained on the facility at all times.

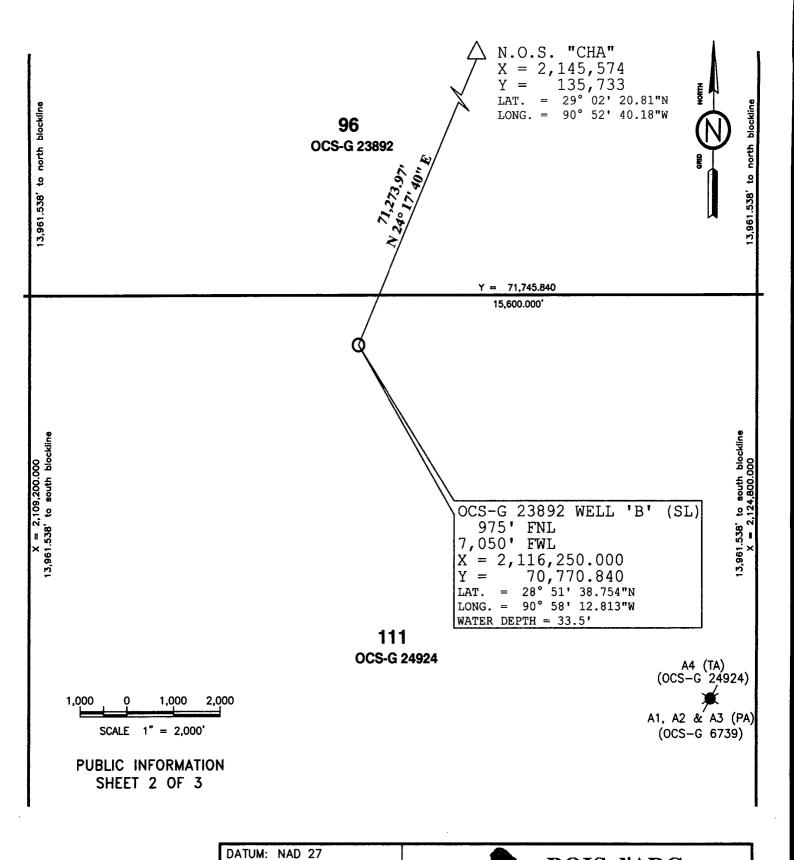
Operator will ensure employees and contractor personnel engaged in well control operations understand and can properly perform their duties.

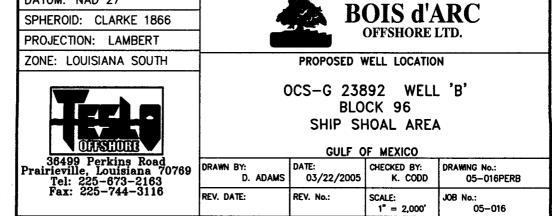
Pollution prevention measures include installation of curbs, gutters, drip pans, and drains on drilling deck areas to collect all contaminants and debris.

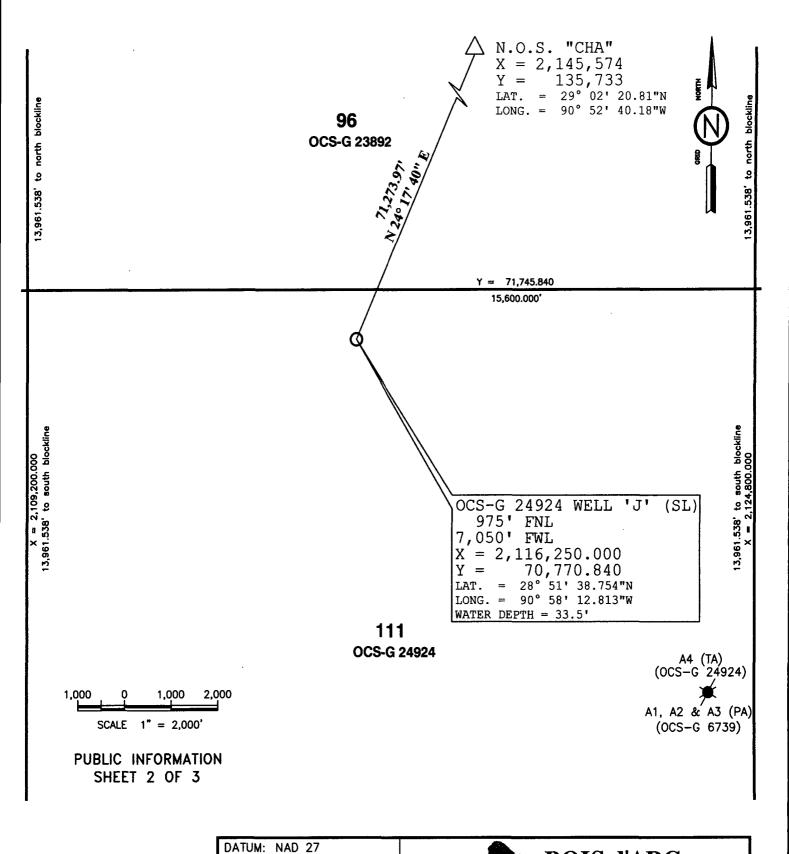
Bois d'Arc does not propose additional safety, pollution prevention, or early spill detection measures beyond those required by 30 CFR 250.

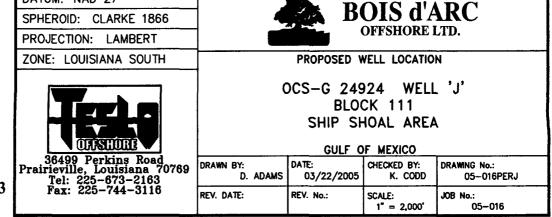


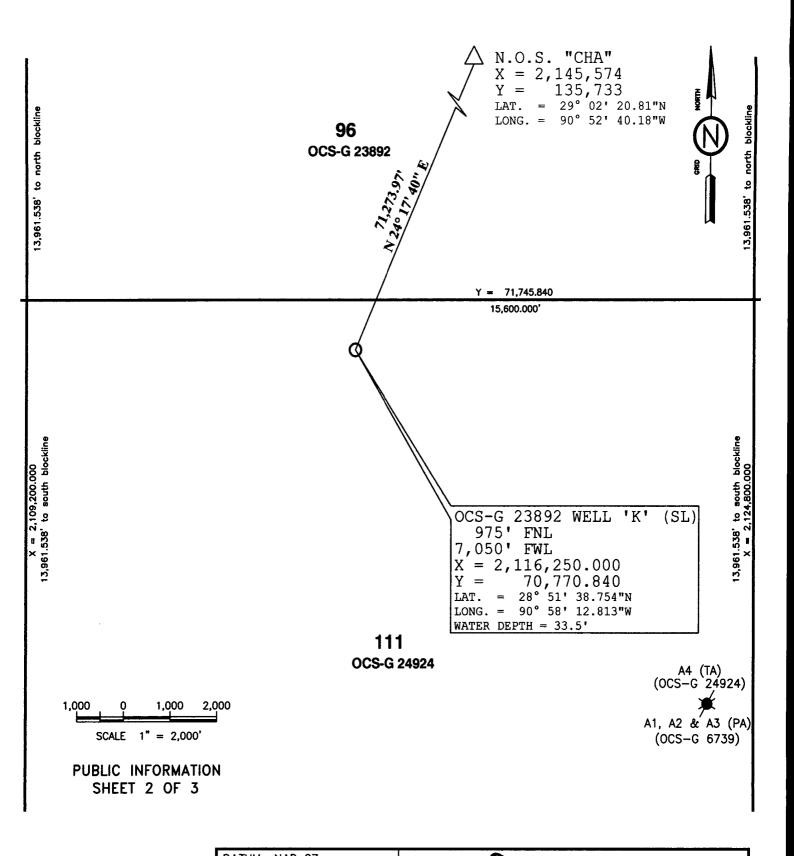


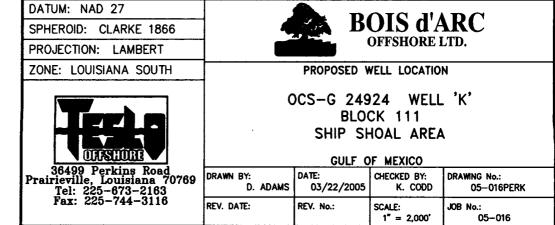


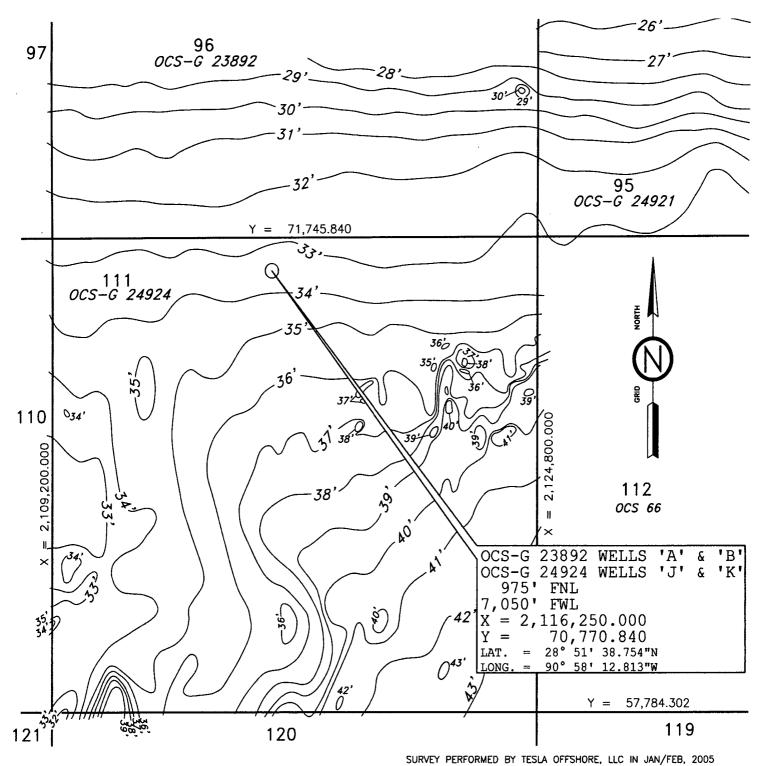


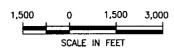












DATUM:	NAD 27
SPHEROID:	CLARKE 1866
PROJECTION:	LAMBERT
ZONE:	LOUISIANA SOUTH

#### MILD DI TESER OTTSHORE, EEC IN UNITED, 200

#### **GEOPHYSICAL SURVEY**

#### **BATHYMETRY**

BLOCK 111 AND PORTIONS OF BLOCKS 95 & 96 SHIP SHOAL AREA

**GULF OF MEXICO** 



# BOIS d'ARC OFFSHORE LTD.

TES O

# TESLA OFFSHORE, LLC

36499 Perkins Road Prairieville, Louisiana 70769 Tel: 225-673-2163 Fax: 225-744-3116

PREP. DLA	INT.	CAD	DLA	APP.	TAO	FILE NO.05-016SMBAT
снк. <b>%4</b> С	снк.	снк.	XAC	DATE	3/23/2005	

# APPENDIX B GENERAL INFORMATION

### (A) CONTACT

Inquiries may be made to the following authorized representative:

Valerie Land
J. Connor Consulting, Inc.
16225 Park Ten Place, Suite 700
Houston, Texas 77084
(281) 578-3388
E-mail address: valerie.land@jccteam.com

#### (B) PROSPECT NAME

Not applicable

#### (C) NEW OR UNUSUAL TECHNOLOGY

Bois d'Arc does not propose to use any new or unusual technology to carry out the proposed exploration activities. New or unusual technology is defined as equipment and/or procedures that:

- 1. Function in a manner that potentially causes different impacts to the environment than the equipment or procedures did in the past;
- 2. Have not been used previously or extensively in an MMS OCS Region;
- 3. Have not been used previously under the anticipated operating conditions; or
- 4. Have operating characteristics that are outside the performance parameters established by 30 CFR 250.

#### (D) BONDING INFORMATION

The bond requirements for the activities and facilities proposed in this EP are satisfied by an area wide bond, furnished and maintained according to 30 CFR 256, Subpart I; NTL No. 2000-G16, "Guidelines for General Lease Surety Bonds", dated September 7, 2000.

#### (E) ONSHORE BASE AND SUPPORT VESSELS

A Vicinity Map is included as *Attachment B-1*, showing Ship Shoal Block 111 located approximately 13.18 miles from the nearest shoreline and approximately 50 miles from the onshore support base in Fourchon, La.

The existing onshore base provides 24-hour service, a radio tower with a phone patch, dock space, equipment, and supply storage area, drinking and drill water, etc. The base serves as a loading point for tools, equipment, and machinery, and temporary storage for materials and equipment. The base also supports crew change activities. The proposed operations do not require expansion or major modifications to the base.

During the proposed activities, support vessels/helicopters and travel frequency are as follows:

Туре	Weekly Estimate (No.) of Roundtrips		
Crew Boat	12		
Supply Boat	10		
Helicopter	0		

The most practical, direct route from the shorebase as permitted by weather and traffic conditions will be utilized.

#### (F) LEASE STIPULATION

Exploration activities are subject to the following stipulations attached to Lease OCS-G 24924, Ship Shoal Block 111.

#### 1. Military Warning Area (MWA)

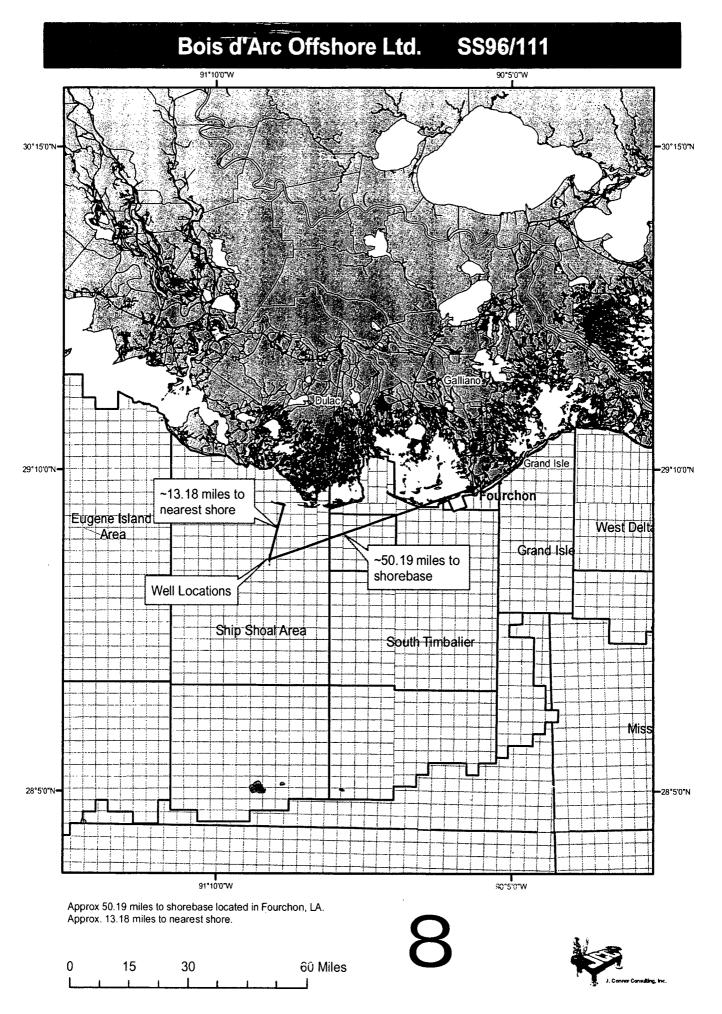
Ship Shoal Block 111 is located within designated MWA-W-59. The Naval Air Station-JRB in New Orleans, Louisiana will be contacted in order to coordinate and control the electromagnetic emissions during the proposed operations.

#### 2. Marine Protected Species

Lease Stipulation No. 6 is meant to reduce the potential taking of marine protected species. Bois d'Arc will operate in accordance with NTL 2003-G10, to minimize the risk of vessel strikes to protected species and report observations of injured or dead protected species, and NTL 2003-G11 to prevent intentional and/or accidental introduction of debris into the marine environment.

#### ARCHAEOLOGY SURVEY BLOCKS

Ship Shoal Block 111 has been determined to have a high potential for containing pre-historic and historic archaeological properties. Therefore, an Archaeological Survey Report has been prepared in accordance with NTL 2002-G01, and is being submitted with this plan.



# APPENDIX C GEOLOGICAL, GEOPHYSICAL, AND H<sub>2</sub>S INFORMATION

## (A) STRUCTURE CONTOUR MAPS - Proprietary Copy only

#### (B) TRAPPING FEATURES – Proprietary Copy only

#### (C) DEPTH OF GEOPRESSURE

The four (4) proposed wells will penetrate the normally and mildly overpressured upper Miocene section. Intermediate casing will not be needed.

#### (D) INTERPRETED 3-D SEISMIC LINE(S)

Attached to one Proprietary Information copy of this plan are interpreted 3-D seismic lines. These lines are migrated, annotated with depth scale, and are within 500' of the surface location of the proposed wells.

#### (E) GEOLOGICAL STRUCTURE CROSS-SECTIONS - Proprietary Copy only

#### (F) SHALLOW HAZARDS REPORT

A shallow hazards survey was conducted over Ship Shoal Block 111 and portions of Ship Shoal Blocks 95 and 96 by Tesla Offshore, Inc. during the months of January and February, 2005. Three copies of this report (2 hard copies and 1 CD) are included with this plan..

#### (G) SHALLOW HAZARDS ASSESSMENT

A shallow hazards assessment has been prepared for the proposed surface location, evaluating seafloor and subsurface geological and manmade features and conditions that may adversely affect drilling operations, and is included as *Attachment C-1*.

#### (H) HIGH-RESOLUTION SEISMIC LINES

Attached to one Proprietary Copy of this Plan are annotated high-resolution seismic lines. These lines are the closest high-resolution seismic lines to the proposed surface location.

## (I) STRATIGRAPHIC COLUMN - Proprietary Copy only

#### (J) TIME VS DEPTH TABLES

Sufficient well control data for the target areas proposed in this EP exists; therefore, seismic time versus depth tables for the proposed well locations are not required.

#### (K) HYDROGEN SULFIDE INFORMATION

In accordance with Title 30 CFR 250. 490(c) and NTL No. 2003-G17, Bois d'Arc requests that Ship Shoal Blocks 111 and 96 be classified by the MMS as  $H_2S$  absent.



Tel: 713.228.0438 Fax: 713.228.1759 boistexas@aol.com

April 1, 2005

U.S. Department of the Interior Minerals Management Service 1201 Elmwood Park Boulevard New Orleans, LA 70123-2394

RE:

Hazard Survey Analysis

Blocks 111 and 96: Ship Shoal Area

Proposed Locations OCS-G-23892 "A" and "B" Proposed Locations OCS-G-24924 "J" and "K"

Offshore Louisiana, Gulf of Mexico

#### Gentlemen:

Bois d'Arc Offshore, Ltd. (BDO) used the Archeological and Hazard Study of Block 111; lease OCS-G-24924 that was prepared for BDO in, March 2005 by Tesla Offshore, LLC. BDO has reviewed the data and report for this survey and finds no shallow drilling hazards that would interfere with the four proposed wells. The four wells will be drilled from a common surface location in Ship Shoal Block 111, with the proposed OCS-G-23892 "A" and "B" wells being directionally drilled to bottom hole locations under Ship Shoal Block 96. The proposed OCS-G-24924 "J" and "K" bottom hole locations will remain within Ship Shoal Block 111.

Proposed Surface Location

X = 12,116,250.00

Y = 70.770.84

Sincerely yours,

Bois d'Arc Offshore, Ltd.

William E. Holman

Geologist

# APPENDIX D BIOLOGICAL AND PHYSICAL INFORMATION

#### CHEMOSYNTHETIC INFORMATION

This EP does not propose activities that could disturb seafloor areas in water depths of 400 meters (1312 feet) or greater, therefore chemosynthetic information is not required.

#### TOPOGRAPHIC FEATURES INFORMATION

The activities proposed in this plan will not take place within 500 feet of any identified topographic feature; therefore topographic features information is not required.

#### LIVE BOTTOM (PINNACLE TREND) INFORMATION

Ship Shoal Block 111 is not located within 100 feet of any pinnacle trend feature with vertical relief equal to or greater than 8 feet; therefore, live bottom information is not required.

# APPENDIX E WASTES AND DISCHARGES INFORMATION

#### DISCHARGES

All discharges associated with operations proposed in this Exploration Plan will be in accordance with regulations implemented by Minerals Management Service (MMS), U. S. Coast Guard (USCG) and the U.S. Environmental Protection Agency (EPA).

Discharge information is not required per NTL No. 2003-G17.

#### **WASTES**

For disposed wastes, the type and general characteristics of the wastes, the amount to be disposed of (volume, rate, or weight), the daily rate, the name and location of the disposal facility, a description of any treatment or storage, and the methods for transporting and final disposal are provided in tabular format in *Attachment E-1*. For purposes of this Appendix, disposed wastes describes those wastes generated by the proposed activities that are disposed of by means other than by releasing them in to the waters of the Gulf of Mexico at the site where they are generated. These wastes can be disposed of by offsite release, injection, encapsulation, or placement at either onshore or offshore permitted locations for the purpose of returning them back to the environment.

# Disposal Table (Wastes to be disposed of, not discharged)

Type of Waste Approximate Composition	Amount*	Rate per Day	Name/Location of Disposal Facility	Treatment and/or Storage, Transport and Disposal Method
Spent oil-based drilling fluids and cuttings	2000 bbl/well	200 bbl/day	US Liquids Fourchon, Louisiana	Transport to shore in 25 bbl tanks and truck to a land farm
Spent synthetic- based drilling fluids and cuttings	NA	NA	NA	NA
Oil-contaminated produced sand	NA	NA	NA	NA
Waste Oil	50 bbl/yr	0.13 bbl/day	Recycled	Recycled
Produced water	NA	NA	NA	NA
Norm- contaminated wastes	NA	NA	NA	NA
Trash and debris	450 ft <sup>3</sup>	27 ft <sup>3</sup> /day	Waste Management, Fourchon, Louisiana	Transport in storage bins on crew boat to shorebase; truck to landfill
Chemical product wastes	NA	NA	NA	NA
Workover fluids	50 bbl/yr	50 bbl/day	US Liquids Fourchon, Louisiana	Transport to shore in 25 bbl tanks and truck to a disposal facility

<sup>\*</sup>can be expressed as a volume, weight, or rate

# APPENDIX F OIL SPILL INFORMATION

#### 1. Regional OSRP Information

Bois d'Arc's Regional Oil Spill Response Plan (OSRP) was approved on June 11, 2003 and the biennial update was submitted on May 31, 205. Activities proposed in this EP will be covered by the Regional OSRP.

#### 2. OSRO Information

Bois d'Arc's primary equipment provider is Clean Gulf Associates (CGA). The Marine Spill Response Corporation's (MSRC) STARS network will provide closest available personnel, as well as an MSRC supervisor to operate the equipment.

#### 3. Worst-Case Scenario Comparison

Category	Regional OSRP WCD	EP WCD
Type of Activity	Exploratory	Exploratory
Facility Location (Area/Block)	ST33	SS111
Facility Designation	Well	Jack-up
Distance to Nearest Shoreline (miles)	8	13.81
Volume Storage tanks (total) Uncontrolled blowout Total Volume	6400 bbls	1200 bbls
Type of Oil(s) (crude, condensate, diesel)	Crude	Condensate
API Gravity	40°	45°

Bois d'Arc has determined that the worst-case scenario from the activities proposed in this EP do not supercede the worst-case scenario from our approved regional OSRP for exploratory operations.

Since Bois d'Arc has the capability to respond to the worst-case spill scenario included in our regional OSRP approved on June 11, 2003, and since the worst-case scenario determined for our EP does not replace the worst-case scenario in our regional OSRP, I hereby certify that Bois d'Arc 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 EP.

## 5. FACILITY TANKS, PRODUCTION FACILITIES

All facility tanks of 25 barrels or more.

Type of Storage Tank	Type of Facility	Tank Capacity (bbls)	Number of Tanks	Total Capacity (bbls)	Fluid Gravity (API)
Fuel Oil (Marine Diesel)	Jack-up	2481	1	2481	32.4°
Production	NA	NA	NA	NA	NA

# 6. PRODUCED LIQUID HYDROCARBONS TRANSPORTATION VESSELS

Bois d'Arc does not propose the transfer of well test fluids or stored production under this EP.

# APPENDIX G AIR EMISSIONS INFORMATION

#### AIR EMISSIONS INFORMATION

Screen Procedures for EP's	Yes	No
Is any calculated Complex Total (CT) Emission amount (tons) associated with your		X
proposed exploration activities more than 90% of the amounts calculated using the		
following formulas: $CT = 3400D^{2/3}$ for CO, and $CT = 33.3D$ for the other air pollutants		
(where D = distance to shore in miles)?		
Do your emission calculations include any emission reduction measures or modified		X
emission factors?		
Are your proposed exploration activities located east of 87.5° W longitude?		X
Do you expect to encounter H <sub>2</sub> S at concentrations greater than 20 parts per million (ppm)?		X
Do you propose to flare or vent natural gas for more than 48 continuous hours from any		X
proposed well?		
Do you propose to burn produced hydrocarbon liquids?		X

#### **Summary Information**

There are no existing facilities or activities co-located with the currently proposed activities, therefore the Complex Total Emissions are the same as the Plan Emissions and are provided in the table below.

Air Pollutant	Plan Emission Amounts <sup>1</sup> (tons)	Calculated Exemption Amounts <sup>2</sup> (tons)	Calculated Complex Total Emission Amounts <sup>3</sup> (tons)
Particular matter (PM)	10.12	459.87	10.12
Sulphur dioxide (SO <sub>2</sub> )	46.44	459.87	46.44
Nitrogen oxides (NO <sub>x</sub> )	348.62	459.87	348.62
Volatile organic compounds (VOC)	11.04	459.87	11.04
Carbon Monoxide (CO)	79.79	19570.78	79.79

<sup>&</sup>lt;sup>1</sup>For activities proposed in your EP, list the projected emissions calculated from the worksheets.

This information was calculated by: Valerie Land

(281) 578-3388

valerie.land@jccteam.com

Based on this data, emissions from the proposed activities will not cause any significant effect on onshore air quality.

<sup>&</sup>lt;sup>2</sup>List the exemption amounts for your proposed activities calculated by using the formulas in 30 CFR 250.303(d).

<sup>&</sup>lt;sup>3</sup>List the complex total emissions associated with your proposed activities calculated from the worksheets.

# APPENDIX H ENVIRONMENTAL IMPACT ANALYSIS (EIA)

Included as Attachment H-1 is a site spec	ific Environmental	l Impact Analysis (	EIA) covering our
proposed exploratory operations.			

# Bois d'Arc Offshore Ltd. (Bois d'Arc)

# Joint Initial Exploration Plan Ship Shoal Block 111 OCS-G 24924

# (A) Impact Producing Factors

# **ENVIRONMENTAL IMPACT ANALYSIS WORKSHEET**

Environment Resources	Impact Producing Factors (IPFs)  Categories and Examples  Refer to recent GOM OCS Lease Sale EIS for a more complete list of IPFs						
	Emissions (air, noise, light, etc.)	Effluents (muds, cutting, other discharges to the water column or seafloor)	Physical disturbances to the seafloor (rig or anchor emplacements, etc.)	Wastes sent to shore for treatment or disposal	Accidents (e.g., oil spills, chemical spills, H <sub>2</sub> S releases)	Discarded Trash & Debris	
Site-specific at Offshore Location	\$10.5 2.5 2.5			Ser Charles and Service			
Designated topographic features		(1)	(1)		(1)		
Pinnacle Trend area live bottoms	<del></del>	(2)	(2)		(2)		
Eastern Gulf live bottoms		(3)	(3)		(3)		
Chemosynthetic communities	T		(4)				
Water quality		X	X		X		
Fisheries		X	Х		X		
Marine Mammals	X(8)	X		-1-11	X(8)	Х	
Sea Turtles	X(8)	Х			X(8)	X	
Air quality	X(9)						
Shipwreck sites (known or potential)			X(7)				
Prehistoric archaeological sites			X(7)				
Vicinity of Offshore Location							
Essential fish habitat		Х	X		X(6)		
Marine and pelagic birds	X				X	X	
Public health and safety					(5)		
Coastal and Onshore						2.4	
Beaches				****	X(6)	X	
Wetlands					X(6)		
Shore birds and coastal nesting birds  Coastal wildlife refuges					X(6)	Х	
Coastal wildlife refuges					X		
Wilderness areas					X		

#### Footnotes for Environmental Impact Analysis Matrix

- 1) Activities that may affect a marine sanctuary or topographic feature. Specifically, if the well or platform site or any anchors will be on the seafloor within the:
  - o 4-mile zone of the Flower Garden Banks, or the 3-mile zone of Stetson Bank;
  - o 1000-m, 1-mile or 3-mile zone of any topographic feature (submarine bank) protected by the Topographic Features Stipulation attached to an OCS lease;
  - o Essential Fish Habitat (EFH) criteria of 500 ft. from any no-activity zone; or
  - o Proximity of any submarine bank (500 ft. buffer zone) with relief greater than 2 meters that is not protected by the Topographic Features Stipulation attached to an OCS lease.
- 2) Activities with any bottom disturbance within an OCS lease block protected through the Live Bottom (Pinnacle Trend) Stipulation attached to an OCS lease.
- 3) Activities within any Eastern Gulf OCS block where seafloor habitats are protected by the Live Bottom (Low-Relief) Stipulation attached to an OCS lease.
- 4) Activities on blocks designated by the MMS as being in water depths 400 meters or greater.
- 5) Exploration or production activities where H2S concentrations greater than 500 ppm might be encountered.
- 6) All activities that could result in an accidental spill of produced liquid hydrocarbons or diesel fuel that you determine would impact these environmental resources. If the proposed action is located a sufficient distance from a resource that no impact would occur, the EIA can note that in a sentence or two.
- 7) All activities that involve seafloor disturbances, including anchor emplacements, in any OCS block designated by the MMS as having high-probability for the occurrence of shipwrecks or prehistoric sites, including such blocks that will be affected that are adjacent to the lease block in which your planned activity will occur. If the proposed activities are located a sufficient distance from a shipwreck or a prehistoric site that no impact would occur, the EIA can note that in a sentence or two.
- 8) All activities that you determine might have an adverse effect on endangered or threatened marine mammals or sea turtles or their critical habitats.
- 9) Production activities that involve transportation of produced fluids to shore using shuttle tankers or barges.

## (B) Analysis

#### Site-Specific at Ship Shoal Block 111

Proposed operations consist of the drilling, completion, and testing of four well locations from a common surface location in Ship Shoal Block 111 and the installation of a well protector structure. These operations will be performed using a jack-up rig.

#### 1. Designated Topographic Features

Potential IPFs on topographic features include physical disturbances to the seafloor, effluents, and accidents.

Physical disturbances to the seafloor: Ship Shoal Block 111 is 46 miles from the closest designated Topographic Features Stipulation Block (Ewing Banks); therefore, no adverse impacts are expected.

**Effluents:** Ship Shoal Block 111 is 46 miles from the closest designated Topographic Features Stipulation Block (Ewing Banks); therefore, no adverse impacts are expected.

Accidents: It is unlikely that an accidental surface or subsurface spill would occur from the proposed activities (refer to statistics in Item 5, Water Quality). Oil spills cause damage to benthic organisms only if the oil contacts the organisms. Oil from a surface spill can be driven into the water column; measurable amounts have been documented down to a 10 m depth. At this depth, the oil is found only at concentrations several orders of magnitude lower than the amount shown to have an effect on corals. Because the crests of topographic features in the Northern Gulf of Mexico are found below 10 m, no oil from a surface spill could reach their sessile biota. Oil from a subsurface spill is not applicable due to the distance of these blocks from a topographic area. The activities proposed in this plan will be covered by Bois d'Arc's Regional OSRP (refer to information submitted in Appendix F).

There are no other IPFs (including emissions and wastes sent to shore for disposal) from the proposed activities, which could impact topographic features.

#### 2. Pinnacle Trend Area Live Bottoms

Potential IPFs on pinnacle trend area live bottoms include physical disturbances to the seafloor, effluents, and accidents.

**Physical disturbances to the seafloor:** Ship Shoal Block 111 is 153 miles from the closest live bottom (pinnacle trend) area; therefore, no adverse impacts are expected.

**Effluents:** Ship Shoal Block 111 is 153 miles from the closest live bottom (pinnacle trend) area; therefore, no adverse impacts are expected.

Accidents: It is unlikely that an accidental surface or subsurface spill would occur from the proposed activities (refer to statistics in Item 5, Water Quality). Oil spills have the potential to foul benthic communities and cause lethal and sublethal effects on live bottom organisms. Oil from a surface spill can be driven into the water column; measurable amounts have been documented down to a 10 m depth. At this depth, the oil is found only at concentrations several orders of magnitude lower than the amount shown to have an effect on marine organisms. Oil from a subsurface spill is not applicable due to the distance of these blocks from a live bottom (pinnacle trend) area. The activities proposed in this plan will be covered by Bois d'Arc's Regional OSRP (refer to information submitted in Appendix F).

There are no other IPFs (including emissions and wastes sent to shore for disposal) from the proposed activities which could impact a live bottom (pinnacle trend) area.

#### 3. Eastern Gulf Live Bottoms

Potential IPFs on Eastern Gulf live bottoms include physical disturbances to the seafloor, effluents, and accidents.

**Physical disturbances to the seafloor:** Ship Shoal Block 111 is not located in an area characterized by the existence of live bottoms, and this lease does not contain a Live-Bottom Stipulation requiring a photo documentation survey and survey report.

**Effluents:** Ship Shoal Block 111 is not located in an area characterized by the existence of live bottoms; therefore, no adverse impacts are expected.

Accidents: It is unlikely that an accidental surface or subsurface spill would occur from the proposed activities (refer to statistics in Item 5, Water Quality). Oil spills cause damage to live bottom organisms only if the oil contacts the organisms. Oil from a surface spill can be driven into the water column; measurable amounts have been documented down to a 10 m depth. At this depth, the oil is found only at concentrations several orders of magnitude lower than the amount shown to have an effect on marine invertebrates. Oil from a subsurface spill is not applicable due to the distance of these blocks from a live bottom area. The activities proposed in this plan will be covered by Bois d'Arc's Regional OSRP (refer to information submitted in Appendix F).

There are no other IPFs (including emissions and wastes sent to shore for disposal) from the proposed activities which could impact an Eastern Gulf live bottom area.

#### 4. Chemosynthetic Communities

There are no IPFs (including emissions, physical disturbances to the seafloor, wastes sent to shore for disposal, or accidents) from the proposed activities that could cause impacts to chemosynthetic communities.

Operations proposed in this plan are in water depths of 34 feet. High-density chemosynthetic communities are found only in water depths greater than 1,312 feet (400 meters); therefore, Bois d'Arc's proposed operations in Ship Shoal Block 111 would not cause impacts to chemosynthetic communities.

#### 5. Water Quality

IPFs that could result in water quality degradation from the proposed operations in Ship Shoal Block 111 include disturbances to the seafloor, effluents and accidents.

**Physical disturbances to the seafloor:** Bottom area disturbances resulting from the emplacement of drill rigs, the drilling of wells and the installation of platforms and pipelines would increase water-column turbidity and re-suspension of any accumulated pollutants, such as trace metals and excess nutrients. This would cause short-lived impacts on water quality conditions in the immediate vicinity of the emplacement operations.

Effluents: Levels of contaminants in drilling muds and cuttings and produced water discharges, discharge-rate restrictions and monitoring and toxicity testing are regulated by the EPA NPDES permit, thereby eliminating many significant biological or ecological effects. Operational discharges are not expected to cause significant adverse impacts to water quality.

Accidents: Oil spills have the potential to alter offshore water quality; however, it is unlikely that an accidental surface or subsurface spill would occur from the proposed activities. Between 1980 and 2000, OCS operations produced 4.7 billion barrels of oil and spilled only 0.001 percent of this oil, or 1 bbl for every 81,000 bbl produced. The spill risk related to a diesel spill from drilling operations is even less. Between 1976 and 1985, (years for which data were collected), there were 80 reported diesel spills greater than one barrel associated with drilling activities. Considering that there were 11,944 wells drilled, this is a 0.7 percent probability of an occurrence. If a spill were to occur, the water quality of marine waters would be temporarily affected by the dissolved components and small oil droplets. Dispersion by currents and microbial degradation would remove the oil from the water column and dilute the constituents to background levels. Historically, changes in offshore water quality from oil spills have only been detected during the life of the spill and up to several months afterwards. Most of the components of oil are insoluble in water and therefore float. The activities proposed in this plan will be covered by Bois d'Arc's Regional Oil Spill Response Plan (refer to information submitted in Appendix F).

There are no other IPFs (including emissions, physical disturbances to the seafloor, and wastes sent to shore for disposal) from the proposed activities which could cause impacts to water quality.

#### 6. Fisheries

IPFs that could cause impacts to fisheries as a result of the proposed operations in Ship Shoal Block 111 include physical disturbances to the seafloor, effluents and accidents.

**Physical disturbances to the seafloor:** The emplacement of a structure or drilling rig results in minimal loss of bottom trawling area to commercial fishermen. Pipelines cause gear conflicts which result in losses of trawls and shrimp catch, business downtime and vessel damage. Most financial losses from gear conflicts are covered by the Fishermen's Contingency Fund (FCF). The emplacement and removal of facilities are not expected to cause significant adverse impacts to fisheries.

Effluents: Effluents such as drilling fluids and cuttings discharges contain components and properties which are detrimental to fishery resources. Moderate petroleum and metal contamination of sediments and the water column can occur out to several hundred meters down-current from the discharge point. Offshore discharges are expected to disperse and dilute to very near background levels in the water column or on the seafloor within 3,000 m of the discharge point, and are expected to have negligible effect on fisheries.

Accidents: An accidental oil spill has the potential to cause some detrimental effects on fisheries; however, it is unlikely that such an event would occur from the proposed activities (refer to Item 5, Water Quality). The effects of oil on mobile adult finfish or shellfish would likely be sublethal and the extent of damage would be reduced to the capacity of adult fish and shellfish to avoid the spill, to metabolize hydrocarbons, and to excrete both metabolites and parent compounds. The activities proposed in this plan will be covered by Bois d'Arc's Regional OSRP (refer to information submitted in Appendix F).

There are no IPFs from emissions, or wastes sent to shore for disposal from the proposed activities which could cause impacts to fisheries.

#### 7. Marine Mammals

GulfCet II studies revealed that cetaceans of the continental shelf and shelf-edge were almost exclusively bottlenose dolphin and Atlantic spotted dolphin. Squid eaters, including dwarf and pygmy killer whale, Risso's dolphin, rough-toothed dolphin, and Cuvier's beaked whale, occurred most frequently along the upper slope in areas outside of anticyclones. IPFs that could cause impacts to marine mammals as a result of the proposed operations in Ship Shoal Block 111 include emissions, effluents, discarded trash and debris, and accidents.

Emissions: Noises from drilling activities, support vessels and helicopters may elicit a startle reaction from marine mammals. This reaction may lead to disruption of marine mammals' normal activities. Stress may make them more vulnerable to parasites, disease, environmental contaminants, and/or predation (Majors and Myrick, 1990). There is little conclusive evidence for long-term displacements and population trends for marine mammals relative to noise.

Effluents: Drilling fluids and cuttings discharges contain components which may be detrimental to marine mammals. Most operational discharges are diluted and dispersed upon release. Any potential impact from drilling fluids would be indirect, either as a result of impacts on prey items or possibly through ingestion in the food chain (API, 1989).

**Discarded trash and debris:** Both entanglement in, and ingestion of debris have caused the death or serious injury of marine mammals (Laist, 1997; MMC, 1999). The limited amount of marine debris, if any, resulting from the proposed activities is not expected to substantially harm marine mammals. Operators are prohibited from deliberately discharging debris as mandated by MARPOL-Annex V and the Marine Plastic Pollution Research and Control Act, and regulations imposed by various agencies including the United States Coast Guard (USCG) and the Environmental Protection Agency (EPA).

Bois d'Arc will operate in accordance with the regulations and also avoid accidental loss of solid waste items by maintaining waste management plans, manifesting trash sent to shore, and using special precautions such as covering outside trash bins to prevent accidental loss of solid waste. Special caution will be exercised when handling and disposing of small items and packaging materials, particularly those made of non-biodegradable, environmentally persistent materials such as plastic or glass.

Informational placards will be posted on all vessels and facilities having sleeping or food preparation capabilities. All offshore personnel, including contractors and other support services-related personnel (e.g. helicopter pilots, vessel captains and boat crews) will be indoctrinated on waste procedures, and will view the video (or Microsoft PowerPoint presentation), "All Washed Up: The Beach Litter Problem". Thereafter, all personnel will view the marine trash and debris training video annually.

Accidents: Collisions between support vessels and cetaceans would be unusual events, however should one occur, death or injury to marine mammals is possible. Contract vessel operators can avoid marine mammals and reduce potential deaths by maintaining a vigilant watch for marine mammals and maintaining a safe distance when they are sighted. Vessel crews should use a reference guide to help identify the twenty-eight species of whales and dolphins, and the single species of manatee that may be encountered in the Gulf of Mexico OCS. Vessel crews must report sightings of any injured or dead protected marine mammal species immediately, regardless of whether the injury or death is caused by their vessel, to the Marine Mammal and Sea Turtle Stranding Hotline at (800) 799-6637, or the Marine Mammal Stranding Network at

(305) 862-2850. In addition, if the injury or death was caused by a collision with a contract vessel, the MMS must be notified within 24 hours of the strike by email to <u>protectedspecies@mms.gov</u>. If the vessel is the responsible party, it is required to remain available to assist the respective salvage and stranding network as needed.

Oil spills have the potential to cause sublethal oil-related injuries and spill-related deaths to marine mammals. However, it is unlikely that an accidental oil spill would occur from the proposed activities (refer to Item 5, Water Quality). Oil spill response activities may increase vessel traffic in the area, which could add to changes in cetacean behavior and/or distribution, thereby causing additional stress to the animals. The effect of oil dispersants on cetaceans is not known. The acute toxicity of oil dispersant chemicals included in Bois d'Arc's OSRP is considered to be low when compared with the constituents and fractions of crude oils and diesel products. The activities proposed in this plan will be covered by Bois d'Arc's OSRP (refer to information submitted in accordance with Appendix F).

There are no other IPFs (including physical disturbances to the seafloor) from the proposed activities which could impact marine mammals.

#### 8. Sea Turtles

IPFs that could cause impacts to sea turtles as a result of the proposed operations include emissions, effluents, discarded trash and debris, and accidents. GulfCet II studies sighted most loggerhead, Kemp's ridley and leatherback sea turtles over shelf waters. Historically these species have been sighted up to the shelf's edge. They appear to be more abundant east of the Mississippi River than they are west of the river (Fritts et al., 1983b; Lohoefener et al., 1990). Deep waters may be used by all species as a transitory habitat.

**Emissions:** Noise from drilling activities, support vessels, and helicopters may elicit a startle reaction from sea turtles, but this is a temporary disturbance.

Effluents: Drilling fluids and cuttings discharges are not known to be lethal to sea turtles. Most operational discharges are diluted and dispersed upon release. Any potential impact from drilling fluids would be indirect, either as a result of impacts on prey items or possibly through ingestion in the food chain (API, 1989).

Discarded trash and debris: Both entanglement in, and ingestion of, debris have caused the death or serious injury of sea turtles (Balazs, 1985). The limited amount of marine debris, if any, resulting from the proposed activities is not expected to substantially harm sea turtles. Operators are prohibited from deliberately discharging debris as mandated by MARPOL-Annex V and the Marine Plastic Pollution Research and Control Act, and regulations imposed by various agencies including the United States Coast Guard (USCG) and the Environmental Protection Agency (EPA). Bois d'Arc will operate in accordance with the regulations and also avoid accidental loss

of solid waste items by maintaining waste management plans, manifesting trash sent to shore, and using special precautions such as covering outside trash bins to prevent accidental loss of solid waste. Special caution will be exercised when handling and disposing of small items and packaging materials, particularly those made of non-biodegradable, environmentally persistent materials such as plastic or glass.

Informational placards will be posted on all vessels and facilities having sleeping or food preparation capabilities. All offshore personnel, including contractors and other support services-related personnel (e.g. helicopter pilots, vessel captains and boat crews) will be indoctrinated on waste procedures, and will view the video (or Microsoft PowerPoint presentation), "All Washed Up: The Beach Litter Problem". Thereafter, all personnel will view the marine trash and debris training video annually.

Accidents: Collisions between support vessels and sea turtles would be unusual events, however should one occur, death or injury to sea turtles is possible. Contract vessel operators can avoid sea turtles and reduce potential deaths by maintaining a vigilant watch for sea turtles and maintaining a safe distance when they are sighted. Vessel crews should use a reference guide to help identify the five species of sea turtles that may be encountered in the Gulf of Mexico OCS. Vessel crews must report sightings of any injured or dead protected sea turtle species immediately, regardless of whether the injury or death is caused by their vessel, to the Marine Mammal and Sea Turtle Stranding Hotline at (800) 799-6637, or the Marine Mammal Stranding Network at (305) 862-2850. In addition, if the injury or death was caused by a collision with a contract vessel, the MMS must be notified within 24 hours of the strike by email to protectedspecies@mms.gov. If the vessel is the responsible party, it is required to remain available to assist the respective salvage and stranding network as needed.

All sea turtle species and their life stages are vulnerable to the harmful effects of oil through direct contact or by fouling of their food. Exposure to oil can be fatal, particularly to juveniles and hatchlings. However, it is unlikely that an accidental oil spill would occur from the proposed activities (refer to **Item 5**, Water Quality). Oil spill response activities may increase vessel traffic in the area, which could add to the possibility of collisions with sea turtles. The activities proposed in this plan will be covered by Bois d'Arc's Regional Oil Spill Response Plan (refer to information submitted in accordance with **Appendix F**).

There are no other IPFs (including physical disturbances to the seafloor) from the proposed activities which could impact sea turtles.

#### 9. Air Quality

Ship Shoal Block 111 is located 115 miles from the Breton Wilderness Area and 13 miles from shore. Applicable emissions data is included in Appendix G of the Plan.

There would be a limited degree of air quality degradation in the immediate vicinity of the proposed activities. Plan Emissions for the proposed activities do not exceed the annual exemption levels as set forth by MMS. Accidents and blowouts can release hydrocarbons or chemicals, which could cause the emission of air pollutants. However, these releases would not impact onshore air quality because of the prevailing atmospheric conditions, emission height, emission rates, and the distance of Ship Shoal Block 111 from the coastline. There are no other IPFs (including effluents, physical disturbances to the seafloor, wastes sent to shore for treatment or disposal) from the proposed activities which would impact air quality.

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

IPFs that could cause impacts to known or unknown shipwreck sites as a result of the proposed operations in Ship Shoal Block 111 are disturbances to the seafloor. Ship Shoal Block 111 is located within the area designated by MMS as high-probability for occurrence of shipwrecks. Bois d'Arc will report to MMS the discovery of any evidence of a shipwreck and make every reasonable effort to preserve and protect that cultural resource. There are no other IPFs (including emissions, effluents, wastes sent to shore for treatment or disposal, or accidents) from the proposed activities that could cause impacts to shipwreck sites.

#### 11. Prehistoric Archaeological Sites

IPFs that could cause impacts to prehistoric archaeological sites as a result of the proposed operations in Ship Shoal Block 111 are physical disturbances to the seafloor and accidents (oil spills).

**Physical Disturbances to the seafloor:** Ship Shoal Block 111 is located inside the Archaeological Prehistoric high probability lines. Bois d'Arc will report to MMS the discovery of any object of prehistoric archaeological significance and make every reasonable effort to preserve and protect that cultural resource.

Accidents: An accidental oil spill has the potential to cause some detrimental effects to prehistoric archaeological sites if the release were to occur subsea. However, it is unlikely that an accidental oil spill would occur from the proposed activities (refer to Item 5, Water Quality). The activities proposed in this plan will be covered by Bois d'Arc's Regional Oil Spill Response Plan (refer to information submitted in accordance with Appendix F).

There are no other IPFs (including emissions, effluents, wastes sent to shore for treatment or disposal) from the proposed activities that could cause impacts to prehistoric archaeological sites.

#### **Vicinity of Offshore Location**

#### 1. Essential Fish Habitat (EFH)

IPFs that could cause impacts to EFH as a result of the proposed operations in Ship Shoal Block 111 include physical disturbances to the seafloor, effluents and accidents. EFH includes all estuarine and marine waters and substrates in the Gulf of Mexico.

Physical disturbances to the seafloor: The Live Bottom Low Relief Stipulation, the Live Bottom (Pinnacle Trend) Stipulation, and the Eastern Gulf Pinnacle Trend Stipulation would prevent most of the potential impacts on live-bottom communities and EFH from bottom disturbing activities (e.g., anchoring, structure emplacement and removal).

Effluents: The Live Bottom Low Relief Stipulation, the Live Bottom (Pinnacle Trend) Stipulation, and the Eastern Gulf Pinnacle Trend Stipulation would prevent most of the potential impacts on live-bottom communities and EFH from operational waste discharges. Levels of contaminants in drilling muds and cuttings and produced-water discharges, discharge-rate restrictions, and monitoring and toxicity testing are regulated by the EPA NPDES permit, thereby eliminating many significant biological or ecological effects. Operational discharges are not expected to cause significant adverse impacts to EFH.

Accidents: An accidental oil spill has the potential to cause some detrimental effects on EFH. Oil spills that contact coastal bays and estuaries, as well as OCS waters when pelagic eggs and larvae are present, have the greatest potential to affect fisheries. However, it is unlikely that an oil spill would occur from the proposed activities (refer to Item 5, Water Quality). The activities proposed in this plan will be covered by Bois d'Arc's Regional OSRP (refer to information submitted in Appendix F).

There are no other IPFs (including emissions, or wastes sent to shore for treatment or disposal) from the proposed activities which could impact essential fish habitat.

### 2. Marine and Pelagic Birds

IPFs that could impact marine birds as a result of the proposed activities include air emissions, accidental oil spills, and discarded trash and debris from vessels and the facilities.

**Emissions:** Emissions of pollutants into the atmosphere from these activities are far below concentrations which could harm coastal and marine birds.

Accidents: An oil spill would cause localized, low-level petroleum hydrocarbon contamination. However, it is unlikely that an oil spill would occur from the proposed activities (refer to Item 5, Water Quality). Marine and pelagic birds feeding at the spill location may experience chronic, nonfatal, physiological stress. It is expected that few, if any, coastal and marine birds would

actually be affected to that extent. The activities proposed in this plan will be covered by Bois d'Arc's Regional OSRP (refer to information submitted in **Appendix F**).

Discarded trash and debris: Marine and pelagic birds could become entangled and snared in discarded trash and debris, or ingest small plastic debris, which can cause permanent injuries and death. Operators are prohibited from deliberately discharging debris as mandated by MARPOL-Annex V and the Marine Plastic Pollution Research and Control Act, and regulations imposed by various agencies including the United States Coast Guard (USCG) and the Environmental Protection Agency (EPA). Bois d'Arc will operate in accordance with the regulations and also avoid accidental loss of solid waste items by maintaining waste management plans, manifesting trash sent to shore, and using special precautions such as covering outside trash bins to prevent accidental loss of solid waste. Special caution will be exercised when handling and disposing of small items and packaging materials, particularly those made of non-biodegradable, environmentally persistent materials such as plastic or glass. Informational placards will be posted on all vessels and facilities having sleeping or food preparation capabilities. All offshore personnel, including contractors and other support services-related personnel (e.g. helicopter pilots, vessel captains and boat crews) will be indoctrinated on waste procedures, and will view the video (or Microsoft PowerPoint presentation), "All Washed Up: The Beach Litter Problem". Thereafter, all personnel will view the marine trash and debris training video annually. Debris, if any, from these proposed activities will seldom interact with marine and pelagic birds; therefore, the effects will be negligible.

There are no other IPFs (including effluents, physical disturbances to the seafloor, or wastes sent to shore for treatment or disposal) from the proposed activities which could impact marine and pelagic birds.

#### 3. Public Health and Safety Due to Accidents.

There are no IPFs (emissions, effluents, physical disturbances to the seafloor, wastes sent to shore for treatment or disposal or accidents, including an accidental H2S releases) from the proposed activities which could cause impacts to public health and safety. In accordance with NTL No. 2003 G-17, sufficient information is included in **Appendix C** to justify our request that our proposed activities be classified by MMS as  $H_2S$  absent.

#### **Coastal and Onshore**

#### 1. Beaches

IPFs from the proposed activities that could cause impacts to beaches include accidents (oil spills) and discarded trash and debris.

Accidents: Oil spills contacting beaches would have impacts on the use of recreational beaches and associated resources. Due to the response capabilities that would be implemented, no

significant adverse impacts are expected. The activities proposed in this plan will be covered by Bois d'Arc's Regional OSRP (refer to information submitted in **Appendix F**).

Discarded trash and debris: Trash on the beach is recognized as a major threat to the enjoyment and use of beaches. There will only be a limited amount of marine debris, if any, resulting from the proposed activities. Operators are prohibited from deliberately discharging debris as mandated by MARPOL-Annex V and the Marine Plastic Pollution Research and Control Act, and regulations imposed by various agencies including the United States Coast Guard (USCG) and the Environmental Protection Agency (EPA). Bois d'Arc will operate in accordance with the regulations and also avoid accidental loss of solid waste items by maintaining waste management plans, manifesting trash sent to shore, and using special precautions such as covering outside trash bins to prevent accidental loss of solid waste. Special caution will be exercised when handling and disposing of small items and packaging materials, particularly those made of non-biodegradable, environmentally persistent materials such as plastic or glass.

Informational placards will be posted on all vessels and facilities having sleeping or food preparation capabilities. All offshore personnel, including contractors and other support services-related personnel (e.g. helicopter pilots, vessel captains and boat crews) will be indoctrinated on waste procedures, and will view the video (or Microsoft PowerPoint presentation), "All Washed Up: The Beach Litter Problem". Thereafter, all personnel will view the marine trash and debris training video annually.

There are no other IPFs (emissions, effluents, physical disturbances to the seafloor, or wastes sent to shore for treatment or disposal) from the proposed activities which could impact beaches.

#### 2. Wetlands

Salt marshes and seagrass beds fringe the coastal areas of the Gulf of Mexico. Due to the distance from shore (13 miles), accidents (oil spills) represent an IPF which could impact these resources.

Accidents: Level of impact from an oil spill will depend on oil concentrations contacting vegetation, kind of oil spilled, types of vegetation affected, season of the year, pre-existing stress level of the vegetation, soil types, and numerous other factors. Light-oiling impacts will cause plant die-back with recovery within two growing seasons without artificial replanting. However, it is unlikely that an oil spill would occur from the proposed activities (refer to Item 5, Water quality). If a spill were to occur, response capabilities as outlined in Bois d'Arc's Regional OSRP (refer to information submitted in Appendix F) would be implemented.

There are no other IPFs (emissions, effluents, physical disturbances to the seafloor, or wastes sent to shore for treatment or disposal) from the proposed activities that could cause impacts to wetlands.

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

Isles Dernieres WMA (13 miles from Ship Shoal Block 111) is a highly productive habitat for wildlife. Thousands of shore birds use the refuge as a wintering area. Also, wading birds nest on the refuge. The Isles Dernieres WMA provides habitat for colonies of nesting wading birds and seabirds as well as wintering shorebirds and waterfowl. The most abundant nesters are brown pelicans, laughing gulls, and royal, Caspian, and sandwich terns. IPFs from the proposed activities that could cause impacts to shore birds and coastal nesting birds are accidents (oil spills) and discarded trash and debris.

Accidents: Oil spills could cause impacts to shore birds and coastal nesting birds. The birds most vulnerable to direct effects of oiling include those species that spend most of their time swimming on and under the sea surface, and often aggregate in dense flocks (Piatt et al., 1990; Vauk et al., 1989). Coastal birds, including shorebirds, waders, marsh birds, and certain water fowl, may be the hardest hit indirectly through destruction of their feeding habitat and/or food source (Hansen, 1981; Vermeer and Vermeer, 1975). Direct oiling of coastal birds and certain seabirds is usually minor; many of these birds are merely stained as a result of their foraging behaviors. Birds can ingest oil when feeding on contaminated food items or drinking contaminated water.

Oil-spill cleanup operations will result in additional disturbance of coastal birds after a spill. However, it is unlikely that an oil spill would occur from the proposed activities (refer to **Item 5**, Water quality). Due to the distance from shore being 13 miles, Bois d'Arc would immediately implement the response capabilities outlined in their Regional OSRP (refer to information submitted in **Appendix F**).

Discarded trash and debris: Coastal and marine birds are highly susceptible to entanglement in floating, submerged, and beached marine debris: specifically plastics. Operators are prohibited from deliberately discharging debris as mandated by MARPOL-Annex V and the Marine Plastic Pollution Research and Control Act, and regulations imposed by various agencies including the United States Coast Guard (USCG) and the Environmental Protection Agency (EPA). Bois d'Arc will operate in accordance with the regulations and also avoid accidental loss of solid waste items by maintaining waste management plans, manifesting trash sent to shore, and using special precautions such as covering outside trash bins to prevent accidental loss of solid waste. Special caution will be exercised when handling and disposing of small items and packaging materials, particularly those made of non-biodegradable, environmentally persistent materials such as plastic or glass.

Informational placards will be posted on vessels and every facility that has sleeping or food preparation capabilities. All offshore personnel, including contractors and other support services-related personnel (e.g. helicopter pilots, vessel captains and boat crews) will be indoctrinated on waste procedures, and will view the video (or Microsoft PowerPoint presentation), "All Washed Up: The Beach Litter Problem". Thereafter, all personnel will view the marine trash and debris training video annually.

There are no other IPFs (emissions, effluents, physical disturbances to the seafloor, or wastes sent to shore for treatment or disposal) from the proposed activities that could cause impacts to shore birds and coastal nesting birds.

#### 4. Coastal Wildlife Refuges

Accidents: Ship Shoal Block 111 is approximately 13 miles from the Isles Dernieres WMA. Management goals of the Isles Dernieres WMA are waterfowl habitat management, marsh restoration, providing sanctuary for nesting and wintering seabirds, and providing sandy beach habitat for a variety of wildlife species. IPFs from the proposed activities that could cause impacts to this coastal wildlife refuge are accidents (oil spills) and discarded trash and debris.

Impacts to shore birds and coastal nesting birds and to the beach, was covered in previous sections. Other wildlife species found on the refuges include nutria, rabbits, raccoons, alligators, and loggerhead turtles. Impacts to loggerhead turtles were also covered under a previous section.

It is unlikely that an oil spill would occur from the proposed activities (refer to **Item 5**, Water quality). Response capabilities would be implemented, no impacts are expected. The activities proposed in this plan will be covered by Bois d'Arc's Regional OSRP (refer to information submitted in **Appendix F**).

There are no other IPFs (emissions, effluents, physical disturbances to the seafloor, or wastes sent to shore for treatment or disposal) from the proposed activities that could cause impacts to coastal wildlife refuges.

#### 5. Wilderness Areas

An accidental oil spill from the proposed activities could cause impacts to wilderness areas. However, it is unlikely that an oil spill would occur from the proposed activities (refer to **Item 5**, Water Quality). Due to the distance from the nearest designated Wilderness Area (115 miles) and the response capabilities that would be implemented, no significant adverse impacts are expected. The activities proposed in this plan will be covered by Bois d'Arc's Regional OSRP (refer to information submitted in **Appendix F**).

#### 6. Other Environmental Resources Identified

None

#### (C) Impacts on your proposed activities.

The site-specific environmental conditions have been taken into account for the proposed activities. No impacts are expected on the proposed activities from site-specific environmental conditions.

#### (D) Alternatives

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

#### (E) Mitigation Measures

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

## (F) Consultation

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

#### (G) References

Authors:

- American Petroleum Institute (API). 1989. Effects of offshore petroleum operations on cold water marine mammals: a literature review. Washington, DC: American Petroleum Institute. 385 pp.
- Balazs, G.H. 1985. Impact of ocean debris on marine turtles: entanglement and ingestion. In: Shomura, R.S. and H.O. Yoshida, eds. Proceedings, Workshop on the Fate and Impact of Marine Debris, 26-29 November 1984, Honolulu, HI. U.S. Dept. of Commerce. NOAA Tech. Memo. NOAA-TM-NMFS-SWFC-54. Pp 387-429.
- Burke, C.J. and J.A. Veil. 1995. Potential benefits from regulatory consideration of synthetic drilling muds. Environmental Assessment Division, Argonne National Laboratory, ANL/EAD/TM-43
- Daly, J.M. 1997. Controlling the discharge of synthetic-based drilling fluid contaminated cuttings in waters of the United States. U.S. Environmental Protection Agency, Office of Water. Work Plan, June 24, 1997.
- Hansen, D.J. 1981. The relative sensitivity of seabird populations in Alaska to oil pollution. U.S. Dept. of the Interior, Bureau of Land Management, Alaska OCS Region, Anchorage. BLM-YK-ES-81-006-1792.
- Laist, D.W. 1997. Impacts of marine debris: entanglement of marine life in marine debris including a comprehensive list of species with entanglement and ingestion records. In: Coe, J.M. and D.B. Rogers, eds. Marine debris: sources, impacts, and solutions. New York, NY: Springer-Verlag. Pp. 99-139
- Majors, A.P. and A.C. Myrick, Jr. 1990. Effects of noise on animals: implications for dolphins exposed to seal bombs in the eastern tropical Pacific purse-seine fishery—an annotated bibliography. NOAA Administrative Report LJ-90-06.

Marine Mammal Commission. 1999. Annual report to Congress – 1998

- Piatt, J.F., C.J. Lensink, W. Butler, M. Kendziorek, and D.R. Nysewander. 1990. Immediate impact of the Exxon Valdez oil spill on marine birds. The Auk. 107 (2): 387-397
- Vauk, G., E. Hartwig, B. Reineking, and E. Vauk-Hentzelt. 1989. Losses of seabirds by oil pollution at the German North Sea coast. Topics in Marine Biology. Ros, J.D, ed. Scient. Mar. 53 (2-3): 749-754
- Vermeer, K. and R. Vermeer, 1975 Oil threat to birds on the Canadian west coast. The Canadian Field-Naturalist. 89:278-298.

Although not cited, the following were utilized in preparing this EIA:

- Hazard Surveys
- MMS EIS's:
  - o GOM Deepwater Operations and Activities. Environmental Assessment. MMS 2000-001
  - o GOM Central and Western Planning Areas Sales 166 and 168 Final Environmental Impact Statement. MMS 96-0058

## **APPENDIX I**

# COASTAL ZONE MANAGEMENT CONSISTENCY INFORMATION

Relevant enforceable policies were considered in certifying consistency for Louisiana. A certificate of Coastal Zone Management Consistency for the state of Louisiana is enclosed as *Attachment I-1*.

# **COASTAL ZONE MANAGEMENT CONSISTENCY CERTIFICATION**

# JOINT INITIAL EXPLORATION PLAN SHIP SHOAL BLOCKS 96 AND 111

OCS-G 23892 AND 24924

The proposed activities described in detail in this OCS Plan comply with Louisiana's approved Coastal Management Program and will be conducted in a manner consistent with such Program

> Bois d'Arc Offshore Ltd. Lessee or Operator

Rich Smiley
Certifying Official

6/2/05 Date

OMB Control Number: 1010-0049 OMB Approval Expires: August 31, 2006

# OCS PLAN INFORMATION FORM

GENERAL INFORMATION												
Type of OCS Plan: X Exp	Development Operations Coordination Document (DOCD)							D)				
Company Name: Bois d'Arc Off	MMS Operator Number: 02268											
Address: 600 Travis Street; Suite	Contact Person: Valerie Land											
Houston, Texas 77002		-	Phon	e Nu	ımber: (281)	578-	3388					
			Emai	l Ad	ldress: valeri	e.lan	d@jcc	team.con	1			
Leases: 23892/24924 Area:	Project Name (If Applicable): NA											
Objective(s): Oil Gas	rchon, La	Dist	ance to	Closest L	and	(Miles	): 1.	3.81				
Description of Proposed Activities (Mark all that apply)												
		, , , , , , , , , , , , , , , , , , , ,	ΙL	] D	evelopment (	drilli	ng					
Well completion				] Ir	nstallation of	prod	uction	platform				
Well test flaring (for more th	nan 48 hours)			Ir	nstallation of	prod	uction	facilities				
	tform as well protect	ion structure		] Ir	nstallation of	satel	lite str	ucture				
☐ Installation of subsea wellhe	ads and/or manifolds	3		] C	commence pro	oduci	ion					
☐ Installation of lease term pip	elines			] 0	ther (Specify	and	descri	be)				
Have you submitted or do you plan t	o submit a Conservatio	on Information	n Doc	umer	nt to accompan	y this	plan?			Yes	X	No
Do you propose to use new or unusu	al technology to condu	ct your activi	ties?							Yes	X	No
Do you propose any facility that will	serve as a host facility	for deepwate	er subs	sea de	evelopment?					Yes	X	No
Do you propose any activities that m	ay disturb an MMS-de	signated high	-proba	ibilit	y archaeologic	cal area?			X	Yes		No
Have all of the surface locations of y	our proposed activities	been previou	ısly re	view	ed and approv	ed by	MMS	?		Yes	X	No
	Tentative S	chedule of I	ropo	sed	Activities							
	<b>Proposed Activity</b>						art	End Date		No. o	of D	ays
Drill, complete and potentially	test Well Locations	A and B				<b>Date Date</b> 07/15/05 10/07/0						
2. Install well protector structure						08/05						
3. Drill, complete and potentially		J and K	02/01/						80			
	Martin -		02/0/									
									$\dashv$			
Description of	f Drilling Rig				Descripti	on of	Prod	uction P	atfo	rm		
✓ Jackup	Drillship			Ca	Caisson Tension leg platform				1			
Gorilla Jackup	☐ Platform rig			We	ell protector			Compliant	tow	er er		
Semisubmersible	Submersible											
DP Semisubmersible	Other (Attach I	Other (Attach Description)  Subsea manifold Floating production sy						syst	em			
Drilling Rig Name (If Known):					ar			ther (Att	ach	descri	ptio	n)
Description of Lease					pelines	1				-		
From (Facility/Area/Block)  To (Facility/Area/Bl				Block) Diameter (inches) Le				ength (Feet)				
NA		<del></del>		_			+					
		<del></del>		$\dashv$	· w		$\dashv$				·	
				$\neg \dagger$								

Include one copy of this page for each proposed well/structure

1.1		1.5	Proposed W	ell/Structure	Location			
Well or Structure	e Name/	Number (If	renaming well or structure	, reference prev	ious name): A		Subsea Co	mpletion
Anchor Radius (	if applic	able) in feet	:: NA				Yes	No No
	S	urface Loc	ation	Programme State (State )	Bottom-Hole L	ocation (For W		
Lease No.	C	CS-G 2492	24					
Area Name	S	S	<del></del>					
Block No.	1	11						
Blockline	N	I/S Departu	re: 975' FNL			· · · · · · · · · · · · · · · · · · ·		
Departures (in feet)	E	/W Departu	re: 7050' FWL					
Lambert X-Y	X	Z: 2,116,25	0.00					
coordinates	Y	7: 70,770.8	4					
Latitude/	L	atitude: 28	° 51' 38.754"					
Longitude	L	ongitude: 9	90° 58' 12.813"					
A Parameter Control	Т	VD (Feet):		MD (Feet):		Water Depth (I	Feet): 34'	· · · · · · · · · · · · · · · · · · ·
Anchor Locatio	ns for D	rilling Rig	or Construction Barge (I	  fanchor radiu	s supplied above	  -   not necessary)		
Anchor Name or No.	Area	Block	X Coordinate		Y Coordi	nate	Length of Chain on	
			X =	Y =				
			X =	Y =				
			X =	Y =				
			X =	Y =				
			X =	Y =				
			X =	Y =				
			X =	Y =				
			X =	Y =				
you that MMS co submitted for MM data according to required to respo	ollects the MS appropries the Free and to, a condition	is informatioval. We us edom of Infoculection of	Statement: The Paperwor on as part of an applicant's e the information to facilitate or mation Act and 30 CFR of information unless it disputately. The public reporting	s Exploration Plate our review a 250.196. An ago lays a currently	an or Developme nd data entry for ency may not con valid Office of N	nt Operations Co OCS plans. We we duct or sponsor, a fanagement and I	ordination Do vill protect pr and a person: Budget Contr	ocument oprietary is not ol

Service, 1849 C Street, N.W., Washington, DC 20240.

Plans and Development Operations Coordination Documents. We estimate that burden to average 580 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to the Information Collection Clearance Officer, Mail Stop 4230, Minerals Management

Include one copy of this page for each proposed well/structure

177			Proposed We	II/Structure L	ocation			
Well or Structure	e Name	/Number (If	renaming well or structure,	reference previ	ious name): B		Subsea Co	mpletion
Anchor Radius (	if applic	cable) in feet	: NA				☐ Yes	⊠ No
	1	Surface Loc	ation		Bottom-Hole L	ocation (For We	lls)	
Lease No.	(	OCS-G 2492	.4					
Area Name		SS						
Block No.	1	111			<del></del> !			
Blockline Departures	]	N/S Departui	re: 975' FNL					
(in feet)	J	E/W Departu	re: 7050' FWL					*****
Lambert X-Y coordinates	2	X: 2,116,250	0.00					,
Corumates	1	Y: 70,770.84	1					
Latitude/ Longitude	J	Latitude: 28	° 51' 38.754"					
Longitude	· J	Longitude: 9	90° 58' 12.813"					
	7.	ΓVD (Feet):		MD (Feet):		Water Depth (F	eet): 34'	
***************************************	***************************************	And the contract of the common of the	or Construction Barge (If	anchor radius				
Anchor Name or No.	Area	Block	X Coordinate		Y Coordinate		Length of Anchor Chain on Seafloor	
			X =	Y =				,
			X =	Y =				
			X =	Y =				
			X =	Y =				:
			X =	Y =				
			X =	Y =				
			X =	Y =				
			X =	Y =				
you that MMS co submitted for MM data according to required to respon	ollects the MS approperties of the Free ond to, a	his informati roval. We usedom of Info collection or	Statement: The Paperwork on as part of an applicant's e the information to facilitate formation Act and 30 CFR 2 f information unless it displantary. The public reporting	Exploration Plate our review as 50.196. An age ays a currently	an or Development and data entry for Cency may not cond valid Office of M	nt Operations Coo OCS plans. We w duct or sponsor, a lanagement and E	ordination D vill protect pand a person Budget Conti	ocument roprietary is not rol

MMS Form MMS-137 (August 2003 – Supersedes all previous editions of form MMS-137, which may not be used.)

Service, 1849 C Street, N.W., Washington, DC 20240.

Plans and Development Operations Coordination Documents. We estimate that burden to average 580 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to the Information Collection Clearance Officer, Mail Stop 4230, Minerals Management

Include one copy of this page for each proposed well/structure

			Proposed we	II/Structure	Location			
Well or Structure	Name	/Number (If	f renaming well or structure, i	reference prev	vious name): J	And the state of t	Subsea Co	mpletion
Anchor Radius (i	if appli	cable) in feet	t: NA				☐ Yes	⊠ No
		Surface Loc	cation			ocation (For We		
Lease No.		OCS-G 2492	24					
Area Name	1	SS	· ·					
Block No.		111						
Blockline Departures	!	N/S Departur	re: 975' FNL					
Departures (in feet)	!	E/W Departu	ure: 7050' FWL				···	<del></del>
Lambert X-Y	7	X: 2,116,250	0.00					
coordinates	7	Y: 70,770.84	4					
Latitude/ Longitude			3° 51' 38.754"					
	J	Longitude: 9	90° 58' 12.813"					
	7	TVD (Feet):		MD (Feet):		Water Depth (F	eet): 34'	
Anchor Location	ns for J	Drilling Rig	or Construction Barge (If	anchor radiu	ıs supplied above	, not necessary)		
Anchor Name or No.	Area	a Block	X Coordinate		Y Coordir	nate		of Anchor Seafloor
			X=	Y =				i
			X =	Y =				
			X =	Y =				
			X =	Y =				
			X =	Y =				
			X =	Y =				
	İ		X =	Y =				
			X =	Y =				
you that MMS co submitted for MM data according to	ollects the MS approperty of the Fre	his information roval. We use eedom of Info	Statement: The Paperwork ion as part of an applicant's I se the information to facilitate formation Act and 30 CFR 25	Exploration Pl te our review a 50.196. An age	Plan or Development and data entry for G gency may not cond	nt Operations Coo OCS plans. We w duct or sponsor, a	ordination Do	ocument roprietary

Paperwork Reduction Act of 1995 Statement: The Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35) requires us to inform you that MMS collects this information as part of an applicant's Exploration Plan or Development Operations Coordination Document submitted for MMS approval. We use the information to facilitate our review and data entry for OCS plans. We will protect proprietary data according to the Freedom of Information Act and 30 CFR 250.196. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid Office of Management and Budget Control Number. The use of this form is voluntary. The public reporting burden for this form is included in the burden for preparing Exploration Plans and Development Operations Coordination Documents. We estimate that burden to average 580 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to the Information Collection Clearance Officer, Mail Stop 4230, Minerals Management Service, 1849 C Street, N.W., Washington, DC 20240.

Include one copy of this page for each proposed well/structure

200			Proposed We	II/Structure	Location			
Well or Structure	Name/	Number (If	renaming well or structure,	reference prev	vious name): K		Subsea Co	mpletion
Anchor Radius (i	if applic	able) in feet	t: NA				Yes	⊠ No
		Surface Loc	ation	1,382	Bottom-Hole L	ocation (For We	ells)	
Lease No.	(	OCS-G 2492	24	; v.6				
Area Name	S	SS	- 184		†		<del>,</del>	
Block No.	1	111				<del></del>		
Blockline	1	N/S Departui	re: 975' FNL					
Departures (in feet)	F	E/W Departu	ure: 7050' FWL		-			
Lambert X-Y	y	X: 2,116,250	0.00					
coordinates	7	Y: 70,770.84	4					
Latitude/	I	atitude: 28	° 51' 38.754"					
Longitude	I	ongitude: 9	90° 58' 12.813"					
	Т	ΓVD (Feet):		MD (Feet):		Water Depth (F	eet): 34'	
Anchor Location	ns for I	Prilling Rig	or Construction Barge (If	anchor radiu	is supplied above	not necessary)		
Anchor Name or No.	Area		X Coordinate	A.amcaman	Y Coordii			of Anchor Seafloor
VRATO			X =	Y =	:		7.5	N. E. C.
			X =	Y =	:	,		
			X =	Y =				
			X =	Y =	***************************************			
			X =	Y =				
			X =	Y =				
			X =	Y =				
			X =	Y =	·			
you that MMS co submitted for MM	ollects th MS appr	his informati oval. We us	Statement: The Paperwork ion as part of an applicant's to the information to facilitate formation Act and 30 CFR 25	Exploration Plate our review a	lan or Development and data entry for	nt Operations Coo OCS plans. We w	ordination D vill protect pr	Oocument roprietary

Paperwork Reduction Act of 1995 Statement: The Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35) requires us to inform you that MMS collects this information as part of an applicant's Exploration Plan or Development Operations Coordination Document submitted for MMS approval. We use the information to facilitate our review and data entry for OCS plans. We will protect proprietary data according to the Freedom of Information Act and 30 CFR 250.196. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid Office of Management and Budget Control Number. The use of this form is voluntary. The public reporting burden for this form is included in the burden for preparing Exploration Plans and Development Operations Coordination Documents. We estimate that burden to average 580 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to the Information Collection Clearance Officer, Mail Stop 4230, Minerals Management Service, 1849 C Street, N.W., Washington, DC 20240.