UNITED STATES GOVERNMENT
MEMORANDUM

March 20, 2003

To: Public Information (MS 5034)

From: Plan Coordinator, FO, Plans Section (MS 5231)

Subject: Public Information copy of plan

Control #	-	N-07709
Type	-	Initial Exploration Plan
Lease(s)	-	OCS-G23193 Block - 47 High Island Area
Operator	-	Spinnaker Exploration Company, L.L.C.
Description	-	Wells A, B, C, and D
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.

Elmo Cooper
Plan Coordinator

Site Type/Name	Botm Lse/Area/Blk	Surface Location	Surf Lse/Area/Blk
WELL/A	G23193/HI/47	5425 FNL, 6200 FWL	G23193/HI/47
WELL/B	G23193/HI/47	6525 FNL, 3180 FEL	G23193/HI/47
WELL/C	G23193/HI/47	3510 FNL, 6155 FWL	G23193/HI/47
WELL/D	G23193/HI/47	6415 FNL, 6715 FWL	G23193/HI/47
WELL/E	G23193/HI/47	8175 FNL, 2650 FWL	G23193/HI/47

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SPINNAKER EXPLORATION

March 12, 2003

MINERALS MANAGEMENT SERVICE
RECEIVED
MAR 17 2003
FIELD OPERATIONS
Plans Section, GOM Region, New Orleans, LA

FEDERAL EXPRESS

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

Attention: Mr. Don Howard, MS 5200

CONTROL No. N-7709
REVIEWER: Elmo Cooper
PHONE: (504) 731-3083

Re: High Island Block 47
OCS-G 23193
Offshore, Texas
Initial Exploration Plan

Gentlemen:

In accordance with the guidelines set forth in 30-CFR 250.203, Spinnaker Exploration Company, L.L.C. (Spinnaker) is submitting for your favorable review and approval a proposed Initial Exploration Plan (EP) for High Island Block 47.

Enclosed you will find nine (9) copies of the subject plan; five (5) of which contain "Proprietary Data" that are exempt from disclosure under the privacy Act (5 U.S.C. 552a) and the implementing regulations (43 CFR Part 2 Subpart D). Four (4) copies are considered "Public Information."

Drilling operations are expected to commence on or before **May 1, 2003.**

Our $3,000,000 Area wide Development Bond number is RLB-0001151 and our $300,000 OCS Right-Of-Way Grant Bond number is B-7748. Spinnaker Exploration Co., L.L.C. acquired these bonds June 25, 1999 and September 25, 1998, respectively.

Review and approval of our EP at your earliest convenience is greatly appreciated.

Should you require any additional information, please feel free to contact Tom Becnel at 713/356-7534.

Sincerely,

Spinnaker Exploration Company, L.L.C.

Scott Broussard
Vice President Drilling & Production

tgb

enclosures

PUBLIC INFORMATION

SPINNAKER EXPLORATION COMPANY, L.L.C.

INITIAL EXPLORATION PLAN
LEASE OCS-G 23193
HIGH ISLAND BLOCK 47

SECTION A

CONTENTS OF PLAN

LEASE DESCRIPTION/ACTIVITY

Lease OCS-G 23193 was acquired by Spinnaker at the Western Gulf of Mexico Lease Sale **180** on **August 22, 2001**. The subject lease was issued with an effective date of **December 1, 2001**, and primary term ending date of **November 30, 2006**.

Spinnaker is the designated operator of the subject oil and gas lease.

OBJECTIVE

This Initial Exploration Plan provides for the drilling and suspension five (5) exploratory wells in High Island Block 47 to test the target sand(s) as detailed in **Section C** of this plan.

SCHEDULE

The following schedule details the proposed drilling and suspension of the wells provided for in this plan:

Activity	Estimated Start Date	Estimated Completion Date
Drill & Suspend Well A & Install a caisson	05-01-03	07-04-03
Drill & Suspend Well B & Install a caisson	07-05-03	08-23-03
Drill & Suspend Well C & Install a caisson	08-24-03	10-27-03
Drill & Suspend Well D & Install a caisson	10-28-03	12-21-03
Drill & Suspend Well E & Install a caisson	12-22-03	02-19-03

This schedule is tentative in the meaning of Title 30 CFR 250.203-1. Additional exploratory drilling must be predicated upon the need to further define the structures and/or reservoir limitations.

WELL LOCATIONS

The approximate location of the subject wells in this Initial Exploration Plan is shown on the table and plat included in **Section J** of this Plan.

DESCRIPTION OF DRILLING UNIT

Offshore exploratory activities are carried out from mobile drilling rigs. The five most common types of mobile rigs employed for exploratory drilling offshore are submersible drilling rig, semi-submersible drilling rigs, jack-up drilling rig, drill ships, and drill barges.

The proposed well will be drilled and completed with a typical jack-up rig. Rig specifications will be made a part of the appropriate Applications for Permit to Drill. **(Spinnaker will not be using a Gorilla Class rig.) Spinnaker will use the Noble Leonard Jones or a rig similar to it to drill the exploratory wells proposed in our plan.**

Safety features on the MODU will include well control, pollution prevention, welding procedures, and blowout prevention equipment as described in Title 30 CFR Part 250, Subparts C, D, E, G and O; and as invoked by the MMS, Environmental Protection Agency and the U.S. Coast Guard. 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 accordance with Title 30 CFR Part 250, Subpart O, an operator is to ensure that Well Control Training is provided for lessee and contractor personnel engaged in oil and gas operations in the OCS Gulf of Mexico.

Supervisory and certain designated personnel on-board the facility will be familiar with the effluent limitations and guidelines for overboard discharges into the receiving waters, as outlined in the NPDES General Permit GMG290000.

The operator is charged with the responsibility to not create conditions that will pose unreasonable risk to the public health, life, property, aquatic life, wildlife, recreation, navigation, commercial fishing, or other uses of the ocean. Some of these measures include installation of curbs, gutters, drip pans, and drains on drilling deck areas to collect all contaminants and debris.

The MMS is required to conduct onsite inspections of offshore facilities to confirm operators are complying with lease stipulations, operating regulations, approved plans, and other conditions as well as to assure safety and pollution prevention requirements are being met. The National Potential Incident of Noncompliance (PINC) List serves as the baseline for these inspections. The MMS also inspects the stockpiles of equipment listed in the operator's approved Oil Spill Response Plan that would be used for the containment and cleanup of hydrocarbon spills.

DESCRIPTION OF HYDROCARBON TRAPPING ELEMENTS
(Proprietary Data)

DESCRIPTION OF STRUCTURES

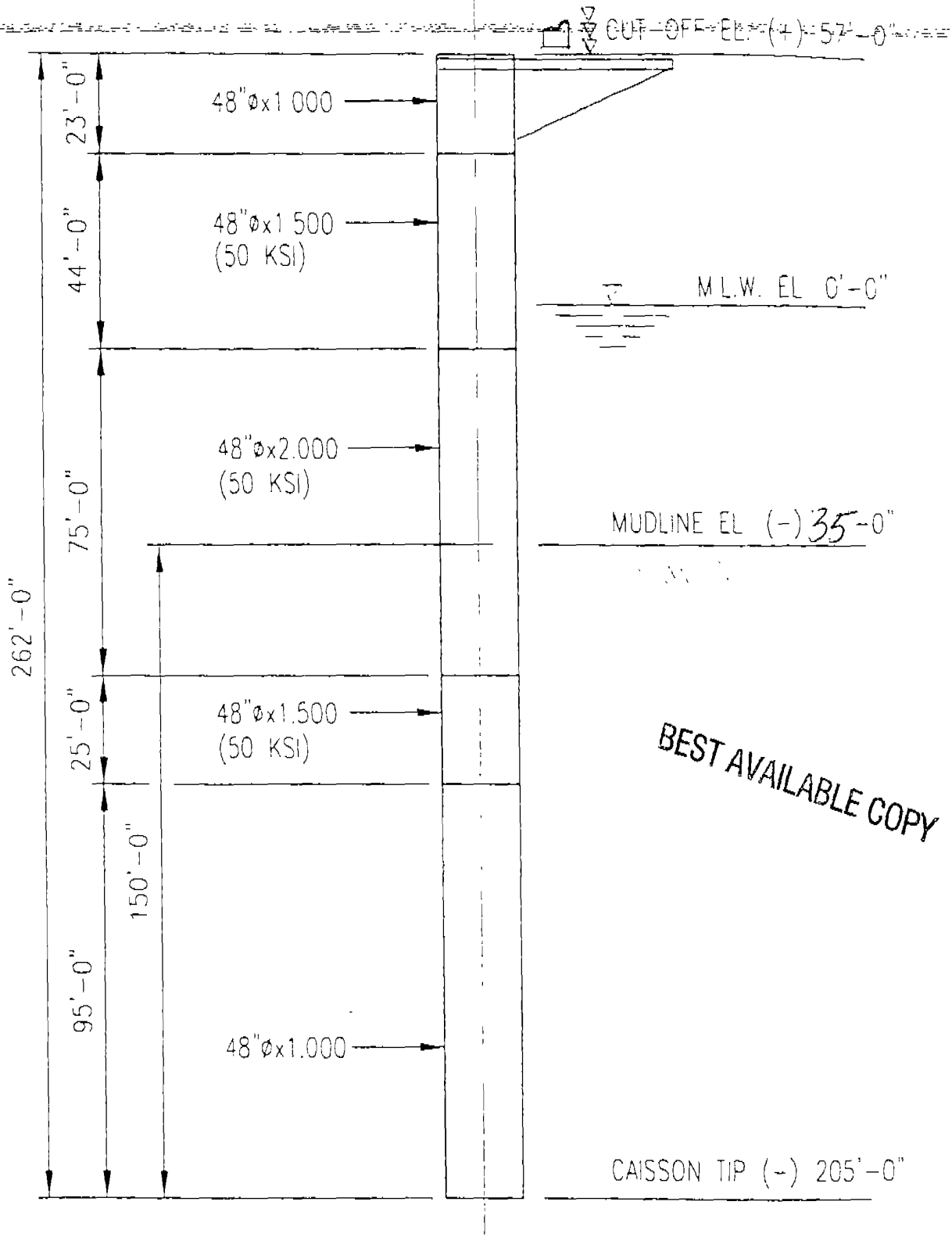
Spinnaker will install a typical caisson with approved navaids over each successful well. A drawing of the caisson is given as **Attachment A-1.**

DESCRIPTION OF VESSELS

Work Boat Length – 180'; 3500 HP; Fuel Capacity – 80,000 gallons

Crew Boat Length – 120'; 2000 HP; Fuel Capacity – 45,000 gallons

PUBLIC
INFORMATION



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CAISSON ASSEMBLY ELEVATION

NOTE:
1 ALL MATERIAL 36 KSI, UNLESS NOTED

ATTACHMENT A-1

SPINNAKER EXPLORATION CO.

CAISSON ASSEMBLY

High Island BLOCK 47

PROJECT NO 02043-01

SCALE: 1"=50' (VERTICAL)

DWG. NO 243-SK3

SECTION B

GENERAL

CONTACT

Inquiries may be made to the following authorized representative:

Thomas G. Becnel
Spinnaker Exploration Company, L.L.C.
1200 Smith Street, Suite 800
Houston, Texas 77002
713/356-7534
tbecnel@spinexp.com

NEW OR UNUSUAL TECHNOLOGY

Spinnaker does not propose utilizing any new or unusual technology during the proposed drilling and suspension operations.

BONDING

In accordance with Notice to Lessees (NTL) 99-G04 which implements the requirements for general lease surety bonds contained in 30 CRR 256, Subpart I, Spinnaker has a $3,000,000 Area Wide Development Bond on file with the Minerals Management Service.

Additionally, NTL 98-18N addresses how MMS has the authority to require additional security to cover full plugging, site clearance and other associated lease liabilities which may be in excess of the general lease surety bonds. These activities are reviewed on a case-by-case basis, and if deemed warranted, Minerals Management Service will provide such notification to Spinnaker.

ONSHORE SUPPORT BASE

HIGH ISLAND Block 47 is located approximately **15.0** miles from the nearest Texas shoreline and approximately **51** miles from the onshore support base located in Galveston, Texas. A Vicinity Plat showing the location of High Island Block 47 relative to the shoreline and onshore base is included as **Attachment B-1**.

cochrane
TECHNOLOGIES, INC.

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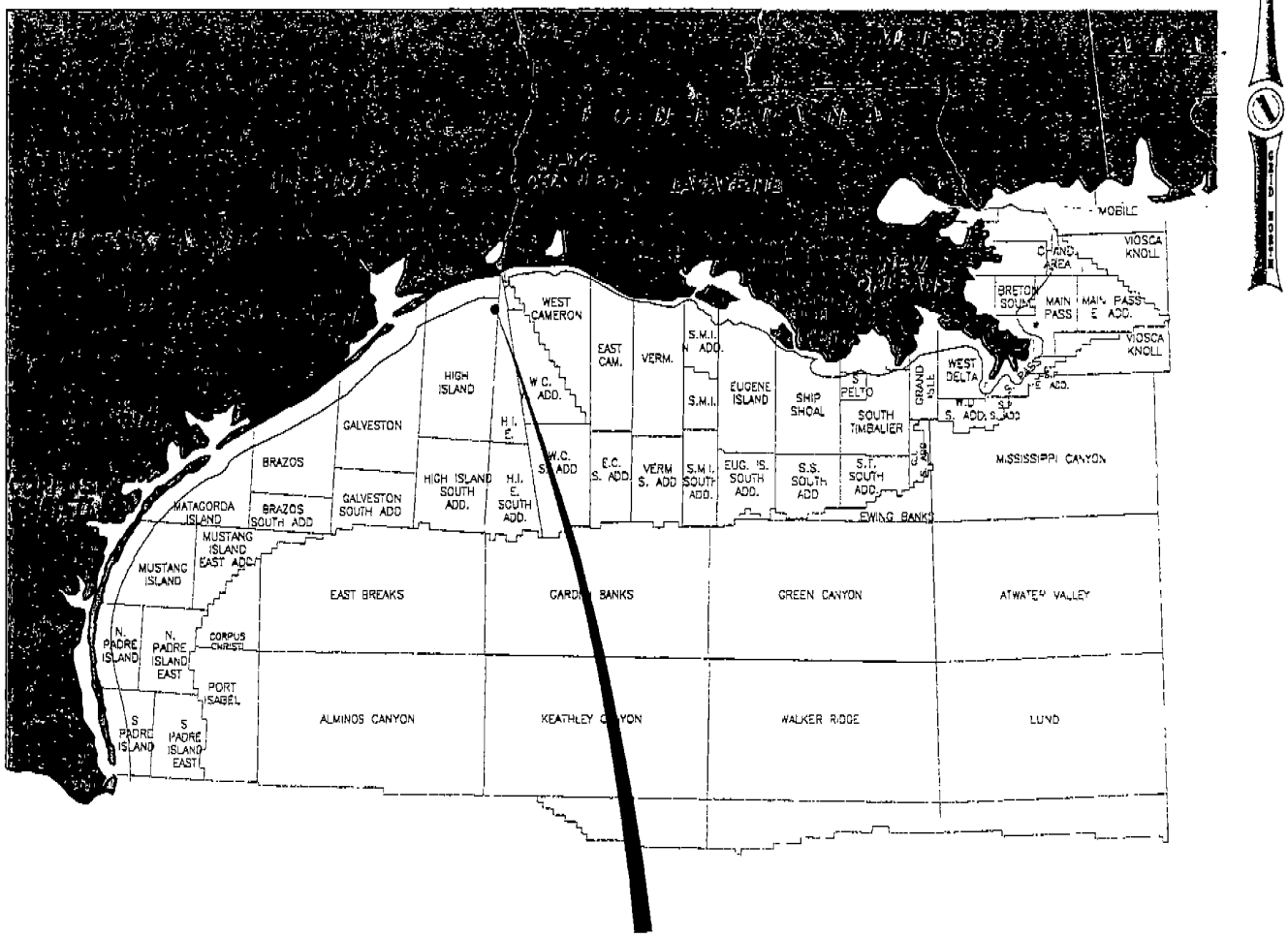

STUDY AREA
HIGH ISLAND AREA
BLOCK 47

ATTACHMENT B-1

3913 HWY 90 EAST BROUSSARD LOUISIANA 70518 TELEPHONE 337/837-3334 FACSIMILE 337/837-7134

Spinnaker will utilize onshore facilities located in High Island, Texas, which will serve as a 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. This base will also serve as a loading point for tools, equipment and machinery to be delivered to the MODU, crew change and transportation base, and temporary storage for materials and equipment. These facilities typically include outdoor storage, forklift and crane service, dock, trailer facilities and parking, as well as 24-hour service.

Support vessels and travel frequency during drilling and completion activities are as follows:

Support Vessel & Aircraft	**Drilling & TA Operations Trips Per Week**
Crew Boat	5
Supply Boat	3
Helicopter	1

Personal vehicles will be the main means of transportation to carry rig personnel form various locations to the staging areas. They will then be transported to the MODU by the crew boat. A helicopter will be used to transport small supplies and, on occasion, personnel in emergency situations. The most practical, direct route permitted by the weather and traffic conditions will be utilized.

NEW ONSHORE CONSTRUCTION OR EXPANSION OF SUPPORT FACILITIES

The proposed operations do not mandate any immediate measures for land acquisition or expansion of the existing onshore base facilities.

Dredging and filling operations will not be required for the operations, nor will any new construction or expansion of onshore facilities be involved for the operations proposed in this Initial Exploration Plan.

LEASE STIPULATIONS

Oil and gas exploration activities on the OCS are subject to stipulations developed before the lease sale; these are attached to the lease instrument, as necessary, in the form of mitigating measures. The MMS is responsible for ensuring full compliance with lease stipulations.

No stipulations were invoked for this lease.

SHALLOW HAZARDS AND ARCHAEOLOGICAL ASSESSMENT

Cochrane Technologies, Inc.'s Archaeological Assessment is included as **Attachment B-2.**

4.0 ARCHAEOLOGICAL EVALUATION OF GEOPHYSICAL DATA

HIGH ISLAND AREA BLOCK 47

Introduction to the Archaeological Evaluation:

High resolution geophysical data collected by Cochrane Technologies, Inc. of Lafayette, Louisiana in Block 47, High Island Area (OCS-G23193) have been evaluated with regard to the presence of any geomorphological features or other data, which would suggest the potential for the remains of prehistoric or historic cultural resources. This block lies in the United States Department of Interior, Mineral Management Service (MMS), Gulf of Mexico Outer Continental Shelf (OCS) Zone 1 which requires a geophysical survey using 50 meter lane spacing for magnetometer and fathometer data collection and 300 meter lane spacing for all other geophysical equipment. The survey, data and this report conform to the guidelines established by the MMS in their Notice to Lessees (NTL) 98-06. The geophysical survey was performed under contract with Spinnaker Exploration Company, LLC and the archaeological data evaluation was provided by Allen R. Saltus, Jr.

Field Operations:

Field operations were conducted aboard the 110 foot survey vessel *M/V David McCall II* under the direction of Jim Troutt. Data acquisition took place between January 27 and 29, 2002 and was completed between February 16 and 18, 2002. The sea conditions varied during this period but were less than one to two feet during data acquisition resulting in complete data on all data sets. The survey control was established and route positioning performed with a Trimble Differential Global Positioning System to obtain horizontal position coupled to an IBM-based microprocessor (Sentinel) providing hard copy and disc storage of position along with helmsman's display. Horizontal accuracy of this positioning as stated by the manufacturer is +/- 5 meters. Geophysical instrumentation included:

1) a Klein Model 531-T dual-channel side scan sonar,
2) a Geometrics 81 Cesium magnetometer system,
3) an Edo Western (model 248-465A) 3.5 kilohertz subbottom profiler,
4) an Innerspace Model 440/441 fathometer and
5) a 8,400 joule multi-tip sparker system with a Geometrics Model RL-48 Strataview Exploration Seismograph.

The survey was conducted over Block 47 with ninety-seven primary lines running north-south at 50 meter lane spacing and six tie lines running east-west, 900 meters apart. Map 1 (Bathymetry Map) acts as a navigation map that shows the position of the survey lines conducted in Block 47, High Island Area. Appendix C lists the survey personnel and equipment, a diagram of the sensor deployment on the vessel and the daily survey operation log.

ATTACHMENT B-2

Description of the Survey Area:

The regional setting by S. Dean El Darragi is found in the geophysical portion of this report. Block 47, High Island Area, offshore Louisiana, is located approximately 16 statute miles south of Texas Point at the mouth of the Sabine River, Texas. It is located on a portion of the Sabine Bank and wholly within the banks of the Relict Sabine River Valley (Nelson and Bray 1970). There is no modern cultural activity reported for this tract nor are any shipwrecks reported lost in this block. However, there is a shrimper's hang reported in the northeast quarter of the tract and four other obstructions, wrecks and hangs reported lost in adjacent blocks. They include:

Block	Name	Date Lost	Source
37	shrimper's hang	1985	MMS Hang Data
37	Obstruction	unknown	AWOIS
18/38	*Galgo*	1783	Garrison 1989
46	*DMA 420*	1957	USCG; USN
47	shrimper's hang	1989	MMS Hang Data

The land surface associated within this general area has been controlled by:

1) the major sea level fall 20,000 to 18,000 years B.P. (Before Present),
2) transgressions by rising sea level 11,000 to 10,000 years B.P.,
3) the temporary Holocene sea level reversal 8,000 to 7,000 years B.P.,
4) the subsequent continuation of the deepening marine environment and
5) the Maringouin Delta Complex, 7,300 to 6,200 years B.P. (Frazier 1974).

Other processes involving this area are subsidence of about one meter per 100 years in Barataria Bay and shoal migration of 9 meters (29.5 feet) per year.

Factors determining sediment distribution are topography i.e. the Prairie/Beaumont formation, variations in the rate of sea level fluctuation, environmental variations concerning river hydrology and currents effecting the net mass movement of longshore bottom materials. Areas of prehistoric site potential have been developed through archaeological research done for the MMS by Coastal Environments, Inc. (Pearson et all 1986). They identify remnant terraces, Holocene fluvial deposits, marsh deposits as having a varied degree of high to optimum site potential. Other areas of site potential include point bars, ridges, back slopes, and levee structures.

Data Evaluation:

The following is an analysis of the geophysical data generated during this survey. The fathometer data ranges from 29 feet to 39 feet. An example of this data is shown on Figure 1 and the results are summarized on the Bathymetry Map, Map 1, utilizing a 1-foot contour interval. Also noted on this figure is a scour area associated with the large magnetic anomaly and a side scan sonar feature. This and a one foot or so low relief, southeast to northwest trending ridge in the southeast quarter of the block make up the only two sea floor anomalies within the relief of this portion of the Sabine Bank. The sea floor generally slopes away from the top of the sand shoal, Sabine Bank, located in the southeast quarter of the block with a gradient of about 3 feet/mile. Water depths at the corners of

Block 47, High Island Area are: northwest, 39 feet; northeast, 36; southeast, 33 feet; and southwest, 32 feet.

Magnetic data was recorded at 100 and 1000 gamma full scale. The records indicate that the magnetometer sensor was deployed less than six meters off the sea floor. The general magnetic field in the area is characterized as calm. Eighty-five (85) magnetic anomalies with over a four gamma inflection and a duration of more than three readings were recorded. These magnetic anomalies are described as follows:

Table of Magnetic Anomalies

ANOMALY NUMBER	LINE NUMBER	RECORDED POSITION	CORRECTED POSITION	AMP LITUDE (GAMMAS)	DIPOLE / MONOPOLE	DURATION (IN FEET)	SENSOR DEPTH	ASSOCIATION	X COORDINATE	Y COORDINATE
1	1	34.45	31.9	8	m	50	5.7	*	3,618,403'	620,669'
2	4	42.55	42	5	m	50	5.8	*	3,618,889'	625,629'
3	6	34.95	35.5	12	d	100	6.5	Cluster 1	3,619,233'	622,432'
4	7	31.95	32.5	73	m	100	5.8		3,619,395'	620,958'
5	7	34.75	35.3	4	m	150	6	Cluster 1	3,619,387'	622,335'
6	12	42.45	41.9	10	d	200	7.7		3,620,210'	625,584'
7	13	32.8	32.25	8	d	75	5.9	*	3,620,371'	620,836'
8	13	32.9	32.35	15	d	50	5.9	*	3,620,371'	620,884'
9	13	35.17	34.62	4	d	100	6		3,620,373'	622,004'
10	13	41.25	40.7	11	m	50	6.1	*	3,620,372'	624,997'
11	15	39.15	38.6	32	d	150	6.7		3,620,697'	623,962'
12	16	20.15	19.6	29	d	150	6.3		3,620,858'	614,610'
13	16	34.95	34.4	9	m	150	5.7		3,620,853'	621,892'
14	26	20.85	20.3	16	d	100	5.9		3,622,502'	614,957'
15	26	24.9	24.4	19	d	100	5.9		3,622,514'	616,973'
16	29	30.1	30.65	105	m	75	6.9	*	3,622,997'	620,046'
17	30	17.55	18.1	65	m	125	6.7		3,623,164'	613,869'
18	35	23.65	23.1	74	d	100	7.1		3,623,993'	616,331'
19	35	39.75	39.2	23	d	100	7.1		3,623,978'	624,250'
20	38	23.2	22.65	16	d	75	5.3	*	3,624,482'	616,111'
21	38	37.05	36.5	104	m	225	5.3		3,624,475'	622,926'
22	39	16.7	16.15	30	m	50	7	*	3,624,635'	612,916'
23	39	31.05	30.5	70	d	175	6.9		3,624,636'	619,974'
24	40	30.15	29.6	4	d	150	6.2		3,624,807'	619,530'
25	41	30.05	30.6	18	d	100	7		3,624,969'	620,019'
26	44	19.65	20.2	6	d	150	7.2		3,625,457'	614,904'
27	44	24.1	24.65	4	d	100	7.2		3,625,456'	617,090'
28	45	10.35	10.9	17	m	75	7.6	*	3,625,629'	610,327'
29	45	30.4	30.95	66	d	100	6.1		3,625,596'	620,192'
30	47	15	14.45	112	d	75	7.1	*	3,625,957'	612,077'
31	48	25.55	25	13	d	50	6.9	*	3,626,108'	617,265'
32	48	29.1	28.55	11	m	100	6.9		3,626,114'	619,018'

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33	48	34.05	33.5	8	m	50	7	*	3,626,107'	621,449'
34	52	27.2	26.65	12	m	75	7.1	*	3,626,768'	618,078'
35	52	37.45	36.9	6	m	75	5.2	*	3,626,769'	623,124'
36	53	11.75	12.3	133	m	50	7.1	*	3,626,941'	611,014'
37	56	25.25	25.8	92	d	200	6.5	Cluster 2	3,627,418'	617,655'
38	56	30.15	30.7	10	m	50	6.5	*	3,627,415'	620,067'
39	57	20.6	21.15	4	m	50	7.1	*	3,627,589'	615,370'
40	57	25.55	26.1	113	m	150	7.1	Cluster 2	3,627,595'	617,807'
41	58	35	35.55	9	dc	400	4.5		3,627,755'	622,457'
42	59	15.55	15	27	d	100	7.2		3,627,913'	612,341'
43	60	12.6	12.05	31	dc	325	7		3,628,091'	610,896'
44	60	31.2	30.65	15	m	75	7	*	3,628,078'	620,047'
45	63	35.5	34.95	71	m	125	6.8	Cluster 3	3,628,580'	622,164'
46	64	38.95	38.4	10	m	60	5	*	3,628,734'	623,862'
47	66	14.05	14.6	28	m	50	6.9	*	3,629,077'	612,148'
48	66	18.7	19.25	4	m	50	6.9	*	3,629,086'	614,434'
49	68	21.8	22.35	37	d	100	7.1		3,629,387'	615,958'
50	68	30.2	30.75	4	m	50	7.1	*	3,629,394'	620,086'
51	69	24.35	24.8	23	d	50	7.1	*	3,629,551'	617,169'
52	75	13.85	13.3	21	dc	200	7.5		3,630,533'	611,512'
53	78	28.5	39.05	37	d	100	6.9		3,631,024'	624,176'
54	1079	23.15	23.7	7	m	50	5.9	*	3,631,202'	616,624'
55	1079	34	34.55	14	dc	225	5.9		3,631,191'	621,961'
56	80	35.9	36.45	48	d	150	7		3,631,378'	622,893'
57	82	29.8	30.35	14	d	150	5		3,631,696'	619,896'
58	82	41.85	42.4	5	d	60	5	*	3,631,696'	619,896'
59	88	24.3	23.75	120	mc	375	4.8	Cluster 4	3,632,665'	616,653'
60	88	39	38.45	5	d	200	5.5		3,632,675'	623,886'
61	89	23.6	24.15	1110	mc	300	6.5	Cluster 4	3,632,843'	616,845'
62	89	40.1	40.65	116	d	300	6.2	Cluster 5	3,632,835'	624,964'
63	90	23.7	24.25	18	m	350	6.9	Cluster 4	3,632,983'	616,892'
64	90	25.6	26.15	59	m	50	6.9	*	3,633,016'	617,828'
65	90	40.55	41.1	41	m	200	6.9	Cluster 5	3,633,007'	625,183'
66	92	25.35	25.9	16	m	150	7.1	Cluster 6	3,633,343'	617,709'
67	93	22.7	23.25	170	m	300	7.9		3,633,493'	616,400'
68	93	24.85	25.4	56	dc	400	7.9	Cluster 6	3,633,505'	617,458'
69	93	25.4	25.95	113	m	500	7.9	Cluster 6	3,633,511'	617,728'
70	93	28.25	28.8	43	m	50	9.5	*	3,633,510'	619,135'
71	94	25.4	25.95	10000	dc	650	9.4	Cluster 6	3,633,657'	617,729'
72	95	26.4	25.85	84	m	1000	6.5	Cluster 6	3,633,810'	617,686'
73	95	30.3	29.75	67	d	200	6.5		3,633,806'	619,604'
74	96	26.4	25.85	11	m	800	7.2	Cluster 6	3,633,978'	617,682'
75	97	13.1	12.55	22	m	100	5.7		3,634,158'	611,139'
76	98	8.8	9.35	118	d	150	5.7		3,618,084'	610,374'
77	98	21.5	22.05	16	m	50	5.9	*	3,624,333'	610,386'
78	100	36.5	37.05	23	m	50	5.3	*	3,631,710'	616,277'
79	100	41.95	42.5	5	m	75	5.3	*	3,634,394'	616,274'
80	101	16.05	15.5	4	m	50	5.9	*	3,621,112'	619,228'

81	101	26.05	25.5	13	m	100	5.9		3,626,034'	619,238'
82	101	30.5	29.95	4	mc	225	5.9		3,628,229'	619,235'
83	102	30.2	30.75	59	m	150	5.5	Cluster 3	3,628,609'	622,190'
84	102	33.95	34.5	21	d	225	5.5		3,630,457'	622,180'
85	103	40.2	39.65	5	m	175	6.2	Cluster 5	3,633,000'	625,141'

(m = monopolar anomaly, d = dipolar anomaly, c = complex anomaly and *=duration too. short to represent a shipwreck or believed to represent a geological nature)

All of these anomalies have been plotted on the Archaeological, and Hazard Map, Map 2. None of the recorded magnetic anomalies represent modern cultural material. All are of an unknown nature, age and significance located on a portion of Sabine Bank. Thirty-one of these magnetic anomalies, #1, #2, #7, #8, #10, #16, #20, #22, #28, #30, #31, #33, #34, #35, #36, #38, #39, #44, #46, #47, #48, #50, #51, #54, #58, #64, #70, #77, #78, #79, and #80, have a duration that appears to be too short to represent a shipwreck. They more likely represents a single item i.e. a section of pipe, an anchor, a shrimp net door, etc. Eighteen of these anomalies form six clusters. Clusters include anomalies located on adjacent lines, as in the case of cluster 1 (anomalies #3 and #5), cluster 2 (anomalies #37 and #40), cluster 4 (anomalies #59, #61 and #63), cluster 5 (anomalies #62, #65 and #85) and cluster 6 (anomalies #66, #68, #69, #71, #72 and #74) or anomalies recorded on a primary line and tie line as in cluster 3 (anomalies #45 and #83). In cluster 5 anomaly #85 lies on a tie line. The foci of magnetic anomaly cluster #6 appears to be associated with the barge-like side scan sonar feature (see Figure 2) located in a four hundred feet long shallow, eighteen to twenty-four inch, depression (see Figure 1). These six magnetic cluster areas along with all of the other anomalies which have not have been identified as having a short duration should be avoided by a radius of 150 feet. Figure 6 is a data example that shows a portion of line 93 with the magnetic inflection associated with three unknown sources, anomalies #68, #69 and #70. Anomalies #69 and #70 make up a portion of cluster 6, the only magnetic area associated with a side scan sonar feature.

Side-scan sonar displays a sea floor with a relatively coarse textured bottom. The side scan sonar lines were run every third line, 150 meter spacing, at the 100 meter range. The sea floor sediments across Block 47, High Island Area are reported to consist of predominately of sandy-silt (Coastal Environments 1982 p.21). Sonar features include vessel wake, vegetation, and a few anchor and /or trawl scars more readily seen away from the shoal. Figure 2 illustrates the side scan sonar record data with a rectangular feature associated with a wide but shallow depression and magnetic cluster 6. This feature appears to be some 33 feet wide, 145 feet long and possibly buried at one end. The fathometer data as viewed and sampled suggests a flat surface for over one hundred feet. The rectangular shape, flat surface and magnetic expression suggest a ferrous barge-like structure.

Subbottom data displays up to 75 feet of subbottom profiler data. S. Dean El Darragi performed the geophysical analysis. The following is a reiteration of his section of this report as it relates to identifying and delineating areas of prehistoric site potential. The observed seismic section is comprised of two basic sedimentary lithologic units. The upper layer, which appears with higher amplitude, is presumed to consist mostly of sand and other granular soils derived from the relict beach and barrier island deposits in this region. These zones probably represent coarser material like sand. The higher reflectivity suggests sandy material resulting in the darker returns. The thickness of this layer is depicted graphically by the Isopach map contours. Below this section the shallow deposits appear with much lower amplitude indicating a decrease in the sand content. This layer probably is made up primarily of silt and clay intermixed with small

amounts of coarser sediments.

The subbottom profiles also revealed evidence of a very broad and shallow erosional surface at elevations of about 55 to 65 feet, below the sea floor. This prominent yet intermittent surface is seen at the very limits of data penetration. It undulates throughout the survey area although in some locals it is entirely missing possibly due to signal attenuation within gassy soils at that depth. Evidence of probable subarial exposure is found in the form of lower lying areas that could represent broad and shallow channels which are indicated by amorphous or acoustically turbid zones or draped sediments with no clearly defined fill material. Although the channel bases are not always resolved, the upper margins are generally well defined. These features could also represent subsidence zones over deeper unresolved channels.

Surficial sediment slumping into the presumed channel fill is evident directly over most of these features as exemplified in the data example of Figure 3. This graphic clearly shows the draping of near surface deposits over the poorly consolidated material within the deeper channel-like features. Note that the sea floor is not affected, which seems to suggest that the differential compaction of the fill may be essentially complete. The lateral extent of the subsidence zones is plotted on the enclosed Archeological and Hazard Map (Map 2). These features most likely are the results of the filling of the Relict Sabine Valley as this block wholly lies well within the bank margins of this major geomorphological feature.

The subbottom profiler section illustrated on Figure 3 show Horizon "A", the interface selected as the subject of the Isopach map (Map 3). The thickness of the sediments above Horizon "A" are given by the contours on the Isopach Map (Map 3) and they illustrate the thickness of the mostly sandy sediments deposited during the Recent Age. Horizon "A" showed a thickening of the section, in some cases but not always corresponding to the underlying subsidence areas. Using Coastal Environment's Sea Level Chart (1986) this undulating surface, Horizon A, would have been inundated around 6,500 years B.P. The transgressive sand shoal sediments subsequently covered this undulating surface. The edges of these depressions in this undulating surface could have possibly afforded some archaeological site potential during the Archaic Period. This rationale is mitigated by the deep sandy overburden covering these areas. These depressions have been plotted on the Archaeology, Engineering and Hazard Map, Map 2.

Conclusions:

Based on these data, published research and our interpretations, the probability of locating the presence of significant prehistoric cultural resources in the survey of Block 47, High Island Area is probably not great. There is extant morphology indicative of prehistoric site potential. This block lies in the MMS Zone 1, an area where the potential for encountering a significant historic period shipwrecks is considered high. Eighty-five (85) magnetic anomalies were recorded and none of these anomalies are associated with known modern cultural material. The six magnetic cluster areas along with all of the other anomalies which have not have been identified as having a short duration should be avoided by a radius of 150 feet. These anomalies which need to be avoided are described again along with their location:

Table: Magnetic Anomalies To Be Avoided

ANOMALY NUMBER	LINE NUMBER	RECORDED POSITION	CORRECTED POSITION	AMP LITUDE (GAMMAS)	DIPOLE / MONOPOLE	DURATION (IN FEET)	SENSOR DEPTH	ASSOCIATION	X COORDINATE	Y COORDINATE
3	6	34.95	35.5	12	d	100	6.5	Cluster 1	3,619,233'	622,432'
4	7	31.95	32.5	73	m	100	5.8		3,619,395'	620,958'
5	7	34.75	35.3	4	m	150	6	Cluster 1	3,619,387'	622,335'
6	12	42.45	41.9	10	d	200	7.7		3,620,210'	625,584'
9	13	35.17	34.62	4	d	100	6		3,620,373'	622,004'
11	15	39.15	38.6	32	d	150	6.7		3,620,697'	623,962'
12	16	20.15	19.6	29	d	150	6.3		3,620,858'	614,610'
13	16	34.95	34.4	9	m	150	5.7		3,620,853'	621,892'
14	26	20.85	20.3	16	d	100	5.9		3,622,502'	614,957'
15	26	24.9	24.4	19	d	100	5.9		3,622,514'	616,973'
17	30	17.55	18.1	65	m	125	6.7		3,623,164'	613,869'
18	35	23.65	23.1	74	d	100	7.1		3,623,993'	616,331'
19	35	39.75	39.2	23	d	100	7.1		3,623,978'	624,250'
21	38	37.05	36.5	104	m	225	5.3		3,624,475'	622,926'
23	39	31.05	30.5	70	d	175	6.9		3,624,636'	619,974'
24	40	30.15	29.6	4	d	150	6.2		3,624,807'	619,530'
25	41	30.05	30.6	18	d	100	7		3,624,969'	620,019'
26	44	19.65	20.2	6	d	150	7.2		3,625,457'	614,904'
27	44	24.1	24.65	4	d	100	7.2		3,625,456'	617,090'
29	45	30.4	30.95	66	d	100	6.1		3,625,596'	620,192'
32	48	29.1	28.55	11	m	100	6.9		3,626,114'	619,018'
37	56	25.25	25.8	92	d	200	6.5	Cluster 2	3,627,418'	617,655'
40	57	25.55	26.1	113	m	150	7.1	Cluster 2	3,627,595'	617,807'
41	58	35	35.55	9	dc	400	4.5		3,627,755'	622,457'
42	59	15.55	15	27	d	100	7.2		3,627,913'	612,341'
43	60	12.6	12.05	31	dc	325	7		3,628,091'	610,896'
45	63	35.5	34.95	71	m	125	6.8	Cluster 3	3,628,580'	622,164'
49	68	21.8	22.35	37	d	100	7.1		3,629,387'	615,958'

52	75	13.85	13.3	21	dc	200	7.5		3,630,533'	611,512'
53	78	28.5	39.05	37	d	100	6.9		3,631,024'	624,176'
55	1079	34	34.55	14	dc	225	5.9		3,631,191'	621,961'
56	80	35.9	36.45	48	d	150	7		3,631,378'	622,893'
57	82	29.8	30.35	14	d	150	5		3,631,696'	619,896'
58	82	41.85	42.4	5	d	60	5	*	3,631,696'	619,896'
60	88	39	38.45	5	d	200	5.5		3,632,675'	623,886'
61	89	23.6	24.15	1110	mc	300	6.5	Cluster 4	3,632,843'	616,845'
62	89	40.1	40.65	116	d	300	6.2	Cluster 5	3,632,835'	624,964'
63	90	23.7	24.25	18	m	350	6.9	Cluster 4	3,632,983'	616,892'
65	90	40.55	41.1	41	m	200	6.9	Cluster 5	3,633,007'	625,183'
66	92	25.35	25.9	16	m	150	7.1	Cluster 6	3,633,343'	617,709'
67	93	22.7	23.25	170	m	300	7.9		3,633,493'	616,400'
68	93	24.85	25.4	56	dc	400	7.9	Cluster 6	3,633,505'	617,458'
69	93	25.4	25.95	113	m	500	7.9	Cluster 6	3,633,511'	617,728'
71	94	25.4	25.95	10000	dc	650	9.4	Cluster 6	3,633,657'	617,729'
72	95	26.4	25.85	84	m	1000	6.5	Cluster 6	3,633,810'	617,686'
73	95	30.3	29.75	67	d	200	6.5		3,633,806'	619,604'
74	96	26.4	25.85	11	m	800	7.2	Cluster 6	3,633,978'	617,682'
75	97	13.1	12.55	22	m	100	5.7		3,634,158'	611,139'
76	98	8.8	9.35	118	d	150	5.7		3,618,084'	610,374'
81	101	26.05	25.5	13	m	100	5.9		3,626,034'	619,238'
82	101	30.5	29.95	4	mc	225	5.9		3,628,229'	619,235'
83	102	30.2	30.75	59	m	150	5.5	Cluster 3	3,628,609'	622,190'
84	102	33.95	34.5	21	d	225	5.5		3,630,457'	622,180'
85	103	40.2	39.65	5	m	175	6.2	Cluster 5	3,633,000'	625,141'

(m = monopolar anomaly, d = dipolar anomaly and c = complex anomaly)

Magnetic anomaly cluster 6, the barge-like feature seen on the side scan sonar and fathometer data is included in the above list.

SECTION C

G & G INFORMATION

STRUCTURE CONTOUR MAPS

A current structure maps drawn to the top of the prospective hydrocarbon accumulations showing the surface and bottom hole locations of wells A-E are included in this section as **Attachments C-1, C-2** and **C-3**.

INTERPRETED SEISMIC LINES

Included as **Attachment C-4** is a copy of the letter being submitted under separate cover this date depicting the migrated and annotated deep seismic lines within 500 feet of the surface location being proposed in this plan.

GEOLOGICAL STRUCTURE CROSS SECTIONS

The interpreted geological cross sections depicting the proposed well locations and the geologic name and age of the anticipated structures are included as **Attachments C-5, C-6** and **C-7**. This cross sections correspond to each seismic line being submitted under separate cover.

SHALLOW HAZARDS REPORT

Cochrane Technologies, Inc. (Cochrane) performed a high-resolution geophysical survey on High Island Block 47 during **January** and **February, 2003**.

The purpose of the survey was to prepare an archaeological assessment and hazard study across block 47 to evaluate the geologic conditions and inspect for potential hazards or constraints to lease exploration and development.

Three (3) copies of the shallow hazards and archaeological report will be submitted under separate cover to the Minerals Management Service to clear the locations proposed under our initial EP for High Island Block 47.

SHALLOW HAZARDS ANALYSIS

A shallow hazards analysis has been prepared for the proposed surface location, evaluating seafloor and subsurface geologic and manmade features and conditions, and is included as **Attachment C-10**.

HIGH RESOLUTION SEISMIC LINES

Included as **Attachment C-4** is a copy of the letter being submitted under separate cover this date depicting the annotated shallow hazards lines within 500 feet for the surface location being proposed in this Plan.

TIME VERSUS DEPTH TABLES

See the migrated and annotated deep seismic section in depth submitted with **Attachment C-4**.

STRATIGRAPHIC COLUMN

A generalized biostratigraphic/lithostratigraphic column from the seafloor to the total depth of the proposed wells is included as **Attachment C-9**.

DESCRIPTION OF HYDROCARBON TRAPPING ELEMENTS

PUBLIC
INFORMATION

ESTIMATED DEPTH OF GEOPRESSURE

The estimated top of **12.5** ppg geopressure is expected to occur at approximately **–9000'** SS, as observed in the High Island Block **887 G 22154 No.1 ST00BP01 well.**

ESTIMATED DEPTH OF GEOPRESSURE

The estimated top of **12.5** ppg geopressure is expected to occur at approximately **–11400'** SS, as observed in **Sonat's High Island Block 49 G 4571 No.1** well.

HYDROGEN SULFIDE

In accordance with Title 30 CFR 250.417, Spinnaker requests that HIGH ISLAND Block 47 be classified by the Minerals Management Service as an area where the absence of hydrogen sulfide has been confirmed.

The basis for this determination is through the evaluation of **Mobil's High Island Block 45 G 5180 No.3** well, which was drilled to the stratigraphic equivalents of the Target Sands proposed in this Plan.

SPINNAKER EXPLORATION COMPANY, L.L.C.
HIGH ISLAND BLOCK 47
OCS-G 23193
SHALLOW HAZARDS ANALYSIS

An evaluation of the potential shallow hazards and an assessment of possible cultural resources in the referenced block were conducted by Cochrane Technologies, Inc. (Cochrane) during **January** and **February, 2003**.

Our review of the high resolution geophysical survey data and archaeological assessment prepared by Cochrane indicates that there are no hazards near surface locations A-E.

High Island block 47 is in Zone I an area where the potential for discovering a significant historic period shipwreck is considered high. There are eighty-five (85) magnetic anomalies located on Block 47, none of which are believed to be of historical significance. There were no side scan sonar contacts on the block. There are no pipelines crossing block 47.

All due caution will be exercised while conducting drilling and/or coring operations at these locations. Spinnaker will utilize differential GPS to position the rig.

Scott Broussard
V.P. Drilling & Production

SECTION D

BIOLOGICAL

The seafloor disturbing activities proposed in this Plan will be at a water depths of **32-36** feet at location A. The water depth ranges from **29-39** feet across High Island Block 47 from SE to NW.

MAPS

Submitted under separate cover are the maps prepared using high-resolution seismic information and/or 3-D seismic data to depict bathymetry, seafloor and shallow geological features and the surface location of each proposed wells and structure.

ANALYSIS

Submitted under separate cover is the analysis of seafloor features and areas that could be disturbed by the activities proposed in this Plan.

TOPOGRAPHIC INFORMATION

MMS and the National Marine Fisheries Service (MNFS) have entered into a programmatic consultation agreement for Essential Fish Habitat that requires that no bottom disturbing activities, including anchors or cables from a semi-submersible drilling rig, may occur within 500 feet of the no-activity zone of a topographic feature. If such proposed bottom disturbings are within 500 feet of a no activity zone, the MMS is required to consult with the NMFS.

The activities proposed in this Plan are not affected by a topographic feature.

PINNACLE REEF TRENDS

HIGH ISLAND Block 47 is not a Pinnacle Trend Block; therefore the Live Bottom (Pinnacle Trend) Lease Stipulation does not apply.

SECTION E
Wastes and Discharge Information

The Minerals Management Service (MMS), U. S. Coast Guard (USCG) and the U.S. Environmental Protection Agency (EPA) regulate the overboard discharge and/or disposal of operational waste associated with drilling, completing, testing and/or production operations from oil and gas exploration and production activities.

Minerals Management Service regulations contained in Title 30 CFR 250.300 require operators to "prevent the unauthorized discharge of pollutants into offshore waters". These same regulations prohibit the intentional disposal of "equipment, cables, chains, containers, or other materials" offshore. Small items must be stored and transported in clearly marked containers and large objects must be individually marked. Additionally, items lost overboard must be recorded in the facility's daily log and reported to MMS as appropriate.

U. S. Coast Guard regulations implement the Marine Pollution Research and Control Act (MARPOL) of 1987 requiring manned offshore rigs, platforms and associated vessels prohibit the dumping of all forms of solid waste at sea with the single exception of ground food wastes, which can be discharged if the facility is beyond 12 nautical miles from the nearest shore. This disposal ban covers all forms of solid waste including plastics, packing material, paper, glass, metal, and other refuse. These regulations also require preparation, monitoring and record keeping requirements for garbage generated on board these facilities. The drilling contractor must maintain a Waste Management Plan, in addition to preparation of a Daily Garbage Log for the handling of these types of waste. MODU's are equipped with bins for temporary storage of certain garbage. Other types of waste, such as food, may be discharged overboard if the discharge can pass through 25-millimeter type mesh screen. Prior to off loading and/or overboard disposal, an entry will be made in the Daily Garbage Log stating the approximate volume, the date of action, name of the vessel, and destination point.

U. S. Environmental Protection Agency regulations address the disposal of oil and gas operational wastes under three Federal Acts. The Resource Conservation and Recovery Act (RCRA) which provides a framework for the safe disposal of discarded materials, regulating the management of solid and hazardous wastes. The direct disposal of operational wastes into offshore waters is limited under the authority of the Clean Water Act. And, when injected underground, oil and gas operational wastes are regulated by the Underground Injection Control program. If any wastes are classified as hazardous, they are to

be properly transported using a uniform hazardous waste manifest, documented, and disposed at an approved hazardous waste facility.

SECTION E
Wastes and Discharge Information

A National Pollutant Discharge Elimination System (NPDES) permit, based on effluent limitation guidelines, is required for any discharges into offshore waters. The major discharges from offshore oil and gas exploration and production activities include produced water, drilling fluids and cuttings, ballast water, and uncontaminated seawater. Minor discharges from the offshore oil and gas industry include drilling-waste chemicals, fracturing and acidifying fluids, and well completion and workover fluids; and from production operations, deck drainage, and miscellaneous well fluids (cement, BOP fluid); and other sanitary and domestic wastes, gas and oil processing wastes, and miscellaneous discharges.

Spinnaker has requested coverage under the Region VI NPDES General Permit GMG290000 for discharges associated with exploration and development activities HIGH ISLAND Block 47 and will take applicable steps to ensure all offshore discharges associated with the proposed operations will be conducted in accordance with the permit.

Composition of Solid and Liquid Wastes

The major operational solid waste in the largest quantities generated from the proposed operations will be the drill cuttings, drilling and/or completion fluids. Other associated wastes include waste chemicals, cement wastes, sanitary and domestic waste, trash and debris, ballast water, storage displacement water, rig wash and deck drainage, hydraulic fluids, used oil, oily water and filters, and other miscellaneous minor discharges.

These wastes are generated into categories, being solid waste (trash and debris), nonhazardous oilfield waste (drilling fluids, nonhazardous waste including cement and oil filters), and hazardous wastes (waste paint or thinners).

The type of discharges included in this permit application allow for the following effluents to be discharged overboard, subject to certain limitations, prohibitions and recordkeeping requirements.

> ***Drilling Fluids*** - Generally is discharged overboard at a volume and rate dependent upon hole size intervals and downhole conditions. Volume is estimated from both pump rate and length of time, or from tank capacity if a bulk discharge occurs. The discharge of drilling fluids is classified as an intermittent discharge, with an estimated average flow of 250 barrels a day, but no more than 1000 bbls. per hour based on permit limitations.

SECTION E
Wastes and Discharge Information

Drill Cuttings - The drill cuttings are separated from the drilling fluid through the use of solids control equipment. Cuttings discharge rates and volumes will vary during the duration of the well, and are measured by estimating the volume of hole drilled. Constituents of drill cuttings include sand, shale and limestone from the wellbore. The discharge of drilling cuttings is classified as an intermittent discharge, with an estimated average flow of 100 barrels a day.

Excess Cement - Occasionally, excess slurry will be generated while cementing casing strings and/or setting of wellbore plugs and annulus jobs. The volume of cement discharges is calculated by subtracting the volume inside the well from the total volume pumped down hole.

Well Treatment, Completion or Work-Over Fluids - These fluids are circulated down the wellbore, and sometimes discharged overboard or captured in tanks for disposal at a onshore site. The discharge of these fluids is classified as an intermittent discharge, with an estimated average flow of 300 barrels a day. The volume of cement discharges is calculated by subtracting the volume inside the wellbore from the total volume pumped down hole.

Sanitary and Domestic Waste - The discharge of sanitary and domestic waste is classified as an intermittent discharge, with an estimated average flow of 40 barrels a day. An equal amount of domestic waste (from sinks, galleys, showers and laundries) is normally discharged.

Deck Drainage - Consisting of rainwater and wash water with no free oil, the volume of deck drainage is calculated by multiplying average rainfall by exposed deck area.

Uncontaminated Water - This included non-contact cooling water, discharges from the firewater system, and freshwater maker blow-down. Ballast water, which is sometimes used to maintain the stability of a drilling rig, might also be discharges. These discharges are classified as miscellaneous discharges in the NPDES permit application.

SECTION E

Wastes and Discharge Information

Produced Water from Well Testing - This discharge would occur during the production test conducted after drilling and completing the wells. Much of the produced water would be vaporized as the gas is flared and/or burned. Excess water would be processed in a gravity separator and discharged in accordance with the limitations and conditions of the applicable NPDES General Permit.

In accordance with all Federal, State and Local rules and regulations, wastes which cannot be discharged overboard, will be transported to an appropriate treatment or disposal site.

Overboard Discharges

The wastes detailed in ***Attachments E-1*** *and* ***E-3*** are those wastes generated by our proposed activities and are released into the receiving waters of the Gulf of Mexico at the lease site.

Disposed Wastes

The wastes detailed in ***Attachment E-2*** are those wastes generated by our proposed activities that are disposed of by means of offsite release, injection, encapsulation, or placement at either onshore or offshore permitted locations for the purpose of returning them back to the environment.

Water Base and Oil Base Mud System Components and Additives are listed in ***Attachments E-4*** *and* ***E-5***.

Wastes and Discharges Information

The information provided in Table 1 and Table 2 are estimates only and are based on information and plans known at the time this plan was prepared. The type of waste, amount and rate to be discharged, recycled, or disposed of and the recycle and disposal locations may change from time to time during the project life.

Table 1—Discharges

All discharges will be in accordance with EPA's general NPDES permit GMG 290000

Type of Waste Approximate Composition	Amount to be Discharged (volume or rate)	Maximum Discharge Rate	Treatment and/or Storage, Discharge Location and Discharge Method
Water-based drilling fluids	1,000 bbl/well	Bulk discharge of mud in casing following TA	HI047 Discharge overboard
Drill cuttings associated with water-based fluids	1,000 bbl/well	Bulk discharge of mud in casing following TA	HI047 Discharge overboard
Drill cuttings associated with synthetic drilling fluids	None	None	None
Muds, cuttings and cement at the seafloor	1,000 bbl/well	Bulk discharge of mud in casing following TA	HI047 Discharge overboard
Produced water	40,000 bbl/day (maximum)	40,000 bbl/day	HI047 Treat for oil and grease and discharge overboard
Sanitary wastes	20 gals/person/day	Not applicable	HI047 Chlorinate and Discharge overboard
Domestic wastes	30 gal/person/day	Not applicable	HI047 Remove floating solids and discharge overboard

Type of Waste Approximate Composition	Amount to be Discharged (volume or rate)	Maximum Discharge Rate	Treatment and/or Storage, Discharge Location and Discharge Method
Deck drainage	0-4,000 bbl/day Dependant upon rainfall	Not applicable	HI047 Remove oil and grease and discharge overboard
Well treatment, workover or completion fluids	300 bbls/day	300 bbls/day during these types of operations	HI047 Remove oil and grease and discharge overboard
Uncontaminated fresh or seawater	Varied	Not applicable	HI047 Discharge overboard
Desalinization Unit water	700 bbl/day	Not applicable	HI047 Discharged Overboard
Uncontaminated bilge water	None	None	None
Uncontaminated ballast water	10,000 bbls	400 gal/min (pump capacity)	HI047 Discharged overboard
Misc discharges to which treatment chemicals have been added	Varied	Not applicable	HI047 Discharged Overboard
Other misc discharges	Varied	Not applicable	HI047 Discharged Overboard

Table 2
Disposal Table—Wastes Not Discharged

Type of Waste Approximate Composition	Amount	Rate per Day	Name/Location of Disposal Facility	Treatment and/or Storage, Transport and Disposal Method[4]
Spent oil-based drilling fluids and cuttings	7000	100 bbl/day (average)	Newpark[1]	Store in cuttings box and transport by boat to shorebase
Spent synthetic-based drilling fluids	None	None	None	None
Oil-contaminated produced sand	200 lbs/yr	0.6 bbl/day	Newpark[1]	Store in cuttings box and transport by boat to shorebase
Waste Oil	NA	NA	NA	NA
Norm-contaminated wastes	1 ton	Not applicable	Newpark[1]	Transport to a transfer station via dedicated barge
Trash and debris	1000 ft^3	3 ft^3	Halliburton dock Galveston	Transport in storage bins on boats to shorebase
Chemical product wastes	100 bbls	2 bbl/day	Envirosolutions[2] or Total Recycling Technologies Inc.[3]	Transport in barrels on boat to shorebase
Workover fluids-Not Discharged	150 bbls	2 bbl/day	Vendor or Newpark[1]	Transport in barrels on boats or barge to shorebase

[1] Newpark Transfer Stations to be utilized are located in Galvestion TX and Port Arthur TX
[2] Envirosolutions is located in Baytown, TX.
[3] Total Recycling Technologies is located in Mexia, TX.
[4] Waste to be disposed of or recycled is normally brought to the shorebase by work boats. From the shorebase, it is usually transported to the disposal or recycling center by truck.

SECTION E

QUANTITIES AND RATES OF DISCHARGES

WELL	DEPTH	HOLE SIZE	QUANTITY (BBLS)	MAX. DISCHARGE RATE
A	800'	24"	500	Maximum 1000 bbls/hour
	4000'	17-1/2"	1000	Maximum 1000 bbls/hour
	9300'	12-1/4"	800	Maximum 1000 bbls/hour
	13500'	8-1/2"	300	
B	800'	24"	500	Maximum 1000 bbls/hour
	4000'	17-1/2"	1000	Maximum 1000 bbls/hour
	9500'	12-1/4"	810	Maximum 1000 bbls/hour
	11000'	8-1/2"	100	Maximum 1000 bbls/hour
C	800'	24"	500	Maximum 1000 bbls/hour
	4000'	17-1/2"	1000	Maximum 1000 bbls/hour
	9500'	12-1/4"	810	Maximum 1000 bbls/hour
	13500'	8-1/2"	300	Maximum 1000 bbls/hour
D	800'	24"	500	Maximum 1000 bbls/hour
	4000'	17-1/2"	1000	Maximum 1000 bbls/hour
	9500'	12-1/4"	810	Maximum 1000 bbls/hour
	11500'	8-1/2"	150	Maximum 1000 bbls/hour
E	800'	24"	500	Maximum 1000 bbls/hour
	4000'	17-1/2"	1000	Maximum 1000 bbls/hour
	9500'	12-1/4"	810	Maximum 1000 bbls/hour
	12250'	8-1/2"	200	Maximum 1000 bbls/hour

TOTAL BARRELS - 12550

DRILLING MUD COMPONENTS

COMMON CHEMICAL OR CHEMICAL TRADE NAME	DESCRIPTION OF MATERIAL
Aluminum Stearate	Aluminum Stearate
"AKTAFLO-S"	Nonionic Surfactant
Barite	Barium Sulfate (BaSO4)
Calcium Carbonate	Aragonite (CaCO3)
Calcium Chloride	Hydrophilite (CaC12)
Calcium Oxide	Lime (Quick)
Calcium Sulfate	Anhydrite (CaSO4)
Carboxymethyl Cellulose	Carboxymethyl Cellulose
Caustic Potash	Potassium Hydrate
Caustic Soda	Sodium Hydroxide (NaOH)
Chrome Lignite	Chrome Lignite
Chrome Lignosulfonate	Chrome Lignosulfonate
Drilling Detergent	Soap
"E-Pal"	No-toxic, biodegradable defoamer
Ferrochrome Lignosulfonate	Derived from wood pulp
Gel	Sodium montmorillonite, bentonite, attapulgite
Gypsum	CaSO4.2H2O
Lignite	Lignite
Lignosulfonate	Lignosulfonate
"Mud-Sweep"	Cement Pre-Flush
"MOR-REX"	Hydrolyzed Cereal Solid
"Shale-Trol"	Organo-aluminum complex
Sapp	Sodium Acid Pyrophosphate
Soda Ash	Sodium Carbonate
Sodium Bicarbonate	NaHCO3
Sodium Carboxymethyl Cellulose	Sodium Carboxymethyl Cellulose
Sodium Chloride	NaC1
Sodium Chromate	NaCr04.10H2O
Starch	Corn Starch
"TX-9010"	Biodegradable drilling lubricant
"TORO-Trim"	Biodegradable drilling lubricant

MUD ADDITIVES

COMMON CHEMICAL OR CHEMICAL TRADE NAME	DESCRIPTION OF MATERIAL
"Black Magic"	Oil base mud conc.
"Black Magic Supermix"	Sacked concentrated oil base mud
Diesel	Used to mix certain loss-circulation pills
"Jelflake"	Plastic foil, shredded cellophane
MICA	Loss-circulation material
"Pipe-Lax"	Surfactant mixed with diesel
"Wall-nut"	Ground walnut shells

High Island Block 47
OCS-G23193
Diesel Oil Base Mud Component Parts

Diesel	hydrocarbon oil	Base Fluid
Water	fresh H2O	Volume Builder
Salt	calcium chloride	Salinity Control
VG-Plus	organophilic clay	Viscosifier
Versawet	organic surfactant	Oil-Wetting Agent
Versatrol	gilsonite	Filtration Control
Versamul	**organic agents in a mineral oil base**	**Stabilizer, Emulsifier, Filtration & Temp Control**
Versacoat	organic surfactant	Emulsifier
Safe-Carb	ground marble	Bridging & Weighting Agent
MIX II	cellulose fiber	Bridging Agent
Barite	barium sulfate	Weighting Agent
Lime	calcium hydroxide	pH Control
G-Seal	graphite	Bridging Agent

SECTION F

OIL SPILL RESPONSE AND CHEMICAL INFORMATION

The Regional Oil Spill Response Plan (OSRP) for Spinnaker was submitted to the MMS on March 30, 1999, and was approved on **May 27, 1999**. Activities proposed in this EP will be covered by the Regional OSRP.

Spinnaker'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.

In the event of a spill, mechanical response equipment located at CGA's base in HIGH ISLAND, Texas would be transported to a staging area also in **HIGH ISLAND, Texas**.

The worst case discharge (WCD) proposed in this **EP** is equal to 1001 barrels and does not supercede the WCD as approved in our Regional OSRP. If our evaluation reveals that this WCD does in fact have the potential of having a more adverse impact than our currently identified WCD in our existing Regional OSRP, then Spinnaker will amend the Regional OSRP as required.

Activities proposed in this **EP** are considered far-shore (>10 miles from the shoreline). The Worst Case Discharge (WCD) scenario from the proposed activities in this **EP** and the WCD in the Regional OSRP on file with the MMS are compared below:

Comparison of WCD's in OSRP to Proposed Operations

Category	**Regional OSRP WCD**	**EP WCD**
Type of Activity	Production	Production
Spill Loc. (Area/Block)	HI197	HI47
Facility Designation	Platform A	Jack-up
Distance to Nearest Shoreline (miles)	**28**	**15**
Volume (bbls)	**2270**	**1001**
Type of Oil (crude, cond., diesel)	condensate	Condensate
API Gravity	**46.0°**	**55.0°**

Worst-Case Discharge

Spinnaker submitted a new worst-case scenario to the GOMR **November 18, 2002** for inclusion in our regional OSRP, and is pending approval.

Since **Spinnaker** has the capability to respond to the worst case spill scenario included in its approved (**May 27, 1999**) regional OSRP **as amended November 18, 2002**, 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 **Spinnaker** has the capability to respond, to a worst case discharge, or a substantial threat of such a discharge, resulting from the activities proposed in our **EP**.

Spinnaker Exploration Company, L.L.C. is the only company covered by our OSRP.

SECTION G

AIR EMISSIONS

Offshore air emissions related to the proposed activities result mainly from the drilling rig operations, helicopters and service vessels. These emissions occur mainly from combustion or burning of fuels and natural gas, and from venting or evaporation of hydrocarbons. The combustion of fuels occurs primarily on diesel-powered generators, pumps or motors, and from lighter fuel motors. Other air emissions can result from catastrophic events such as oil spills or blowouts.

Primary air pollutants associated with OCS activities are nitrogen oxides, carbon monoxide, sulphur oxides, volatile organic compounds, and suspended particulates.

Included as **Attachment G-1** is the Projected Air Quality Emissions Report prepared in accordance with Appendix H of the Notice to Lessees NTL 2000-G10 addressing drilling and completion operations.

EXPLORATION PLAN (EP)
AIR QUALITY SCREENING CHECKLIST

OMB Control No. XXX-XXX
Expiration Date: Pending

COMPANY	Spinnaker Exploration Conpany, L.L.C.
AREA	High Island
BLOCK	47
LEASE	G 23193
PLATFORM	NOBLE LEONARD JONES - JACK-UP
WELL	A, B, C, D, E
COMPANY CONTACT	Tom Becnel
TELEPHONE NO.	713/356-7534
REMARKS	This is not a Gorilla class rig.

"Yes"	"No"	Air Quality Screening Questions
	X	1. Are the proposed activities east of 87.5° W latitude?
	X	2. Are H_2S concentrations greater than 20 ppm expected?
	X	3. Is gas flaring proposed for greater than 48 continuous hours per well?
X		4. Is produced liquid burning proposed?
X		5. Is the exploratory activity within 25 miles of shore?
	X	6. Are semi-submersible activities involved and is the facility within 50 miles of shore?
	X	7. Are drillship operations involved and is the facility within 120 miles of shore?
	X	8. Will the exploratory activity be collocated (same surface location) on a production facility?

If ALL questions are answered "No":
Submit only this coversheet with your plan; a full set of spreadsheets is not needed.

If ANY of questions 1 through 7 is answered "Yes":
Prepare and submit a full set of **EP** spreadsheets with your plan.

If question number 8 is answered "Yes":
Prepare and submit a full set of **DOCD** spreadsheets showing the cumulative emissions from both the proposed activities and the existing production platform.

Fuel Usage Conversion Factors	Natural Gas Turbines		Natural Gas Engines		Diesel Recip. Engine		REF.	DATE
	SCF/hp-hr	9.524	SCF/hp-hr	7.143	GAL/hp-hr	0.0483	AP42 3.2-1	4/76 & 8/84

Equipment/Emission Factors	units	PM	SOx	NOx	VOC	CO	REF.	DATE
NG Turbines	gms/hp-hr		0.00247	1.3	0.01	0.83	AP42 3.2-1& 3.1-1	10/96
NG 2-cycle lean	gms/hp-hr		0.00185	10.9	0.43	1.5	AP42 3.2-1	10/96
NG 4-cycle lean	gms/hp-hr		0.00185	11.8	0.72	1.6	AP42 3.2-1	10/96
NG 4-cycle rich	gms/hp-hr		0.00185	10	0.14	8.6	AP42 3.2-1	10/96
Diesel Recip. < 600 hp.	gms/hp-hr	1	1.468	14	1.12	3.03	AP42 3.3-1	10/96
Diesel Recip. > 600 hp.	gms/hp-hr	0.32	1.468	11	0.33	2.4	AP42 3.4-1	10/96
Diesel Boiler	lbs/bbl	0.084	2.42	0.84	0.008	0.21	AP42 1.3-12,14	9/98
NG Heaters/Boilers/Burners	lbs/mmscf	7.6	0.593	100	5.5	84	P42 1.4-1, 14-2, & 14	7/98
NG Flares	lbs/mmscf		0.593	71.4	60.3	388.5	AP42 11.5-1	9/91
Liquid Flaring	lbs/bbl	0.42	6.83	2	0.01	0.21	AP42 1.3-1 & 1.3-3	9/98
Tank Vapors	lbs/bbl				0.03		E&P Forum	1/93
Fugitives	lbs/hr/comp.				0.0005		API Study	12/93
Glycol Dehydrator Vent	lbs/mmscf				6.6		La. DEQ	1991
Gas Venting	lbs/scf				0.0034			

Sulfur Content Source	Value	Units
Fuel Gas	3.33	ppm
Diesel Fuel	0.4	% weight
Produced Gas(Flares)	3.33	ppm
Produced Oil (Liquid Flaring)	1	% weight

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EMISSIONS CALCULATIONS 1ST YEAR

OMB Control No. xxxx-xxxx
Expiration Date: Pending

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL		CONTACT	PHONE	REMARKS
Spinnaker Exploration Co	High Island	47	G 23193	ONARD JONES	A, B, C, D, E		Tom Bechel	713/356-7534	

OPERATIONS	EQUIPMENT	RATING	MAX. FUEL	ACT. FUEL	RUN TIME		MAXIMUM POUNDS PER HOUR					ESTIMATED TONS				
	Diesel Engines	HP	GAL/HR	GAL/D												
	Nat. Gas Engines	HP	SCF/HR	SCF/D												
	Burners	MMBTU/HR	SCF/HR	SCF/D	HR/D	DAYS	PM	SOx	NOx	VOC	CO	PM	SOx	NOx	VOC	CO
DRILLING	PRIME MOVER>600hp diesel	0	131 25	3150 00	0	0	0 00	0.00	0.00	0 00	0 00	0.00	0 00	0 00	0.00	0.00
	PRIME MOVER>600hp diesel	0	0	0 00	0	0	0 00	0 00	0 00	0 00	0.00	0.00	0.00	0.00	0.00	0.00
	PRIME MOVER>600hp diesel	5850	282 555	6781 32	24	245	4.12	18.92	141 74	4 25	30.93	12.12	55 61	416.72	12.50	90.92
	PRIME MOVER>600hp diesel	0	0	0 00	0	0	0 00	0.00	0.00	0.00	0.00	0 00	0.00	0.00	0 00	0 00
	BURNER diesel	0			0	0	0 00	0 00	0.00	0 00	0.00	0.00	0 00	0 00	0 00	0.00
emer gen/cranes	AUXILIARY EQUIP<600hp diesel	300	14 49	347.76	1	35	0.66	0 97	9 25	0 74	2.00	0 01	0.02	0.16	0.01	0 04
	VESSELS>600hp diesel(crew)	2000	96 6	2318 40	4	175	1 41	6 47	48.46	1 45	10 57	0.49	2 26	16.96	0.51	3 70
	VESSELS>600hp diesel(supply)	2500	120.75	2898 00	4	105	1 76	8 08	60.57	1 82	13 22	0.37	1.70	12 72	0.38	2.78
	VESSELS>600hp diesel(tugs)	12600	608 58	14605 92	12	5	8.88	40 74	305 29	9 16	66.61	0.27	1.22	9.16	0.27	2 00
FACILITY INSTALLATION	DERRICK BARGE diesel	0	0	0 00	0	0	0 00	0 00	0 00	0.00	0.00	0.00	0 00	0 00	0 00	0.00
	MATERIAL TUG diesel	0	0	0 00	0	0	0.00	0 00	0.00	0 00	0.00	0.00	0 00	0.00	0.00	0.00
	VESSELS>600hp diesel(crew)	0	0	0 00	0	0	0 00	0.00	0 00	0 00	0 00	0 00	0.00	0.00	0.00	0 00
	VESSELS>600hp diesel(supply)	0	0	0 00	0	0	0 00	0.00	0 00	0 00	0 00	0.00	0 00	0.00	0.00	0 00
	MISC.	BPD	SCF/HR	COUNT												
	TANK-	0			0	0				0 00					0 00	
DRILLING WELL TEST	OIL BURN	300			12	4	5.25	85 38	25.00	0 13	2.63	0.13	2 05	0 60	0 00	0.06
	GAS FLARE		416667		12	4		0.25	29 75	25 13	161.88		0 01	0 71	0 60	3 89
2003 YEAR TOTAL							22.09	160.80	620.06	42.67	287.82	13.39	62.87	457.03	14.28	103.38
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES	SPINNAKER WILL NOT USE A GORILLA CLASS RIG.										499.50	499.50	499.50	499.50	20679.49
	15 0															

EMISSIONS CALCULATIONS 2ND YEAR

OMB Control No. xxxx-xxxx
Expiration Date: Pending

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL		CONTACT	PHONE	REMARKS
Spinnaker Exploration Co	High Island	47	G 23193	ONARD JONES	A, B, C, D, E		Tom Becnel	713/356-7534	

OPERATIONS	EQUIPMENT	RATING	MAX. FUEL	ACT. FUEL	RUN TIME		MAXIMUM POUNDS PER HOUR					ESTIMATED TONS				
	Diesel Engines	HP	GAL/HR	GAL/D												
	Nat. Gas Engines	HP	SCF/HR	SCF/D												
	Burners	MMBTU/HR	SCF/HR	SCF/D	HR/D	DAYS	PM	SOx	NOx	VOC	CO	PM	SOx	NOx	VOC	CO
DRILLING	PRIME MOVER>600hp diesel	0	0	0 00	0		0.00	0.00	0 00	0.00	0.00	0 00	0.00	0.00	0 00	0 00
2 mud pumps	PRIME MOVER>600hp diesel	0	0	0.00	0	0	0 00	0.00	0 00	0.00	0.00	0.00	0.00	0 00	0 00	0 00
2 generators	PRIME MOVER>600hp diesel	5850	282 555	6781 32	24	50	4 12	18 92	141.74	4.25	30 93	2.47	11 35	85 04	2 55	18.56
3 compressors	PRIME MOVER>600hp diesel	0	0	0 00	0	0	0 00	0 00	0 00	0.00	0 00	0 00	0.00	0 00	0.00	0.00
	BURNER diesel	0	[redacted]	[redacted]	0	0	0 00	0 00	0 00	0.00	0 00	0 00	0 00	0 00	0 00	0 00
emer gen/cranes	AUXILIARY EQUIP<600hp diesel	300	14.49	347 76	1	7	0 66	0 97	9 25	0 74	2 00	0 00	0.00	0 03	0 00	0 01
	VESSELS>600hp diesel(crew)	2000	96.6	2318.40	4	35	1 41	6 47	48.46	1 45	10.57	0 10	0 45	3 39	0 10	0 74
	VESSELS>600hp diesel(supply)	2500	120 75	2898.00	4	21	1 76	8 08	60 57	1 82	13 22	0.07	0 34	2.54	0 08	0 56
	VESSELS>600hp diesel(tugs)	12600	608 58	14605.92	12	1	8 88	40.74	305 29	9 16	66 61	0 05	0 24	1 83	0.05	0.40
FACILITY	DERRICK BARGE diesel	0	0	0 00	0	0	0 00	0 00	0.00	0 00	0 00	0 00	0 00	0.00	0 00	0.00
INSTALLATION	MATERIAL TUG diesel	0	0	0.00	0	0	0 00	0 00	0.00	0 00	0.00	0.00	0 00	0.00	0 00	0.00
	VESSELS>600hp diesel(crew)	0	0	0 00	0 00	0 00	0.00	0.00	0 00	0.00	0 00	0.00	0 00	0 00	0.00	0.00
	VESSELS>600hp diesel(supply)	0	0	0 00	0.00	0 00	0.00	0.00	0 00	0.00	0 00	0.00	0.00	0 00	0 00	0.00
	MISC.	BPD	SCF/HR	COUNT												
	TANK-	0	[redacted]	[redacted]	0	0				0 00					0.00	
DRILLING	OIL BURN	300	[redacted]	[redacted]	12	1	5.25	85.38	25 00	0 13	2.63	0 03	0 51	0 15	0.00	0.02
WELL TEST	GAS FLARE	[redacted]	416667	[redacted]	12	1		0 25	29 75	25 13	161.88		0 00	0 18	0 15	0 97
2004 YEAR TOTAL							22.09	160.80	620.06	42.67	287.82	2.73	12.90	93.17	2.94	21.24
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES											499.50	499.50	499.50	499.50	20679.49
	15 0															

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SUMMARY

OMB Control No. xxxx-xxxx
Expiration Date: Pending

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL
Spinnaker Explo	High Island	47	G 23193	NOBLE LEONARD JC	A, B, C, D, E

Year	Emitted Substance				
	PM	SOx	NOx	VOC	CO
2003	13.39	62.87	457.03	14.28	103.38
2004	2.73	12.90	93.17	2.94	21.24
2005	0.00	0.00	0.00	0.00	0.00
2006	0.00	0.00	0.00	0.00	0.00
2007	0.00	0.00	0.00	0.00	0.00
2008	0.00	0.00	0.00	0.00	0.00
2009	0.00	0.00	0.00	0.00	0.00
2010	0.00	0.00	0.00	0.00	0.00
2011	0.00	0.00	0.00	0.00	0.00
2012	0.00	0.00	0.00	0.00	0.00
Allowable	499.50	499.50	499.50	499.50	20679.49

SECTION H

ENVIRONMENTAL IMPACT ANALYSIS

ENVIRONMENTAL IMPACT ANALYSIS

Included in this section, as **Attachment H-1** is the **ENVIRONMENTAL IMPACT ANALYSIS** prepared in accordance with Appendix H of Notice to Lessees NTL 2002-G08.

SECTION I

COASTAL ZONE CONSISTENCY

COASTAL ZONE CONSISTENCY CERTIFICATION

Issues identified in the Texas Coastal Zone Management Program include the following: general coastal use guidelines, levees, linear facilities (pipelines); dredged soil deposition; shoreline modification, 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.

The Certificate of Coastal Zone Management Consistency for the State of Texas is enclosed as **Attachment I-1**. A discussion of Texas's Enforceable Policies is included as **Attachments I-2**.

COASTAL ZONE MANAGEMENT

CONSISTENCY CERTIFICATION

INITIAL EXPLORATION PLAN

HIGH ISLAND BLOCK 47

LEASE OCS-G 23193

The proposed activities described in this Plan comply with Texas's approved Coastal Zone Management Program and will be conducted in a manner consistent with such Program.

Spinnaker Exploration Company, L.L.C.
Lessee or Operator

Scott Broussard
Certifying Official

March 12, 2003
Date

SECTION I
COASTAL ZONE MANAGEMENT

(A) Consistency certification

See Attachment I-1.

(B) Other information

(1) A detailed description of the proposed activity, its associated facilities, the coastal effects and comprehensive data and information sufficient to support the consistency certification is provided in the EP.

(2) Information specifically identified in the State's management program as required data and information has been provided in the EP.

(3) An evaluation that includes a set of findings, relating the coastal effects of the proposed activities to Texas' relevant enforceable policies of the State's management program. The State of Texas has provided to MMS a list of enforceable policies.

The following assurance of compliance with existing Federal and State laws, regulations and resultant enforceable program policies in Texas's CZMP is provided:

> *The proposed activity will be carried out and completed with the guarantee that: The best available and safest technologies will be used throughout the project. These include meeting all applicable requirements for equipment types, general project layout, safety systems, and equipment and monitoring systems. All operations will be covered by an approved oil spill response plan. All applicable Federal, State and local requirements regarding air emissions and water quality and discharge for the proposed activities, as well as any other permit conditions, will be complied with.*

Texas Coastal Zone Management Program

Category 2: Construction, Operation and Maintenance of Oil and Gas Exploration and Production Facilities

The proposed facility is located approximately 15 miles from the Texas coast line; therefore, no impact to Texas' coastal zone is expected.

Category 3 Discharges of Wastewater and Disposal of Waste from Oil and Gas Exploration and Production Activities

The discharge of wastewater and disposal of waste from the proposed activities will not occur within the coastal zone of Texas; therefore, no impact to Texas's coastal zone is expected.

Category 4 Construction and Operation of Solid Waste Treatment, Storage, and Disposal Facilities

No solid waste treatment, storage or disposal facilities are proposed as a part of this plan. Therefore, no impacts to Texas' coastal zone are expected.

Category 5 Prevention, Response, and Remediation of Oil Spills

As described in the EP, pollution prevention has been considered in the design of the proposed facilities and in developing the operating plans. Further, the proposed activities will be covered under a Regional Oil Spill Response Plan. The proposed activities are located approximately 15 miles from the Texas coast line; therefore, no impacts to Texas coastal zone are expected.

Category 6 Discharge of Municipal and Industrial Waster Water to Coastal Waters

No discharges from the proposed activities will occur in coastal waters; therefore, no impacts to Texas's coastal zone are expected.

Category 8 Development in Critical Areas

None of the proposed activities occur in critical areas; therefore no impacts to Texas's coastal zone are expected.

Category 9 Construction of Waterfront Facilities and Other Structures on Submerged lands

The proposed activities do not include the construction of waterfront facilities or other structures on submerged lands in the coastal zone; therefore, no impacts to Texas' coastal zone are expected.

Category 10 Dredging and Dredged Material Disposal and Placement

The proposed activities do not include any dredging activities; therefore, no impacts to Texas' coastal zone are expected.

Category 11 Construction in the Beach / Dune System

The proposed activities do not include any construction in the beach/dune system; therefore, no impacts to Texas' coastal zone are expected.

Category 15 Alteration of Coastal Historic Areas

The proposed activities do not include any alteration or disturbance of a coastal historic area; therefore, not impacts to Texas' coastal zone are expected.

Category 16 Transportation

No transportation projects within the coastal zone are proposed; therefore, no impacts to Texas' costal zone are expected.

Category 17 Emission of Air Pollutants

The impacts from the emission of air pollutants have been evaluated in the EP. The proposed activities occur approximately 15 miles from the coastline. All of the emissions are within the exemption level established by MMS. Therefore, no impacts to Texas' coastal zone are expected.

Category 18 Appropriations of Water

The proposed activities do not include the diversion or impoundment of state water's; therefore, no impacts to Texas' coastal zone are expected.

Category 20 Marine Fishery Management

The proposed activities are located approximately 15 miles from the coast line and are not expected to have any affect on fishery management within coastal waters. Therefore, no impacts to Texas' coastal zone are expected.

Category 22 Administrative Policies

Information has been provided for the agency to make an informed decision on the proposed action.

SECTION J

PLAN INFORMATION FORM

Included in this section as **Attachment J-1** is the Plan Information Form prepared in accordance with Appendix J of the Notice of Lessees NTL 2000-G10.

Included as **Attachment J-2,** is the Bathymetry Map.

OMB Control No. 1010-0049
Expiration Date:

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

EXPLORATION PLAN	X	DEVELOPMENT OPERATIONS COORDINATION DOCUMENT		DEVELOPMENT & PRODUCTION PLAN	
OPERATOR: SPINNAKER EXPLORATION COMPANY, L.L.C.			ADDRESS: 1200 SMITH STREET, SUITE 800		
MMS OPERATOR NO.: 02169			HOUSTON, TEXAS 77002		
CONTACT PERSON: TOM BECNEL			PHONE NO. (713) 356-7534		
PROPOSED START DATE: 5-01-02		RIG TYPE: JU SS PF DS OTHER		DISTANCE TO CLOSEST LAND (IN MILES): 15	
NEW OR UNUSUAL TECHNOLOGY	YES	NO X	ONSHORE SUPPORT BASE (S): GALVESTON, TEXAS		
NARRATIVE DESCRIPTION OF PROPOSED ACTIVITIES: DRILL AND COMPLETE FIVE (5) WELLS FROM FIVE (5) SURFACE LOCATIONS ON					
HIGH ISLAND BLOCK 47. OVER DRIVE CAISSONS WITH APPROVED NAVAIDS OVER EACH SUCCESSFUL WELL.					
PROJECT NAME, IF APPLICABLE: **MADELINE**					

PROPOSED WELL/STRUCTURE LOCATIONS

WELL/ STRUCTURE NAME	SURFACE LOCATION	BOTTOM-HOLE LOCATION (FOR WELLS)
Platform __ or Well X Name: A	CALLS: 5425 F N L & 6200 F W L OF LEASE: OCS-G 23193, HIGH ISLAND AREA, BLOCK: 47	CALLS: LEASE: BLOCK:
	X: 3,624,555.81' Y: 620,255.00'	X: Y:
	LAT: 29° 26' 30.142" LONG: 93° 53' 38.889"	LAT: LONG:
	TVD (IN FEET): MD (IN FEET): 13500	WATER DEPTH (IN FEET): 35
Platform __ or Well X Name: B	CALLS: 6525 F N L & 3180 F E L OF LEASE: OCS-G 23193, HIGH ISLAND AREA, BLOCK: 47	CALLS: LEASE: BLOCK:
	X: 3,631,015.81' Y: 619,155.00'	X: Y:
	LAT: 29° 26' 16.464" LONG: 93° 52' 26.435"	LAT: LONG:
	TVD (IN FEET): MD (IN FEET): 11000	WATER DEPTH (IN FEET): 32
Platform __ or Well X Name: C	CALLS: 3510 F N L & 6155 F W L OF LEASE: OCS-G 23193, HIGH ISLAND AREA, BLOCK: 47	CALLS: LEASE: BLOCK:
	X: 3,624,510.81' Y: 622,170.00'	X: Y:
	LAT: 29° 26' 49.104" LONG: 93° 53' 38.452"	LAT: LONG:
	TVD (IN FEET): MD (IN FEET13500	WATER DEPTH (IN FEET): 36
Platform __ or Well X Name: D	CALLS: 6415 F N L & 6715 F W L OF LEASE: OCS-G 23193, HIGH ISLAND AREA, BLOCK: 47	CALLS: LEASE: BLOCK:
	X: 3,627,480.81' Y: 619,265.00'	X: Y:
	LAT: 29° 26' 19.084" LONG: 93° 53' 06.325"	LAT: LONG:
	TVD (IN FEET): MD (IN FEET): 11500	WATER DEPTH (IN FEET): 33

PUBLIC INFORMATION

ATTACHMENT J-1

OMB Control No. 1010-0049
Expiration Date:

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

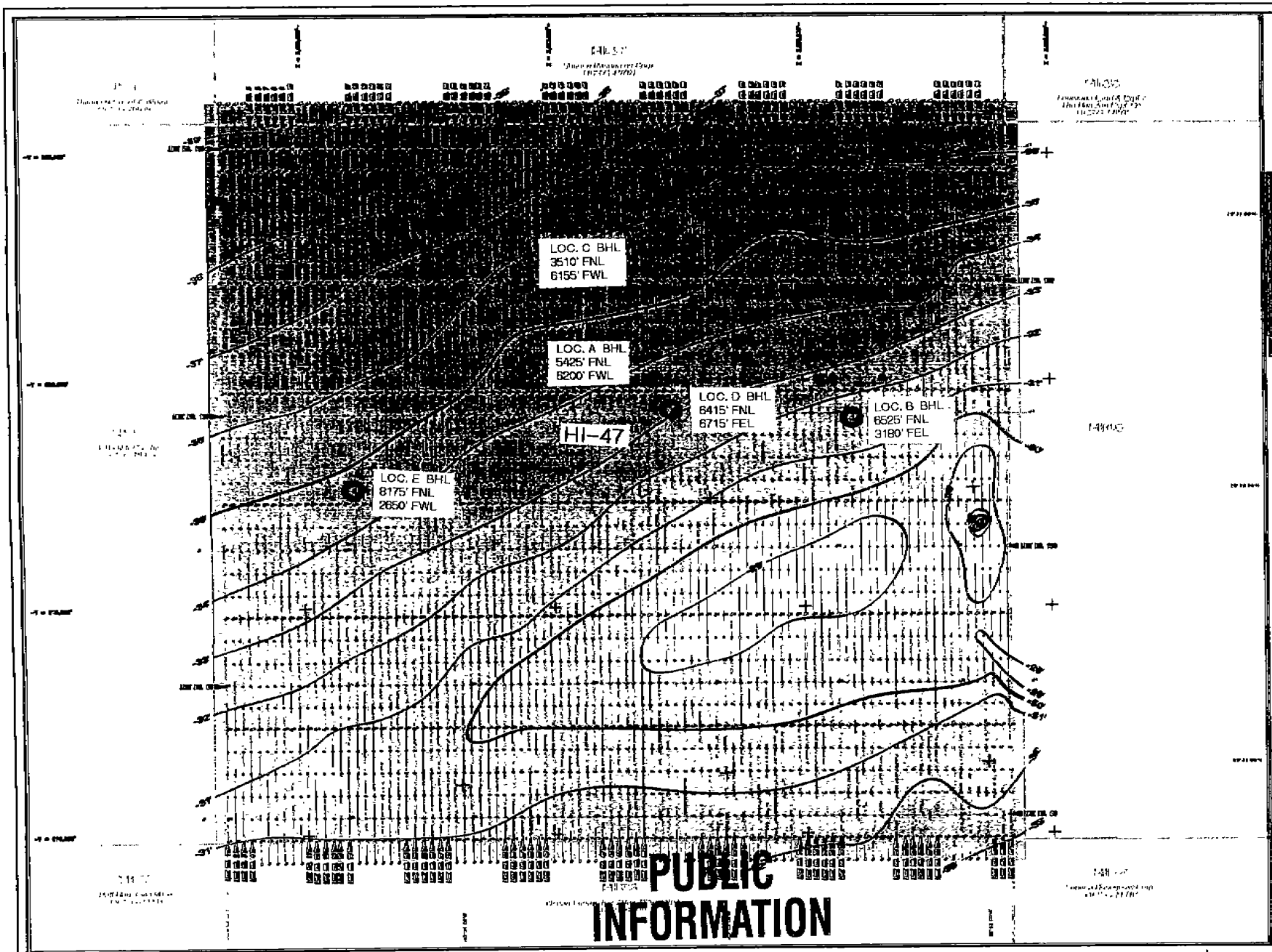
EXPLORATION PLAN	X	DEVELOPMENT OPERATIONS COORDINATION DOCUMENT		DEVELOPMENT & PRODUCTION PLAN	
OPERATOR: SPINNAKER EXPLORATION COMPANY, L.L.C.			ADDRESS: 1200 SMITH STREET, SUITE 800		
MMS OPERATOR NO.: 02169			HOUSTON, TEXAS 77002		
CONTACT PERSON: TOM BECNEL			PHONE NO. (713) 356-7534		
PROPOSED START DATE: 5-01-02	RIG TYPE: JU SS PF DS OTHER		DISTANCE TO CLOSEST LAND (IN MILES): 15		
NEW OR UNUSUAL TECHNOLOGY	YES	NO X	ONSHORE SUPPORT BASE (S): GALVESTON, TEXAS		
NARRATIVE DESCRIPTION OF PROPOSED ACTIVITIES: DRILL AND COMPLETE FIVE (5) WELLS FROM FIVE (5) SURFACE LOCATIONS ON					
HIGH ISLAND BLOCK 47. OVER DRIVE CAISSONS WITH APPROVED NAVAIDS OVER EACH SUCCESSFUL WELL.					
			PROJECT NAME, IF APPLICABLE: **MADELINE**		

PROPOSED WELL/STRUCTURE LOCATIONS

WELL/ STRUCTURE NAME	SURFACE LOCATION		BOTTOM-HOLE LOCATION (FOR WELLS)
Platform __ or Well X Name: E	CALLS: 8175 F N L & 2650 F W L OF LEASE: OCS-G 23193, HIGH ISLAND AREA, BLOCK: 47		CALLS: LEASE: BLOCK:
	X: 3,621,005.81' Y: 617,505.00'		X: Y:
	LAT: 29° 26' 04.472" LONG: 93° 54' 20.359"		LAT: LONG:
	TVD (IN FEET):	MD (IN FEET): 12250	WATER DEPTH (IN FEET): 35
Platform __ or Well __ Name: ______	CALLS: LEASE: BLOCK:		CALLS: LEASE: BLOCK:
	X: Y:		X: Y:
	LAT: LONG:		LAT: LONG:
	TVD (IN FEET):	MD (IN FEET):	WATER DEPTH (IN FEET):
Platform __ or Well __ Name: ______	CALLS: LEASE: BLOCK:		CALLS: LEASE: BLOCK:
	X: Y:		X: Y:
	LAT: LONG:		LAT: LONG:
	TVD (IN FEET):	MD (IN FEET):	WATER DEPTH (IN FEET):
Platform __ or Well __ Name: ______	CALLS: LEASE: BLOCK:		CALLS: LEASE: BLOCK:
	X: Y:		X: Y:
	LAT: LONG:		LAT: LONG:
	TVD (IN FEET):	MD (IN FEET):	WATER DEPTH (IN FEET):

PUBLIC INFORMATION

BEST AVAILABLE COPY



PUBLIC INFORMATION

VICINITY MAP

WORK LOCATION

LEGEND

- SHOT POINT, SHOT POINT NO. & BOAT TRACK
- LINE NO. & DIRECTION
- CONTOUR INTERVAL = 1 FOOT.
- ZERO DATUM = MEAN LOWER LOW WATER

NOTES:

1. Coordinates are referenced to the Texas Coordinate System of 1983, South Central Zone. Units are in U.S. Survey Feet.
2. Soundings are based on the CONRAD BLASINGAME INSTITUTE 8th gauge "Galveston Bathymetric Channel, Block Jetty" Datum.
3. Positions of record which may exist outside the survey area are not represented on this map.
4. Lease information shown on this map was obtained from the Minerals Management Service.

NOTICE: EXTREMELY IMPORTANT

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This map shows and attempts to depict the location of subsurface or surface features such as, but not limited to, pipelines, cables, platforms, wellheads, anchors and anchor patterns and manmade objects. All information contained on this map was compiled by Cochrane Technologies, Inc. and carried under the assumption of third party information. Map dependent may contain inaccuracies beyond typical industry and control.

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SPINNAKER EXPLORATION COMPANY, LLC

BATHYMETRY MAP

BLOCK 47
HIGH ISLAND AREA

cochrane TECHNOLOGIES, INC.

PREPARED FOR:	SPINNAKER EXPLORATION CO., LLC
CITY:	HOUSTON, TEXAS
FIELD DATA:	JAN. 27-28, 2000
ACQ. NUM.:	734-00-05.XYZ
DRAWING NO.:	2000-1
DRAFTED BY:	REVISED: 0
CHECKED:	DATE: MARCH 16, 2000
APPROVED:	MAP NO.: 1

ATTACHMENT J-2

ENVIRONMENTAL IMPACT ANALYSIS
INITIAL EXPLORATION PLAN

HIGH ISLAND BLOCK 47
OCS-G-23193
OFFSHORE TEXAS

MINERALS MANAGEMENT SERVICE
RECEIVED
MAR 18 2003
FIELD
OPERATIONS
Plans Section, GOM OCS Region, New Orleans LA

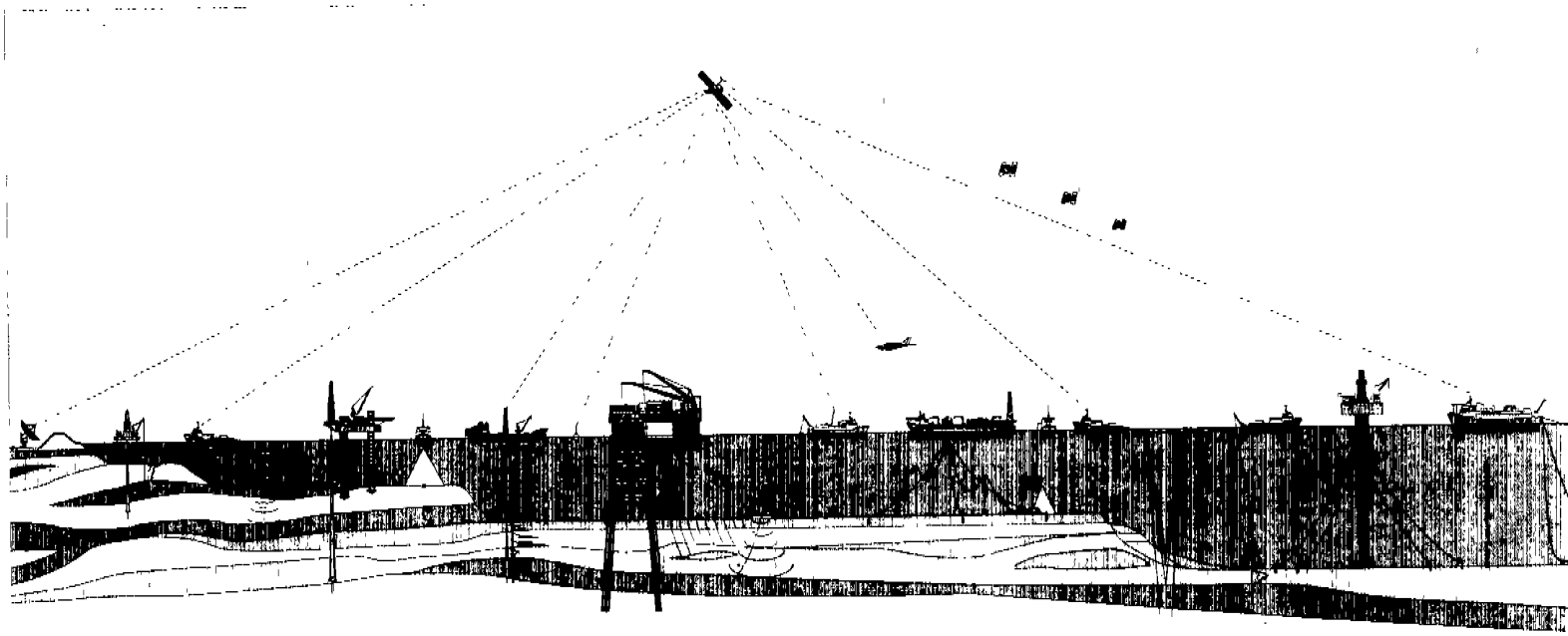
SPINNAKER EXPLORATION COMPANY
1200 SMITH ST., SUITE 800
HOUSTON, TEXAS 77002

SUBMITTED TO:
MR. THOMAS G. BECNEL

MARCH 2003

PREPARED BY:
JOHN CHANCE LAND SURVEYS, INC.
REGULATORY AND ECOLOGICAL SERVICES GROUP
200 DULLES DRIVE
LAFAYETTE, LOUISIANA 70506

CHANCE PROJECT NO. 03-5176



(A) Impact-Producing Factors (IPFs)

Contained below is a worksheet provided by the MMS that identifies the environmental resources that could be impacted by IPFs. If an "x" is noted in one of the fields below it is because we determined that that specific environmental resource might be impacted by that specific IPF. Footnotes have been included for some of the cells and these correspond to a statement that explains the applicability for the proposed activity for High Island Block 47. Where any of the IPFs may affect a specific environmental resource an analysis of that effect is provided.

Environmental Impact Analysis Worksheet

Environmental Resources	Impact Producing Factors (IPFs) Categories and Examples Refer to a recent GOM OCS Lease Sales EIS for a more complete list of IPFs					
	Emissions (air, noise, light, etc.)	Effluents (muds, cuttings, other discharges to the water column or seafloor)	Physical disturbances to the seafloor (rig or anchor emplacements, etc.)	Wastes sent to shore for treatment of disposal	Accidents (e.g., oil spills, chemical spills, H_2S releases)	Other IPFs identified
Site-specific at Offshore Location						
Designated topographic features		(1)	(1)		(1)	
Pinnacle Trend area live bottoms		(2)	(2)		(2)	
Eastern Gulf live bottoms		(3)	(3)		(3)	
Chemosynthetic communities			(4)			
Water quality		x			x	
Fisheries		x			x	
Marine mammals	x (8)	x		x	x (8)	
Sea turtles	x (8)	x		x	x (8)	
Air quality	x (9)					
Shipwreck sites (known or potential)			(7)			
Prehistoric archaeological sites			(7)			
Vicinity of Offshore Location						
Essential fish habitat		x			x (6)	
Marine and pelagic birds					x	
Public health and safety					(5)	
Coastal and Onshore						
Beaches					x (6)	
Wetlands					x (6)	
Shore birds and coastal nesting birds					x (6)	
Coastal wildlife refuges					x	
Wilderness areas						
Other Resources Identified						

Footnotes for Environmental Impact Analysis Worksheet

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:
   (a) 4-mile zone of the Flower Garden Banks, or the 3-mile zone of Stetson Bank;
   (b) 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;
   (c) Essential Fish Habitat (EFH) criteria of 500 ft from any no-activity zone; or
   (d) 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 H_2S 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 is determined to impact these environmental resources. If the proposed action is located a sufficient distance from a resource that no impact would occur, the EIA will note that in a sentence or two.
7. All activities that involve seafloor disturbances, including anchor placement, 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 the planned activity will occur. If the proposed activities are located at sufficient distance from a shipwreck or prehistoric site that no impact would occur, the EIA will note that in a sentence or two.
8. All activities that are determined to possibly 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 Offshore Location

Designated Topographic Features

There are no anticipated impacts to any marine sanctuaries or topographic features from the site-specific proposed activity in High Island Block 47. The following Impact Producing Factors (IPFs) would not have any affects on topographic features: Effluents (including muds, cuttings, and other discharges), Emissions (including air, noise, light, etc.), Shore Bound Wastes, and Physical Disturbances to the seafloor. This lack of impacts is primarily due to the fact that the nearest designated topographic feature, specifically Claypile Bank, is located within High Island Block A-446, approximately 75.1 miles away from the proposed activities.

The High Island Block 47 proposed activities are not within 500 feet of any submarine bank that has a relief greater than 2 meters. There is no designated Essential Fish Habitat (EFH) within the Block therefore all activity will be at least 500 feet away from no-activity zone for EFH.

The proposed activities are unlikely to affect the area via a surface or subsurface oil spill. No ecological impacts are expected since the gulfs depth would typically not allow any oil to reach the seafloor to impact any organisms found there. The dispersion rate would also be high enough that the oil that may remain in a subsea location due to a subsea leak would be moved away from any banks by natural current flow around that bank. The activities proposed in this plan will be covered by Spinnaker Exploration's regional OSRP (refer to Section F which contains information submitted in accordance with NTL 2002-G08).

Pinnacle Trend Area Live Bottoms

The nearest block with a pinnacle trend live bottom stipulation occurs hundreds of miles away in Main Pass Area Block 290. Therefore, no Impact Producing Factors (IPFs) from High Island Block 47 such as Effluents (including muds, cuttings, and other discharges), Emissions (including air, noise, light, etc.), Shore Bound Wastes, and Physical Disturbance to the seafloor are anticipated to affect these Site-specific features.

It is unlikely that any accidental surface or subsurface oil spill from the proposed activities would occur. However no impact to any biota associated with the pinnacle trends area live bottoms found in the Central Gulf of Mexico is expected due to a spill within this block as the nearest block that falls within that stipulation is hundreds of miles away. The activities proposed in this plan will be covered by Spinnaker Exploration's regional OSRP (refer to Section F which contains information submitted in accordance with NTL 2002-G08).

Eastern Gulf Live Bottoms

The nearest Eastern Gulf Live Bottom Area is hundreds of miles away, in Main Pass Area Block 290; from the proposed activity within High Island Block 47 therefore no IPFs (Emissions, Effluents, Shore Bound Wastes, Physical Disturbances to the Seafloor, and Accidents) are expected to impact any Eastern Gulf Live Bottom area.

It is unlikely that the any Eastern Gulf Live Bottom Area would be affected via an accidental surface or subsurface oil spill generated by the proposed activities. Due to the tendency of oil to rise in the water column, and the dispersal that would affect a surface or subsurface spill there would be little or no impact to Eastern Gulf Live Bottoms due to the distance from this block. The activities proposed in this plan will be covered by Spinnaker Exploration's regional OSRP (refer to Section F which contains information submitted in accordance with NTL 2002-G08).

Chemosynthetic Communities

The proposed activities for High Island Block 47 will occur in water that is approximately 32-36 feet deep thereby eliminating any threat to Chemosynthetic communities which would normally occur in water depths of at least 400 meters or 1312 feet. Therefore no IPFs (including: effluents, emissions, physical disturbances, accidents, or shore bound wastes) from the proposed activities in High Island Block 47 would be expected to impact any chemosynthetic community.

Water Quality

As with all offshore activity there is always the probability for impacts to water quality. This usually occurs through accidents or effluent discharge. All discharges for the proposed activity are going to be in accordance with the National Pollutant Discharge Elimination System (NPDES), specifically Spinnaker Exploration's general permit under GMG 290000 issued by the U.S. Environmental Protection Agency (EPA). Due to the analysis done by EPA no operational discharges are expected to impact water quality within High Island Block 47.

It is unlikely that due to any of the proposed activities an oil spill would occur in High Island Block 47. However if an accidental spill were to occur water quality would be adversely impact for a period of time by petroleum products and byproducts. However this time frame would be shortened by the natural dispersion and breakdown (organic and microbial decomposition) that would remove the oil from the water or at the very least would dilute it to levels that would be less hazardous to the environment. The activities proposed in this plan

will be covered by Spinnaker Exploration's regional OSRP (refer to Section F which contains information submitted in accordance with NTL 2002-G08).

Fisheries

High Island Block 47 lies outside the limits of Primary Industrial Bottomfishing area, and principal menhaden fishing grounds. The block lies within the limits of the brown and white shrimp harvesting grounds, coastal demersal fish, coastal pelagics, principle seabob grounds, and major finfish harvest area (USIDOI, MMS, 1986, Visual No. 2). This area is also some distance from important blue crab and oyster lease producing areas, which are to the west and northeast near the coast. Due to the inclusion of important fisheries an accidental oil spill or release within High Island Block 47 would be expected to have some impact on fisheries.

Based on the proposed activities it is highly unlikely that an accidental surface or subsurface spill would occur. If a spill were to occur the finfish and shellfish that could be impacted would probably evacuate the area of impact and if any finfish and shellfish did come into contact with any spill residue the affect would most likely not be lethal as the finfish can metabolize the hydrocarbons and avoid increased exposure. The other IPFs that could occur within this area are unlikely to impact any of the above-mentioned fisheries. The activities proposed in this plan will be covered by Spinnaker Exploration's regional OSRP (refer to Section F which contains information submitted in accordance with NTL 2002-G08).

Marine Mammals

Endangered or threatened whale species, which may occur in High Island Block 47, are blue whale (*Balaenoptera musculus*), finback whale (*Balaenoptera physalus*), humpback whale (*Megaptera novaeangliae*), bryde whale (*Balaenoptera edeni*), black right whale (*Balaena glacialis*), sei whale (*Balaenoptera borealis*), and sperm whale (*Physter catdon*) (USDOI, Region IV Endangered Species Notebook).

The black right whale, blue whale, bryde whale and sei whale have never been common in the Gulf of Mexico and have very few documented historical Gulf sightings. There is a small population of fin whales in the Gulf and Caribbean Sea (Schmidly 1981), with some Gulf sightings of fin whales in these deeper waters of the North-central Gulf (Mullin et al. 1991). The humpback whale is cosmopolitan being found in all oceans of the world; recent sightings in the Gulf of Mexico have been sporadic but included the Central and Eastern Gulf (Schmidly 1981). The sperm whale is the most abundant large whale in the Gulf of Mexico, and has been sighted on most surveys conducted in the deeper waters. It is commonly seen off the continental shelf edge in the vicinity of the Mississippi River Delta (Mullin et al. 1991 in MMS 1992). Most of these whales,

with the exception of the black right, blue, bryde, and sei whales, may utilize High Island Block 47 at some time.

The West Indian manatee (*Trichechus manatus*), a federally endangered marine mammal, has historically utilized (seasonally) shallow protected estuarine waters of the northern Gulf of Mexico, including coastal Louisiana but would not be expected to utilize the open marine waters of High Island Block 47 (MMS 1992).

Another utilization of this block would come from Cetaceans or more specifically Family Delphinidae, which includes the porpoises and dolphins, and species such as the Spotted dolphin (*Stenella plagiodon*), Common dolphin (*Delphinus delphis*), Atlantic Bottle-nosed dolphin (*Tursiops truncatus*), and the Short-Finned Pilot Whale (*Globicephala macrorhyncha*) (Lowery, 1974).

There may be adverse impacts by several of the IPFs to marine mammals due to the proposed activities for High Island Block 47. These include but are not limited to: vessel traffic, noise, accidental oil spills, effluent discharge, and loss of shore bound wastes. The only lethal affect, which would be an extremely rare occurrence, if occurring at all, would be due to oil spills, ingestion of plastic material, or collision with a vessel. Some of the IPFs (noise, effluent discharge, etc.) would affect marine mammals in a non-lethal manner due to stress. When stressed the individuals in a population could become more prone to infection and weaken, this could affect entire pods, however these would be sporadic events and are unlikely to happen.

Any disturbance could theoretically affect populations of marine mammals but it is highly unlikely that this would occur due to their ability to travel to other areas within their home range. Fatalities are also unlikely and are unexpected barring catastrophic occurrences. Also in accordance with NTL 2002-G14 and 2002-G13 Spinnaker Exploration will follow guidelines set forth to eliminate any impacts to protected species.

Sea Turtles

The following species are protected and are found within the Gulf Of Mexico: Kemp's ridley turtle (*Lepidochelya 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 green turtle is found throughout the Gulf of Mexico with infrequent nesting occurrences throughout, and nesting aggregations on the Florida and Yucatan coasts. Green turtles prefer depths of less than 20 m (66 ft) where seagrasses are abundant (NRC 1990). Leatherbacks are oceanic turtles but do enter shallower waters at times. There are rare but reported cases of leatherbacks nesting on the Florida panhandle (MMS 1992). The hawksbill is the least commonly reported marine turtle in the Northern Gulf, with Texas being the only state with regular occurrences. It is more common in tropical Caribbean

waters. Kemp's Ridley is the most endangered species of marine turtle and is common in Texas and Mexico. Loggerheads occur worldwide in depths varying from those found in estuaries to the continental shelf. Major Gulf nesting areas for this species include the beaches along the Florida panhandle, South Florida, and Padre Island, Texas. In the Central Gulf loggerheads are known to nest on the beaches and the turtles are commonly observed around platforms. Some of these turtles, particularly the loggerhead, may temporarily utilize High Island Block 47, however it would be infrequent and no impacts would be expected from the project. All known turtle nesting areas are in locations where landfall of oil spills from this block would be unlikely.

IPFs such as vessel traffic, noise, shore bound waste losses, effluents, and accidental oil spills could possibly impact through stress or even kill small numbers of turtles. Oil spills and response activities have the potential to harm individuals through consumption of oil particles or oiled food sources. The Oil Pollution Act of 1990 has response planning techniques and protections in place to alleviate most of these issues.

The majority of impacts are not expected to be lethal, however the impacts that are expected through nonlethal IPFs could cause declines in survival and reproductive rates, which would have detrimental affects on the population as a whole, yet as stated above mitigative steps are already in place via the Oil Pollution Act of 1990. Also in accordance with NTL 2002-G14 and 2002-G13 Spinnaker Exploration will follow guidelines set forth to eliminate any impacts to protected species.

Air Quality

No IPFs should impact the Air Quality within the immediate vicinity of the work proposed within High Island Block 47. Emissions will be kept within accepted standards and Effluents, Physical Disturbances to the seafloor, and Shore Bound Wastes are not expected to decrease the air quality. In the unlikely event that an accidental oil spill would occur there might be some Air Quality impacts however these would be kept to a minimum.

Shipwreck sites (known or potential)

There are no known shipwreck sites in or near High Island Block 47, however the areas is set aside as having a high probability for such. The survey of the block did not find any evidence of the presence of a shipwreck. Therefore it is highly unlikely that any of the IPFs, especially Physical Disturbances to the seafloor, would cause any impacts to known or suspected shipwrecks. Upon review of the Shallow Hazard Report there was also no indication that the area should receive special consideration for Shipwreck sites.

Prehistoric Archaeological sites

Upon review of the Archeological Assessment it was determined that there was no indication that this, High Island Block 47, has any archaeological sites. Any proposed activities would not be expected to impact any archeological features. There were several magnetic anomalies that were found in this block, however none are believed to be archaeological sites, but should be avoided and Spinnaker Exploration has a list of these and are aware of them. Therefore it is highly unlikely that any of the IPFs, especially Physical Disturbances to the seafloor, would cause any impacts. Effluents, Emissions, Shore Bound Wastes, and Accidents would not be expected to impact any archeological sites if they were present.

Vicinity of Offshore Location

Essential Fish Habitat

High Island Block 47 lies outside the limits of Primary Industrial Bottomfishing area, and principal menhaden fishing grounds. The block lies within the limits of the brown and white shrimp harvesting grounds, coastal demersal fish, coastal pelagics, principle seabob grounds, and major finfish harvest area (USIDOI, MMS, 1986, Visual No. 2). This area is also some distance from important blue crab and oyster lease producing areas, which are to the west and northeast near the coast. Due to the inclusion of important fisheries an accidental oil spill or release within High Island Block 47 would be expected to have some impact on fisheries.

Based on the proposed activities it is highly unlikely that an accidental surface or subsurface spill would occur. If a spill were to occur the finfish and shellfish that could be impacted would probably evacuate the area of impact and if any finfish and shellfish did come into contact with any spill residue the affect would most likely not be lethal as the finfish can metabolize the hydrocarbons and avoid increased exposure. The other IPFs that could occur within this area are unlikely to impact any of the above-mentioned fisheries. The activities proposed in this plan will be covered by Spinnaker Exploration's regional OSRP (refer to Section F which contains information submitted in accordance with NTL 2002-G08).

Marine and Pelagic Birds

Many of the IPFs would have no impact upon Marine and Pelagic Bird species. Effluents, Emissions, Physical Disturbances to the Seafloor, and Shore Bound Wastes would not affect any avian species that would occur within High Island Block 47. Accidental oil spills have the ability to impact individual birds, mainly due to the oiling of the individual's feathers and well as possible ingestion

of the oil product. It is unlikely that a spill would occur from the proposed activities and if one did occur the activities proposed in this initial exploration plan document will be covered by Spinnaker Exploration's regional OSRP (refer to Section F which contains information submitted in accordance with NTL 2002-G08).

Public Health and Safety

There are no IPFs (including Emissions, Effluents, Physical disturbances to the seafloor, Shore Bound Wastes, or Accidents) that would cause any harm to public health and safety. The area is proposed for classification, as H_2S absent, based on the drilling of Mobil's High Island Block 45 G 5180 No. 3 well, which was drilled to the stratigraphic equivalent of the target sands, which did not encounter any H_2S. Spinnaker Exploration believes the area to be H_2S absent in accordance with 30 CFR 250.417 (c) and the NTL 2002-G08 (Section C) they have submitted information to conclude that this is so.

Coastal and Onshore

Beaches

With the exception of an accidental oil spill no IPFs (including Emissions, Effluents, Physical disturbances to the seafloor, and Shore Bound Wastes) are expected to impact any of the beaches in onshore locations. An accidental oil spill from the proposed activities would have at the highest a 10/33/39 percent chance (based on 3, 10, or 30 days from spill) of causing impacts to the beaches that occur on shore, in both Chambers and Galveston County, to the northwest of High Island Block 47. Another county to the north along the coast that also has a high chance for an oil spill to impact its shore from this proposed activity is Jefferson County, approximately 15 miles from High Island Block 47. However, this distance along with the response capabilities implemented would greatly decrease the probability that an oil spill would have a large impact to these areas. Upon reviewing the OCS EIS/EA MMS 2002-052 publication the historical spill data and trajectory / risk calculations show that there would be some risk of impact to the coastline or other shoreline environmental resources of Texas. The activities proposed in this plan will be covered by Spinnaker Exploration's regional OSRP (refer to Section F which contains information submitted in accordance with NTL 2002-G08).

Wetlands

With the exception of an accidental oil spill no IPFs (including Emissions, Effluents, Physical disturbances to the seafloor, and Shore Bound Wastes) are expected to impact any of the wetlands in onshore locations. An accidental oil spill from the proposed activities would have at the highest a 10/33/39 percent chance (based on 3, 10, or 30 days from spill) of causing impacts to the wetlands that occur at the shore, in both Chambers and Galveston County, to the northwest of High Island Block 47. Another county to the north along the coast that also has a high chance for an oil spill to impact its shore from this proposed activity is Jefferson County, approximately 15 miles from High Island Block 47. However, this distance along with the response capabilities implemented would greatly decrease the probability that an oil spill would have a large impact to these areas. Upon reviewing the OCS EIS/EA MMS 2002-052 publication the historical spill data and trajectory / risk calculations show that there would be some risk of impact to the coastline or other shoreline environmental resources of Texas. The activities proposed in this plan will be covered by Spinnaker Exploration's regional OSRP (refer to Section F which contains information submitted in accordance with NTL 2002-G08).

Shore Birds and Coastal Nesting Birds

With the exception of an accidental oil spill no IPFs (including Emissions, Effluents, Physical disturbances to the seafloor, and Shore Bound Wastes) are expected to impact any of the shore birds and coastal nesting birds in onshore locations. An accidental oil spill from the proposed activities would have at the highest a 10/33/39 percent chance (based on 3, 10, or 30 days from spill) of causing impacts to the shore birds and coastal nesting birds that occur on shore, in both Chambers and Galveston County, to the northwest of High Island Block 47. Another county to the north along the coast that also has a high chance for an oil spill to impact its shore from this proposed activity is Jefferson County, approximately 15 miles from High Island Block 47. However, this distance along with the response capabilities implemented would greatly decrease the probability that an oil spill would have a large impact to these areas. Upon reviewing the OCS EIS/EA MMS 2002-052 publication the historical spill data and trajectory / risk calculations show that there would be some risk of impact to the coastline or other shoreline environmental resources of Texas. The activities proposed in this plan will be covered by Spinnaker Exploration's regional OSRP (refer to Section F which contains information submitted in accordance with NTL 2002-G08).

Coastal Wildlife Refuges

With the exception of an accidental oil spill no IPFs (including Emissions, Effluents, Physical disturbances to the seafloor, and Shore Bound Wastes) are expected to impact any of Coastal Wildlife Refuges in onshore locations. An accidental oil spill from the proposed activities would have at the highest a 13/24/28 percent chance (based on 3, 10, or 30 days from spill) of causing impacts to the Coastal Wildlife Refuges that occur on shore, in Jefferson County, approximately 15 miles from High Island Block 47, specifically McFaddin National Wildlife Refuge, to the north. The distance along with the response capabilities implemented would greatly decrease the probability that an oil spill would have a large impact to these areas. Upon reviewing the OCS EIS/EA MMS 2002-052 publication the historical spill data and trajectory / risk calculations show that there would be some risk of impact to the coastline or other shoreline environmental resources of Texas. The activities proposed in this plan will be covered by Spinnaker Exploration's regional OSRP (refer to Section F which contains information submitted in accordance with NTL 2002-G08).

Wilderness Areas

With the exception of an accidental oil spill no IPFs (including Emissions, Effluents, Physical disturbances to the seafloor, and Shore Bound Wastes) are expected to impact any of the Wilderness Areas in onshore locations. An accidental oil spill from the proposed activities could not cause impacts to any Wilderness Areas since Eastern Texas' five areas designated by congress as a "Wilderness Area", are located inland miles from the coast. They are, Big Slough Wilderness Area, Indian Mounds Wilderness Area, Little Lake Creek Wilderness Area, Turkey Hill Wilderness Area, and Upland Island Wilderness Area. The activities proposed in this plan will be covered by Spinnaker Exploration Company's regional OSRP (refer to Section F which contains information submitted in accordance with NTL 2002-G08).

Other Environmental Resources Identified

It is expected that the proposed activities in High Island Block 47 will have no other environmental resources identified or impacted.

(C) Impacts on High Island Block 47

It is expected that the activities proposed for High Island Block 47 will have no impacts on site-specific environmental conditions. The conditions of the site have been analyzed in order to make this judgment.

(D) Alternatives

Due to the lack of Environmental Impacts no alternative was considered for the proposed activities in High Island Block 47.

(E) Mitigation measures

With the exception of measures required by regulation no mitigative steps will be taken to avoid, diminish, or eliminate potential impacts to environmental resources.

(F) Consultation

John Chance Land Surveys, Inc. / FUGRO Ecological Scientists were consulted regarding potential for impacts to environmental resources due to the proposed activities.

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