UNITED STATES GOVERNMENT
MEMORANDUM

February 1, 2005

To: Public Information (MS 5034)

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

Subject: Public Information copy of plan

Control #	-	S-06609
Type	-	Supplemental Development Operations Coordinations Document
Lease(s)	-	OCS-G17156 Block - A 5 High Island Area OCS-G25561 Block - 170 High Island Area
Operator	-	LLOG Exploration Offshore, Inc.
Description	-	Wells G and H
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.

Robert Stringfellow
Plan Coordinator

Site Type/Name	Botm Lse/Area/Blk	Surface Location	Surf Lse/Area/Blk
FIXED/G		200 FSL, 200 FEL	G25561/HI/170
WELL/G	G25561/HI/170	200 FNL, 200 FEL	G25561/HI/170
WELL/H	G17156/HI/A 5	200 FNL, 200 FEL	G25561/HI/170

NOTED · SCHEXNAILDRE

ISS FEB 1'05PM 2:15

LLOG
EXPLORATION OFFSHORE, INC.

CONTROL No. S-6609
REVIEWER: Robert Stringfellow
PHONE: (504) 736-2437

MINERALS MANAGEMENT SERVICE
RECEIVED
JAN 31 2005
FIELD OPERATIONS
Plans Section, GOM OCS Region, New Orleans, LA

January 27, 2005

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

Attention: Mr. Nick Wetzel
Plans Unit

RE: Joint Supplemental Development Operations Coordination Document for Leases OCS-G 25561/17156, High Island Blocks 170/A5, OCS Federal Waters, Gulf of Mexico, Offshore, Texas and Louisiana

Gentlemen:

In accordance with the provisions of Title 30 CFR 250.203 and that certain Notice to Lessees (NTL 2003-G17), LLOG Exploration Offshore, Inc. (LLOG) hereby submits for your review and approval a Joint Supplemental Development Operations Coordination Document (Plan) for Leases OCS-G 25561/17156, High Island Blocks 170/A5, Offshore, Texas and Louisiana. Excluded from the Public Information copies are certain geologic and geophysical discussions and attachments.

Enclosed are two Proprietary Information copies (one hard copy and one CD) and four Public Information copies (one hard copy and three CD's) of the Plan.

Contingent upon receiving regulatory approvals and based on equipment and personnel availability, LLOG anticipates operations under this Plan commencing as early as March 10, 2005.

Should additional information be required, please contact the undersigned, or our regulatory consultant, Christine Groth, R.E.M. Solutions, Inc., at 281.492.8562.

Sincerely,

Jack Bonner

Jack Bonner
Asset Manager

Public Information

JB:CAG:mjs
Attachments

433 METAIRIE ROAD, SUITE 600
METAIRIE, LA 70005
PHONE: (504) 833-7700 FAX: (504) 833-8064

LLOG EXPLORATION OFFSHORE, INC.
433 Metairie Road, Suite 600
Metairie, Louisiana 70005

Jack Bonner
jackbo@llog.com

JOINT SUPPLEMENTAL DEVELOPMENT OPERATIONS COORDINATION DOCUMENT

LEASES OCS-G 25561/17156

HIGH ISLAND BLOCKS 170/A5

PREPARED BY:

Christine Groth
R.E.M. Solutions, Inc.
17171 Park Row, Suite 390
Houston, Texas 77084
281.492.8562 (Phone)
281.492.6117 (Fax)
christine@remsolutionsinc.com

DATED:

January 27, 2005

SECTION A
Contents of Plan

A. Description, Objectives and Schedule

Lease OCS-G 25561, High Island Block 170 was acquired by LLOG Exploration Offshore, Inc. at the Western Gulf of Mexico Lease Sale No. 187 held on August 20, 2003. The lease was issued with an effective date of October 1, 2003 and a primary term ending date of September 30, 2008. The subject oil and gas lease is being held by ongoing production operations.

Lease OCS-G 17156, High Island Block A5 was acquired by Vastar Resources, Inc. at the Western Gulf of Mexico Lease Sale No. 161 held on September 25, 1996. The lease was issued with an effective date of November 1, 1996 and a primary term ending date of October 31, 2001. The subject oil and gas lease is being held by ongoing production operations.

Area/Block Lease No.	Operator	Ownership
High Island Block 170 Lease OCS-G 25561	LLOG Exploration Offshore, Inc.	LLOG Exploration Offshore, Inc.
High Island Block A5 Lease OCS-G 17156	Apache Corporation LLOG Exploration Offshore, Inc.	Apache Corporation

LLOG proposes to drill, complete and test two (2) wells from a common surface location in High Island Block 170, install a well protector structure with a lease pipeline to transport production under this proposed Development Operations Coordination Document (Plan). Included as *Attachment A-1* is a geological discussion of the trapping features.

B. Location

Included as *Attachments A-2 through A-5* are Form MMS-137 "OCS Plan Information Form", well location plats, a bathymetry map detailing the proposed well surface location disturbance area, and a typical elevation view of a well protector structure.

C. Drilling Unit

LLOG will utilize a typical jack-up drilling rig for the proposed drilling, completion and testing operations provided for in this Plan, in addition to the installation of a well protector structure. Actual rig specifications will be included with the Applications for Permit to Drill.

Safety of personnel and protection of the environment during the proposed operations is of primary concern with LLOG, and mandates regulatory compliance with the contractors and vendors associated with the proposed operations as follows:

Minerals Management Service regulations contained in Title 30 CFR Part 250, Subparts C, D, E, and O mandate the operations comply with well control, pollution prevention, construction and welding procedures as described in Title 30 CFR Part 250, Subparts C, D, E, and O; and as further clarified by MMS Notices to Lessees.

Minerals Management Service conducts periodic announced and unannounced 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.

U. S. Coast Guard regulations contained in Title 33 CFR mandate the appropriate life rafts, life jackets, ring buoys, etc., be maintained on the facility at all times.

U. S. Environmental Protection Agency regulations contained in the NPDES General Permit GMG290000 mandate that supervisory and certain designated personnel on-board the facility be familiar with the effluent limitations and guidelines for overboard discharges into the receiving waters.

D. Production Facility

The proposed tripod structure to be installed in High Island Block 170 will be designated as Platform D. Following separation and measurement, the combined gas and liquid hydrocarbons from the respective wells will depart via proposed lease term pipeline to Platform A, High Island Block 170.

No new nearshore or onshore pipelines or facilities will be constructed.

Geological Targets and Trapping Features

Attachment A-1
(Proprietary Information)

OCS Plan Information Form

Attachment A-2
(Public Information)

U.S. Department of the Interior
Minerals Management Service

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

OCS PLAN INFORMATION FORM

General Information

Type of OCS Plan		Exploration Plan (EP)	X	Development Operations Coordination Document (DOCD)	
Company Name:	LLOG Exploration Offshore, Inc.		MMS Operation Number:	02058	
Address:	433 Metairie Road, Suite 600		Contact Person:	Christine Groth, R.E.M. Solutions, Inc.	
	Metairie, Louisiana 70005		Phone Number:	(281) 492.8562	
			E-Mail Address:	christine@remsolutionsinc.com	

Lease(s): OCS-G 25561	Area: High Island	Block(s): 170	Project Name (If Applicable): N/A

Objective(s):		Oil	X	Gas		Sulphur		Salt	Onshore Base: Cameron, LA	Distance to Closes Land (Miles): 30

Description of Proposed Activities (Mark all that apply)

	Exploration drilling	X	Development drilling
	Well completion	X	Installation of production platform
X	Well test flaring (for more than 48 hours)	X	Installation of production facilities
	Installation of caisson or platform as well protection structure		Installation of satellite structure
	Installation of subsea wellheads and/or manifolds	X	Commence production
X	Installation of lease term pipelines		Other (Specify and describe)

Have you submitted or do you plan to submit a Conservation Information Document to accompany this plan?		Yes	X	No
Do you propose to use new or unusual technology to conduct your activities?		Yes	X	No
Do you propose any facility that will serve as a host facility for deepwater subsea development?		Yes	X	No
Do you propose any activities that may disturb an MMS-designated high-probability archaeological area?		Yes	X	No
Have all of the surface locations of your proposed activities been previously reviewed and approved by MMS?		Yes	X	No

Tentative Schedule of Proposed Activities

Proposed Activity	Start Date	End Date	No. of Days
Drill, Complete and Test Well Location G	3/10/2005	5/5/2005	57
Install Platform D	05/06/2005	05/10/2005	5
Lay Lease Pipeline	05/11/2005	05/20/2005	10
Hook-up and Commence Production of Well Location G	05/21/2005		
Drill, Complete and Test Well Location H	05/22/2005	07/17/2005	57
Hook-up and Commence Production of Well Location H	07/18/2005		

Description of Drilling Rig

X	Jackup		Drillship		Caisson		Tension Leg Platform
	Gorilla Jackup		Platform rig		Well protector		Compliant tower
	Semi-submersible		Submersible	X	Fixed Platform		Guyed tower
	DP Semi-submersible		Other (Attach description)		Subsea manifold		Floating production system
Drilling Rig Name (if known):					Spar		Other (Attach Description)

Description of Production Platform

Description of Lease Term Pipelines

From (Facility/Area/Block)	To (Facility/Area/Block)	Diameter (Inches)	Length (Feet)
Platform D / HI 170	Platform A / HI 170	6"	14,000'

OCS PLAN INFORMATION FORM (CONTINUED)

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

Proposed Well/Structure Location			
Well or Structure Name/Number (If renaming well or structure, reference previous name): **Well Location G**		Subsea Completion	
Anchor Radius (if applicable) in feet: **1250' (Derrick Barge)**		Yes	X No

	Surface Location	Bottom-Hole Location (For Wells)
Lease No.	OCS-G 25561	OCS-G 25561
Area Name	High Island	High Island
Block No.	170	170
Blockline Departures (in feet)	N/S Departure 200' FSL	N/S Departure
	E/W Departure 200' FEL	E/W Departure
Lambert X-Y coordinates	X: 3,586,475.81	X:
	Y: 515,000	Y:
Latitude / Longitude	Latitude 29°09'25.183"	Latitude
	Longitude 94°01'39.821"	Longitude
	TVD (Feet):	MD (Feet): Water Depth (Feet): 58'

Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)

Anchor Name or No.	Area	Block	X Coordinate	Y Coordinate	Length of Anchor Chain on Seafloor
			X=	Y=	
			X=	Y=	
			X=	Y=	
			X=	Y=	
			X=	Y=	
			X=	Y=	
			X=	Y=	
			X=	Y=	

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

OCS PLAN INFORMATION FORM (CONTINUED)

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

Proposed Well/Structure Location

Well or Structure Name/Number (If renaming well or structure, reference previous name): **Well Location H**	Subsea Completion			
Anchor Radius (if applicable) in feet: **1250' (Derrick Barge)**		Yes	X	No

	Surface Location	Bottom-Hole Location (For Wells)
Lease No.	OCS-G 25561	OCS-G 17156
Area Name	High Island	High Island
Block No.	170	A5
Blockline Departures (in feet)	N/S Departure 200' FSL	N/S Departure
	E/W Departure 200' FEL	E/W Departure
Lambert X-Y coordinates	X: 3,586,475.81	X:
	Y: 515,000	Y:
Latitude/ Longitude	Latitude 29°09'25.183"	Latitude
	Longitude 94°01'39.821"	Longitude

TVD (Feet):	MD (Feet):	Water Depth (Feet): 58'

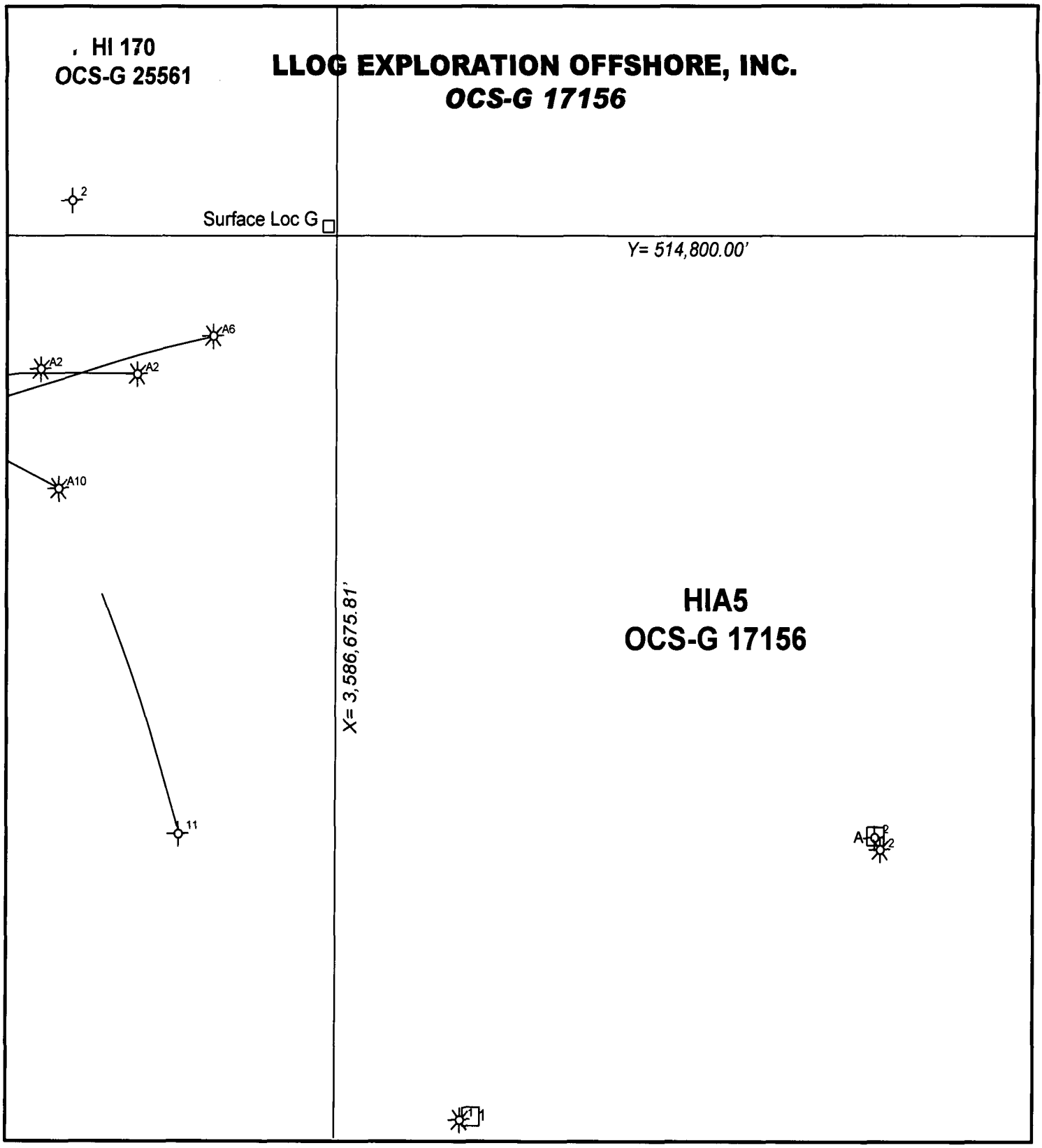
Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)

Anchor Name or No.	Area	Block	X Coordinate	Y Coordinate	Length of Anchor Chain on Seafloor
			X=	Y=	
			X=	Y=	
			X=	Y=	
			X=	Y=	
			X=	Y=	
			X=	Y=	
			X=	Y=	
			X=	Y=	

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

Well Location Plat

Attachment A-3
(Public Information)



SURFACE LOCATION G:
X: 3,586,475.81 Y: 515,000
Long: 94deg, 1min, 39.821sec
Lat: 29deg, 9min, 25.183sec
(NAD27)

SURFACE LOCATION H:
X: 3,586,475.81 Y: 515,000
Long: 94deg, 1min, 39.821sec
Lat: 29deg, 9min, 25.183sec
(NAD27)

LLOG EXPL OFFSHORE

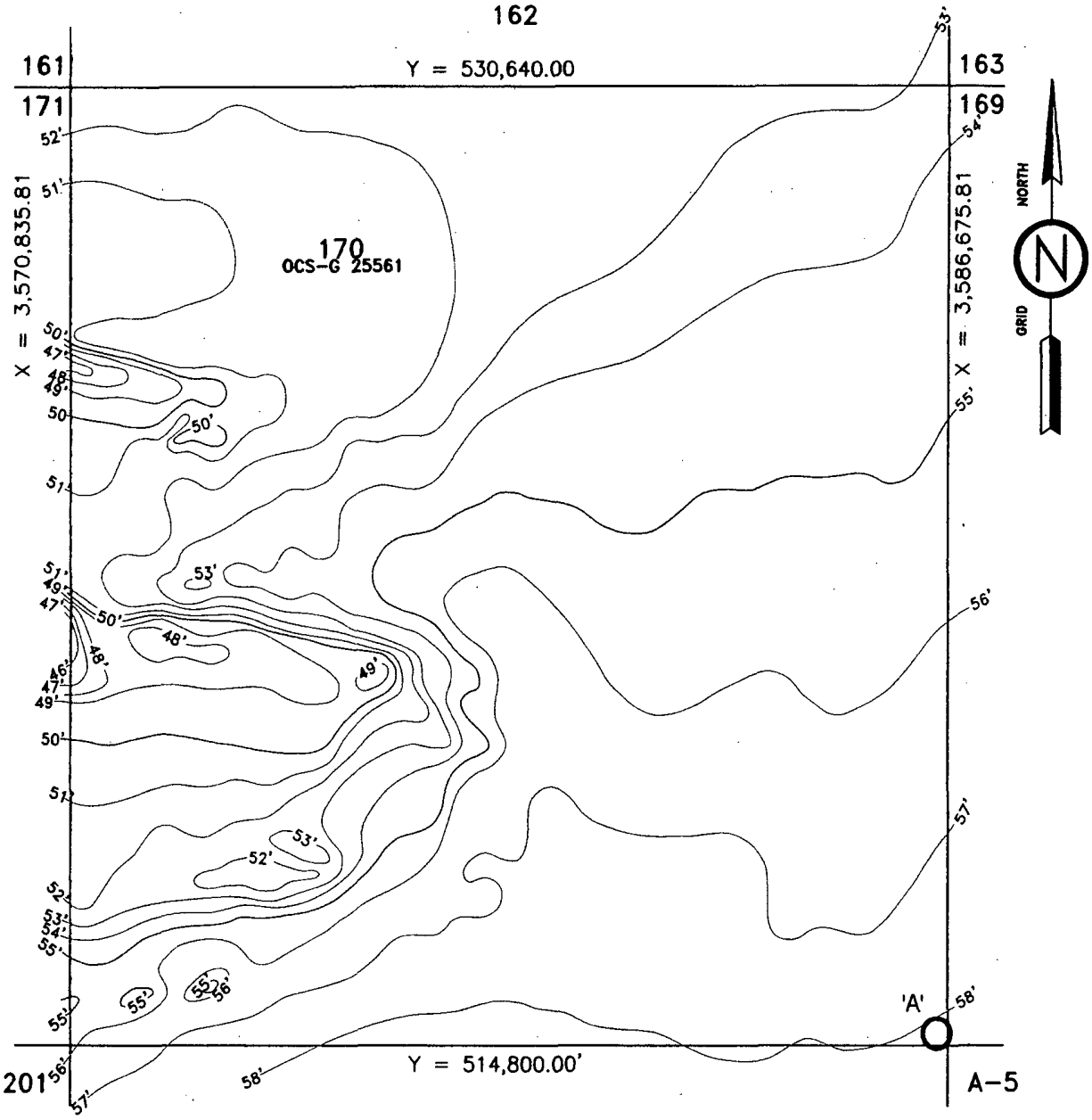
HIGH ISLAND BLOCK A5
Gulf of Mexico

LOCATION MAP

Scale: 1" = 2,000' **1/05**

Bathymetry Map

Attachment A-4
(Public Information)



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1,500 0 1,500 3,000
SCALE IN FEET

SURVEY PERFORMED BY THALES GEOSOLUTIONS IN AUGUST, 2003

OCS-G 17156 WELL 'A'
WITH (SL) IN BLOCK 170
200' FSL
200' FEL
X = 3,586,475.81
Y = 515,000.00
LAT. = 29° 09' 25.184"N
LONG. = 94° 01' 39.822"W

DATUM:	NAD 27
SPHEROID:	CLARKE 1866
PROJECTION:	LAMBERT
ZONE:	TEXAS SOUTH CENTRAL

GEOPHYSICAL SURVEY

BATHYMETRY MAP

BLOCK 170
HIGH ISLAND AREA

GULF OF MEXICO

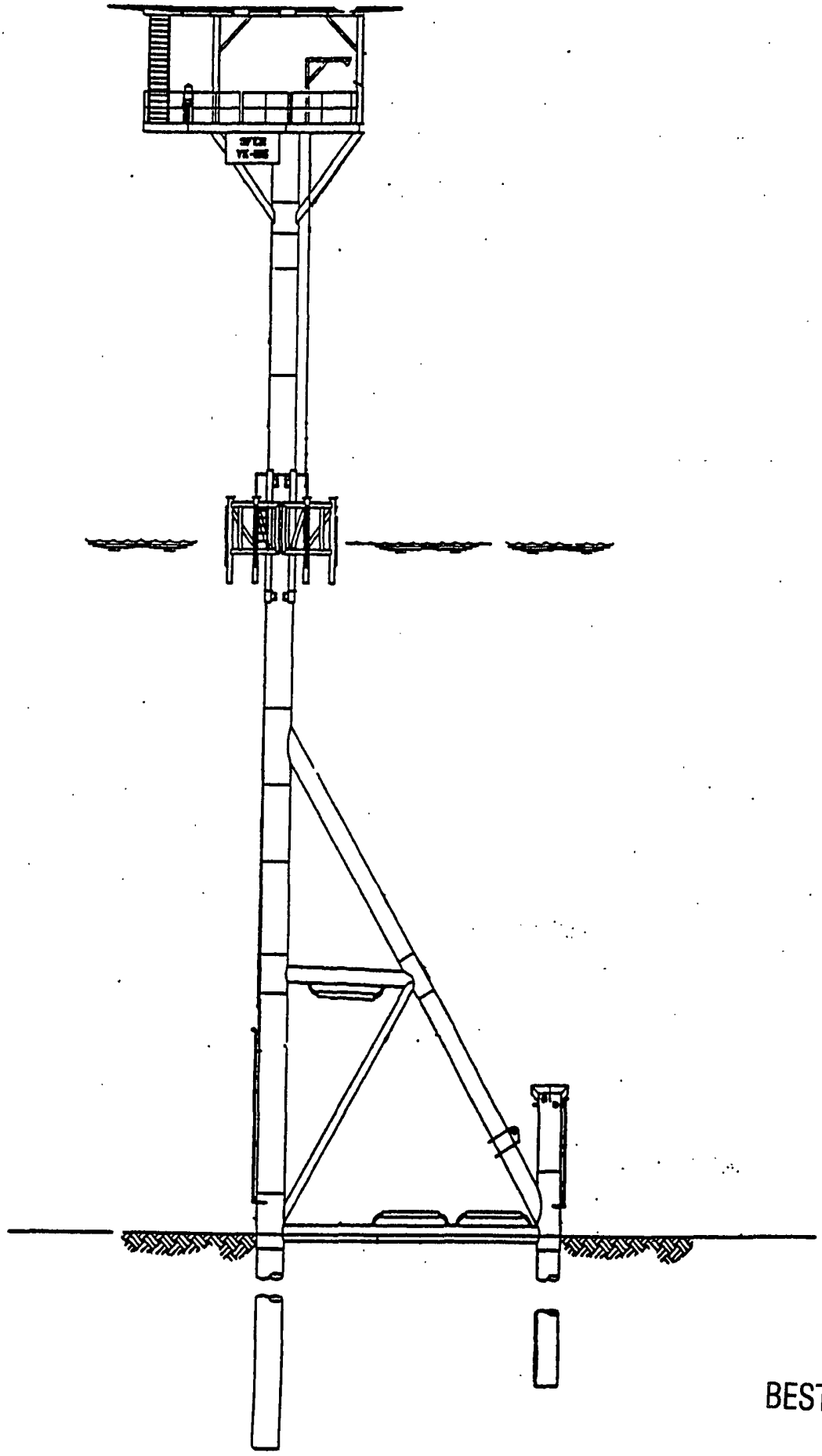
LLOG
EXPLORATION COMPANY

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

PREP.	INT.	CAD MVT	APP.	FILE NO. 05-005smbat
CHK.	CHK.	CHK.	DATE 01/18/2005	

Structure Elevation Drawing

Attachment A-5
(Public Information)



SCALE -- 1"=20'-0"

SECTION B
General Information

A. Contact

Questions or requests for additional information should be made to LLOG's authorized representative for this project:

Christine Groth
R.E.M. Solutions, Inc.
17171 Park Row, Suite 390
Houston, Texas 77084
281.492.8562 (Phone)
281.492.6117 (Fax)
christine@remsolutionsinc.com

B. Project Name

LLOG does not typically provide project names to their development activity.

C. Production Rates and Life of Reserves

LLOG estimates the life of reserves for the proposed development activity to be years, with the following estimated combined production rates:

Product	*Average Rates*	*Peak Rates*
Gas		
Condensate		

D. New or Unusual Technology

LLOG does not propose using any new and/or unusual technology for the operations proposed in this plan.

E. Bonding Information

In accordance with Title 30 CFR Part 256, Subpart I, LLOG Exploration Offshore, Inc. has on file with the Minerals Management Service Gulf of Mexico Regional Office a $3,000,000 Areawide Development Bond.

As deemed warranted, Minerals Management Service will contact the designated operator in the event a supplemental bond is required for the proposed operations, as outlined in Notice to Lessees (NTL) 2003-N06 to cover plugging liability of the wellbores, removal of associated well protector structures and site clearance.

LLOG is on the exempt list with the Minerals Management Service for supplemental bonding.

SECTION B
General Information - Continued

F. Onshore Base and Support Vessels

The surface disturbance in High Island Block 170 is located approximately 30 miles from the nearest Texas shoreline, and approximately 58 miles from the onshore support base to be located in Cameron, Louisiana.

LLOG will use an existing onshore base to accomplish the following routine operations, and does not anticipate the need for any expansion of the selected facilities as a result of the activities proposed in this Plan:

- Loading/Offloading point for equipment supporting the offshore operations,
- Dispatching personnel and equipment,
- Temporary storage for materials and equipment,
- 24-Hour Dispatcher

Personnel involved in the proposed operations will typically use their own vehicles as transportation to and from the selected onshore base; whereas the selected vendors will transport the equipment by a combination of trucks, boats and/or helicopters to the onshore base. The personnel and equipment will then be transported to the field via the transportation methods and frequencies shown below, taking the most direct route feasible as mandated by weather and traffic conditions:

Support Vessel	Drilling/Completion Trips Per Week	Production Trips Per Week
Crew Boat	3	1
Supply Boat	3	1
Helicopter	2	2

A Vicinity Plat showing the location of High Island Block 170 relative to the shoreline and onshore base is included as *Attachment B-1.*

G. Lease Stipulations

Under the Outer Continental Shelf Lands Act, the Minerals Management Service is charged with the responsibility of managing and regulating the exploration and development on the OCS.

As part of the regulatory process, an Environmental Impact Statement (EIS) is prepared for each lease sale, at which time mitigation measures are addressed in the form of lease stipulations, which then become part of the oil and gas lease terms and are therefore enforceable as part of that lease.

SECTION B
General Information - Continued

As part of this process, the designated operator proposing to conduct related exploratory and development activities, must review the applicable lease stipulations, as well as other special conditions, which may be imposed by the Minerals Management Service, and other governing agencies.

Lease OCS-G 25561, High Island Block 170 is subject to the following stipulations and conditions:

Protected Species

Lease Stipulation No. 6 is to reference measures to minimize or avoid potential adverse impacts to protected species (sea turtles, marine mammals, gulf sturgeon, and other federally protected species). MMS has issued Notice to Lessees NTL 2004-G01 "Implementation of Seismic Mitigation Measures and Protected Species Observer Program", NTL 2003-G10 "Vessel Strike Avoidance and Injured/Dead Protected Species Reporting" and NTL 2003-G11 "Marine Trash and Debris Awareness and Elimination".

Special Conditions

The proposed surface disturbance activity in High Island Block 170 will not be affected by any special conditions and/or multiple uses, such as designated shipping/anchorage areas, lightering zones, rigs-to-reef zone, or ordnance disposal zones.

H. Related OCS Facilities and Operations

As addressed earlier in this Plan, LLOG is proposing installation of a tripod type well protector structure will be installed over the proposed wells and will be designated as Platform D. An approximate 6-inch lease pipeline will be installed to transport production from Platform D to Platform A.

The anticipated flow rates and shut-in times for the proposed pipeline are as follows:

Origination Point	*Flow Rates*	*Shut In Time*
Platform D		

I. Transportation Information

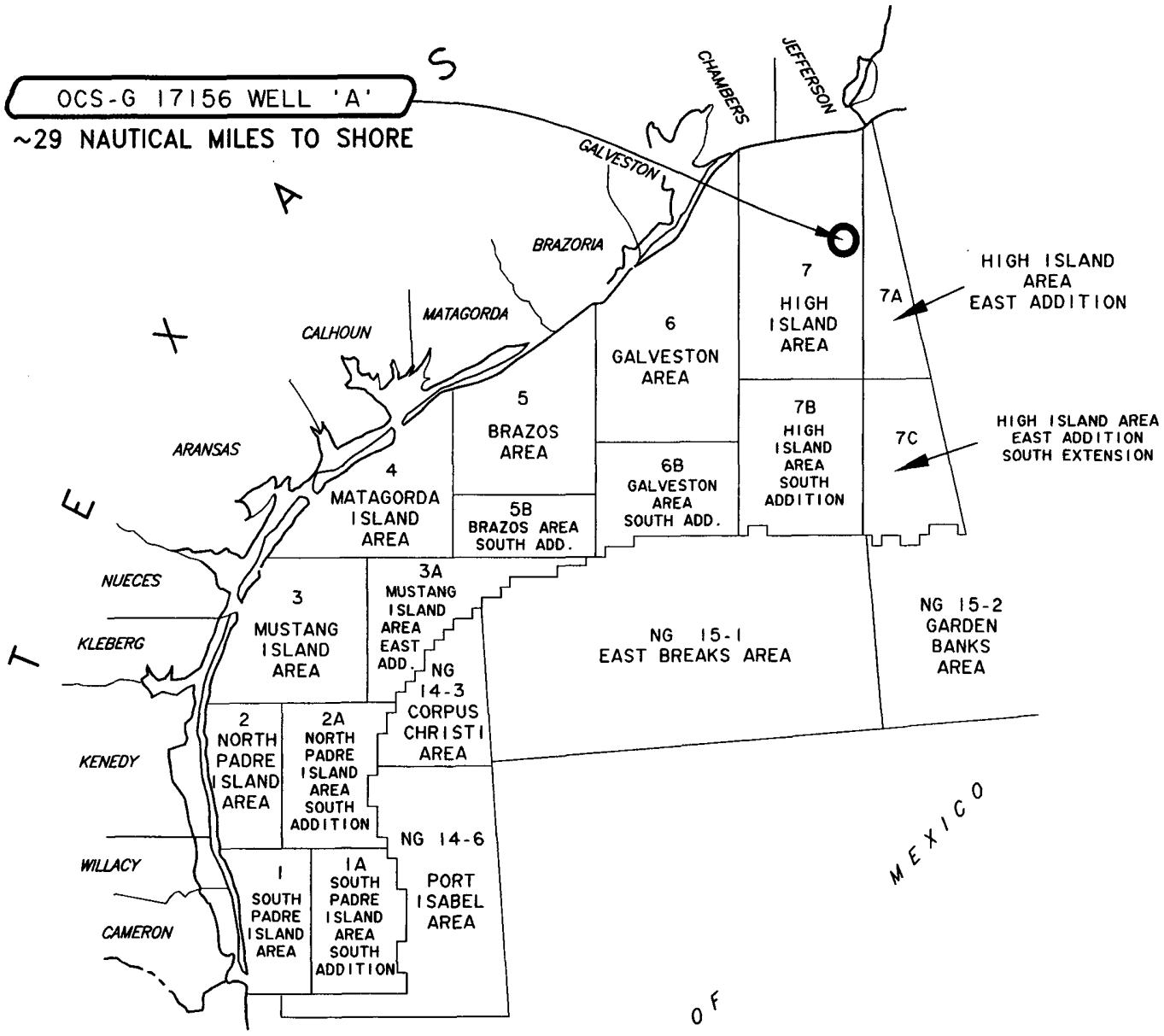
Produced hydrocarbons from the respective structure addressed above will be further transported via Williams' pipeline (Segment No. 12579)

LLOG does not anticipate installation of any new and/or modified onshore facilities to accommodate the production of High Island Block 170.

Vicinity Plat

Attachment B-1
(Public Information)

TEXAS GULF COAST INDEX
M.M.S. O.C.S. LEASING AREAS



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VICINITY MAP

SHEET 1 OF 3

DATUM: NAD 27	**LLOG EXPLORATION OFFSHORE, INC.**	**LLOG** EXPLORATION
SPHEROID: CLARKE 1866		
PROJECTION: LAMBERT		
ZONE: TEXAS SOUTH CENTRAL		

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

PROPOSED WELL LOCATION

OCS-G 17156 WELL 'A'
BLOCK A-5, SURFACE LOCATION IN BLOCK 170
HIGH ISLAND AREA

GULF OF MEXICO

DRAWN BY:	DATE:	CHECKED BY:	DRAWING No.:
M. TRIPP	01/06/2005		05-005-A R1
REV. DATE:	**REV. No.:**	**SCALE:**	**JOB No.:**
01/18/2005	1	NOT TO SCALE	05-005

SECTION C
Geological, Geophysical & H2S Information

A. Structure Contour Maps

Included as *Attachment C-1* is a current structure map (depth base and expressed in feet subsea) depicting the entire lease coverage area; drawn on the top of each prospective hydrocarbon sand. The maps depict bottom hole locations for each respective well provided for in this Plan.

B. Interpreted Deep Seismic Lines

Included as *Attachment C-2* is a page size copy of the migrated and annotated (shot point, time lines, well paths) of the deep seismic line within 500 feet of the surface location.

C. Geological Structure Cross Sections

An interpreted geological cross section depicting the proposed well locations and depth of the proposed wells is included as *Attachment C-3*. Such cross section corresponds to each seismic line being submitted.

D. Shallow Hazards Report

Thales GeoSolutions, Inc. conducted a high resolution geophysical survey in High Island Block 170 during August 2003 on behalf of LLOG Exploration Offshore, Inc. The purpose of the survey was to evaluate geologic conditions and inspect for potential hazards or constraints to lease development.

Copies of these reports have been previously submitted to the Minerals Management Service under separate cover.

E. Shallow Hazards Assessment

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-4.*

F. High Resolution Seismic Lines

Included as *Attachment C-5* (original copy only) is copies of the annotated high resolution survey data lines for each surface location disturbance proposed in this Plan.

G. Stratigraphic Column

A generalized biostratigraphic/lithostratigraphic column from the seafloor to the total depth of the proposed wells is included as *Attachment C-6.*

SECTION C
Geological, Geophysical & H2S Information-Continued

H. Hydrogen Sulfide Classification

In accordance with Title 30 CFR 250.490, LLOG requests that High Island Blocks 170/A5 be classified by the Minerals Management Service as an area where the absence of hydrogen sulfide has been confirmed based on the following wells which were drilled to the stratigraphic equivalent of the wells proposed in this Plan:

Lease	*Area/Block*	*Well No.*	*Stratigraphic Equivalent*
G 17156	HI A5	001	

Structure Maps

Attachment C-1
(Proprietary Information)

Deep Seismic Lines

Attachment C-2
(Proprietary Information)

Cross Section Maps

Attachment C-3
(Proprietary Information)

Shallow Hazards Assessment

Attachment C-4
(Public Information)

Tesla Offshore, LLC
36499 Perkins Road
Prairieville, Louisiana 70769
Telephone: (225) 673-2163
Fax: (225) 744-3116

January 7, 2005

Minerals Management Service (MS 5230)
Gulf of Mexico OCS Region
1201 Elmwood Park Blvd.
New Orleans, LA 70123-2394

RE: LLOG Exploration Offshore, Inc.
Proposed OCS-G 17156 'A' Well
Surface Location in Block 170 *(BHL in Block A-5)*
High Island Area, Offshore Texas
Shallow Hazard and Archaeological Analysis

Dear Staff:

LLOG Exploration Offshore, Inc. proposes to drill the OCS-G 17156 'A' well with a bottom hole in Block A-5 from the adjacent (NW) block at the following surface location:

- ***200' FSL & 200' FEL of Block 170, High Island Area***

Block 170 was surveyed completely in August of 2003 along a 150-meter primary grid spacing with 900-meter tie lines. LLOG Exploration Offshore, Inc. operates both the lease blocks involved and selected Tesla Offshore, LLC to prepare this shallow hazard analysis of the proposed drill site to comply with **NTL No. 98-20** from the Minerals Management Service. Geophysical record copies are enclosed for the magnetometer, side scan sonar, subbottom profiler, echo sounder, and seismic sections from the survey line nearest the proposed well site as required by the MMS in **NTL No. 2003-G17**.

- ***Water depth*** is 58 feet surrounding the proposed drill site.
- ***Seafloor soils*** are silty sands at the proposed drilling site (MMS database).

- **Identified Man-Made features** in Block 170 include P&A #2 well approximately 4,000 feet west of the planned drill site, and the P&A #1 well is 7,700 feet west of the proposed drill site. An Apache 6" pipeline (Segment 11855) crosses NE/SW through Block A-5 approximately 1,725 feet SE of the proposed drill site in Block 170. The Block 170 'B' Platform is 11,700 feet north of the planned drill site. A proposed 4" pipeline (Segment 14820) will extend from the 'B' Platform into the 'A' Platform. Well No. 6 exists 11,875 feet NW of the proposed drilling sites. The 'A' Platform, No. 5 Well (future 'C' Platform) and proposed 12" LLOG pipeline (Segment 14598) are all more than two nautical miles NNW of the proposed well site.

- ***Magnetic Anomalies*** nearest the proposed well site included #13 approximately 1,300 feet WNW of the proposed drill site. The 23-nT/150-foot magnetic anomaly will be avoided by the recommended 75 feet and will not hinder rig moves or drilling at the proposed location. The seafloor was clear of sonar targets, protruding obstructions, and shipwrecks near the planned well site.

- ***Subbottom Data*** showed an infilled channel approximately 225 feet NE of the proposed drill location. Less than 10 feet of Holocene sands and silt cover the channel bank and overconsolidated, dense Pleistocene Beaumont/Prairie clay. Seismic data highlighted velocity pull-downs caused by the adjacent channel fill with decomposing organic matter generating dispersed methane and carbon dioxide. Archaeological resources will not be disturbed by the proposed rig position outside the channel margin. The deeper strata exhibited a high impedance return along an unconformity at 250 feet below the seafloor, and increased pressures will be anticipated when driving surface casing through this interval. Analog seismic sections did not resolve any deeper amplitude anomalies indicated of over-pressured gas/fluids or fault planes. Proprietary 3-D processed data have been used to resolve deeper bright spots and deeper faults along the proposed wellbore.

The operator has identified the primary hazards to rig moves and drilling. No shipwrecks or prehistoric archaeological features were detected near the proposed well site. There are no known wrecks in HI 170; however, two wrecks with low reliability ratings are reported located nearby in the southeastern corner of HI 171, which is three miles from this well site. The only named vessel in the SE corner of Block 171 is the **Mr. B.**, an oil screw fishing vessel that foundered on 11/09/1966, reliability 3 (fair to poor).

The proposed surface well location, existing pipelines, wells, and designated magnetic anomalies will be marked with appropriate marine survey equipment to comply with the **MMS On-Site Requirements specified in NTL No. 98-20, Section IV, Item B.** In lieu of using buoys as stipulated in Item B-1, the operator requests MMS approval to mark potential hazards with best available technology using computer graphic screens that are integrated to DGPS positioning units aboard the rig, support boats, and anchor handling vessels if needed.

In further compliance with **Item B-2**, a map at a scale of 1:12,000 will be provided to key personnel on the rig and tugs. The field map will depict the location of the proposed well location, existing pipelines, wells, and designated magnetic anomalies referenced above.

LLOG Exploration Offshore, Inc. and subcontractors will apply the safest and best available technologies during rig moves and drilling operations.

Yours truly,

Robert J Floyd

Robert J. Floyd Ph.D.
Chief Geoscientist
Marine Archaeologist

Shallow Hazards Lines

Attachment C-5
(Proprietary Information)

Stratigraphic Column

Attachment C-6
(Proprietary Information)

SECTION D
Biological and Physical Information

A. Chemosynthetic Information

The proposed seafloor disturbing activities are in water depths less than 400 meters (1312 feet); therefore, this section of the Plan is not applicable.

B. Topographic Features Information

MMS and the National Marine Fisheries Service (NMFS) 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 disturbing activities 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.

C. Live Bottom (Pinnacle Trend) Information

Certain leases are located in areas characterized by the existence of live bottoms. Live bottom areas are defined as seagrass communities; those areas that contain biological assemblages consisting of sessile invertebrates living upon and attached to naturally occurring hard or rocky formations with rough, broken, or smooth topography; and areas where the lithotope favors the accumulation of turtles, fishes, or other fauna. These leases contain a Live Bottom Stipulation to ensure that impacts from nearby oil and gas activities on these live bottom areas are mitigated to the greatest extent possible.

For each affected lease, the Live Bottom Stipulation requires that you prepare a live bottom survey report containing a bathymetry map prepared by using remote sensing techniques. This report must be submitted to the Gulf of Mexico OCS Region (GOMR) before you may conduct any drilling activities or install any structure, including lease term pipelines in accordance with NTL 99-G16.

High Island Block 170 is not located within the vicinity of a proposed live bottom area.

D. Remotely Operated Vehicle (ROV Surveys)

Pursuant to NTL No. 2003-G03, operators may be required to conduct remote operated vehicle (ROV) surveys during pre-spudding and post-drilling operations for the purpose of biological and physical observations.

High Island Block 170 is not located within an area where ROV Surveys are required.

SECTION D
Biological and Physical Information-Continued

E. Archaeological Reports

In conjunction with this geophysical survey, an archaeological survey and report was also prepared to comply with the requirements of NTL 2002-G01, as High Island Block 170 is located within a high probability pre-historic area for potential archaeological resources.

This requirement provides protection of prehistoric and historic archaeological resources by requiring remote sensing surveys in areas designated to have a high probability for archaeological resources.

Copies of these reports have been previously submitted to the Minerals Management Service under separate cover.

SECTION E
Wastes and Discharge/Disposal 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.

A National Pollutant Discharge Elimination System (NPDES) permit, based on effluent limitation guidelines, is required for any discharges into offshore waters. LLOG has requested coverage under the Region VI NPDES General Permit GMG290000 for discharges associated with exploration and development activities in High Island Block 170 and will take applicable steps to ensure all offshore discharges associated with the proposed operations will be conducted in accordance with the permit.

SECTION E
Wastes and Discharge/Disposal Information-Continued

A. Composition of Solid and Liquid Wastes

Associated solid and liquid wastes generated during the proposed activities addressed in this Plan are well treatment/completion/workover fluids, with associated wastes such as chemicals, cement wastes, sanitary and domestic waste, trash and debris, ballast water, storage displacement water, deck drainage, hydraulic fluids, used oil, oily water and filters, and other miscellaneous minor discharges.

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.

B. Overboard Discharges

The wastes detailed in *Attachment E-1* are those wastes generated by our proposed activities and released into the receiving waters of the Gulf of Mexico at the associated well location.

C. 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.

LLOG will manifest these wastes prior to being offloaded from the MODU, and transported to shore for disposal at approved sites regulated by the applicable State. Additionally, LLOG will comply with any approvals or reporting and recordkeeping requirements imposed by the State where ultimate disposal will occur.

Waste & Discharge Tables

Attachment E-1
(Public Information)

LLOG Exploration Offshore, Inc.
High Island Block 170
Examples of Wastes and Discharges Information

Table 1. Discharges Table (Wastes to be discharged 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
Water-based drilling fluids	7,800 bbl/well	200 bbl/hr	High Island Block 170 Overboard
Drill cuttings associated with water-based fluids	2,000 bbl/well	1,000 bbl/hr	High Island Block 170 Overboard
Muds, cuttings and cement at the seafloor	Gel – 5,000 bbl WBM – 8,000 bbl Cuttings – 20,000 bbl Seawater and caustic – 4,800 bbl	Not applicable	High Island Block 170 Overboard
Sanitary wastes	20 gal/person/day	Not applicable	High Island Block 170 Chlorinate and discharge
Domestic wastes	30 gal/person/day	Not applicable	High Island Block 170 Remove floating solids and discharge
Deck Drainage	0-4,000 bbl/day Dependant upon rainfall	15 bbl per hour (maximum separator discharge)	High Island Block 170 Treat for oil and grease and discharge
Well treatment, workover or completion fluids	Workover – 300 bbl/well Treatment – 250 bbl/well Completion – 300 bbl/well	200 bbl/well/every 4 years	High Island Block 170 Discharge used fluids overboard, return excess to shore for credit.
Uncontaminated fresh or seawater	37,000 bbl (drilling)	Not applicable	High Island Block 170 Discharged overboard.
Desalinization Unit water	700 bbl/day	Not applicable	High Island Block 170 Discharged overboard.
Uncontaminated bilge water	2,000 bbl	260 m^3/hr	High Island Block 170 Discharged overboard.
Uncontaminated ballast water	20,000 bbl	2,600 m^3/hr	High Island Block 170 Discharged overboard.
Misc. discharges to which treatment chemicals have been added	100 bbl/day	10 bbl/hr	High Island Block 170 Discharged overboard.
Miscellaneous discharges (permitted under NPDES) (Excess cement with cementing chemicals)	100 bbl	Not applicable	High Island Block 170 Discharged at seafloor without treatment

LLOG Exploration Offshore, Inc.
High Island Block 170
Examples of Wastes and Discharges Information

Table 2. Disposal Table (Wastes to be disposed of, not discharged)

Type of Waste Approximate Composition	Amount*	Rate per day	Name/Location of Disposal Facility	Treatment and/or Storage, Transport and Disposal Method
Spent oil-based drilling fluids and cuttings	1,000 bbl/well	200 bbl/day	Newpark Environmental Cameron, LA	Transport to shore in barge tanks to a land farm
Spent synthetic-based drilling fluids and cuttings	1,000 bbl/well	200 bbl/day	Newpark Environmental Cameron, LA	Transport to shore base in cuttings boxes on crew boat then inject down hole at offshore waste disposal facility
Oil-contaminated produced sand	200 lb/yr	0.6 bbl/day	Newpark Environmental Cameron, LA	Store in a cuttings box and transport to a land farm
Waste Oil	200 bbl/yr	0.5 bbl/yr	Newpark Environmental Cameron, LA	Pack in drums and transported to an onshore Incineration site
Produced Water	250,000 bbl/yr	1,000 bbl/day	High Island Block 170	Transport by vessel and inject at High Island Block 170
Produced Water	250,000 bbl/yr	1,000 bbl/day	High Island Block 170	Pipe to a well on-lease, inject down hole
Norm – contaminated wastes	1 ton	Not applicable	Newpark Environmental Cameron, LA	Transport to a transfer station via dedicated barge
Trash and debris	1,000 ft^3	3 ft^3/day	Newpark Environmental Cameron, LA	Transport in storage bins on crew boat to disposal facility
Chemical product wastes	50 bbl/yr	2 bbl/day	Newpark Environmental Cameron, LA	Transport in containers to shore location
Chemical product wastes	100 bbl	2 bbl/day	Newpark Environmental Cameron, LA	Transport in barrels on crew boat to shore location

*can be expressed as a volume, weight, or rate

SECTION F
Oil Spill Response and Chemical Information

A. Regional Oil Spill Response Plan (OSRP) Information

LLOG Exploration Offshore, Inc. (LLOG) submitted a modification to their Regional Oil Spill Response Plan (OSRP) on June 30, 2004. Activities proposed in this Joint Supplemental Development Operations Coordination Document will be covered by the Regional OSRP.

B. Oil Spill Removal Organizations (OSRO)

LLOG utilizes Clean Gulf Associates (CGA) as its primary provider for equipment, which is an industry cooperative owning an inventory of oil spill clean-up equipment. CGA is supported by the Marine Spill Response Corporation's (MSRC), which is responsible for storing, inspecting, maintaining and dispatching CGA's equipment. The MSRC STARS network provides for the closest available personnel, as well as an MSRC supervisor to operate the equipment.

C. Worst-Case Scenario Comparison (WCD)

Category	*Current Regional OSRP WCD*	*Proposed Development WCD*
Type of Activity	Production	Production
Facility Surface Location	Vermilion Block 272	High Island Block 170
Facility Description	Platform	Platform D
Distance to Nearest Shoreline (Miles)	73	30
Volume: Storage Tanks (total) Facility Piping (total) Lease Term Pipeline Uncontrolled Blowout (day) **Potential 24 Hour Volume (Bbls.)**	 *13,356*	 0 25 50 750 *825*
Type of Liquid Hydrocarbon	Condensate	Condensate
API Gravity	50°	50°

SECTION F
Oil Spill Response and Chemical Information-Continued

Since LLOG has the capability to respond to the worst-case discharge (WCD) spill scenario included in its Regional OSRP submitted on June 4, 2004, 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 LLOG has the capability to respond, to the maximum extent practicable, to a worst-case discharge, or a substantial threat of such a discharge, resulting from the activities proposed in our DOCD.

D. Facility Tanks, Production Vessels

The following table details the *tanks* (capacity greater than 25 bbls. or more) to be used to support the proposed activities (MODU and barges):

Type of Storage Tank	Type of Facility	Tank Capacity (bbls)	Number of Tanks	Total Capacity (bbls)	Fluid Gravity (API)
Fuel Oil	MODU	250	2	500	38° (Diesel)

E. Spill Response Sites

According to NTL 2003-G17, this section of the Plan is not applicable to the proposed operations.

F. Diesel Oil Supply Vessels

According to NTL 2003-G17, this section of the Plan is not applicable to the proposed operations.

G. Support Vessel Fuel Tanks

According to NTL 2003-G17, this section of the Plan is not applicable to the proposed operations.

H. Produced Liquid Hydrocarbon Transportation Vessels

LLOG proposes to transport produced liquid hydrocarbons via a lease term pipeline.

I. Oil and Synthetic-Based Drilling Fluids

According to NTL G2003-G17, this section of the Plan is not applicable to the proposed operations.

J. Oil Characteristics

According to NTL 2003-G17, this section of the Plan is not applicable to the proposed operations.

SECTION F
Oil Spill Response and Chemical Information (Continued)

K. Blowout Scenario

According to NTL 2003-G17, this section of the Plan is not applicable to the proposed operations.

L. Spill Discussion for NEPA Analysis

According to NTL 2003-G17, this section of the Plan is not applicable to the proposed operations.

M. Pollution Prevention Measures

According to NTL 2003-G17, this section of the Plan is not applicable to the proposed operations.

N. FGBNMS Monitoring Plans

According to NTL 2003-G17, this section of the Plan is not applicable to the proposed operations.

SECTION G
Air Emissions Information

The primary air pollutants associated with OCS development activities are:

- Carbon Monoxide
- Particulate Matter
- Sulphur Oxides
- Nitrogen Oxides
- Volatile Organic Compounds

These offshore air emissions result mainly from the drilling rig operations, helicopters, and support 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.

A. Calculating Emissions

Included as *Attachment G-1* is the Projected Air Quality Emissions Report (Form MMS-138) addressing the drilling, completion and testing operations, installation of a permanent structure, laying of a lease pipeline, and commencement of production with related support vessels and construction barge information.

B. Screening Questions

As evidenced by *Attachment G-1*, the proposed operations were completed based on the proposed flaring and burning operations.

C. Emission Reduction Measures

The projected air emissions are within the exemption level; therefore, no emission reduction measures are being proposed.

D. Verification of Non-Default Emissions Factors

LLOG has elected to use the default emission factors as provided in *Attachment G-1.*

E. Non-Exempt Activities

The proposed activities are within the exemption amount as provided in *Attachment G-1.*

SECTION G
Air Emissions Information-Continued

F. Review of Activities with Emissions Below the Exemption Level

The proposed activities are below the exemption amount and should not affect the air quality of an onshore area, as provided in *Attachment G-1.*

G. Modeling Report

The proposed activities are below the exemption amount and should not affect the air quality of an onshore area.

Air Quality Emissions Report

Attachment G-1
(Public Information)

DOCD AIR QUALITY SCREENING CHECKLIST

OMB Control No. 1010-0049
OMB Approval Expires: September 30, 2003

COMPANY	LLOG Exploration Offshore, Inc.
AREA	High Island
BLOCK	170
LEASE	OCS-G 25561
PLATFORM	D
WELL	G and H
COMPANY CONTACT	Christine Groth, R.E.M. Solutions, Inc.
TELEPHONE NO.	281.492.8562
REMARKS	Drill, complete and test two wells, install platform and commence production via lease pipeline.

LEASE TERM PIPELINE CONSTRUCTION INFORMATION:

YEAR	NUMBER OF PIPELINES	TOTAL NUMBER OF CONSTRUCTION DAYS
1999		
2000		
2001		
2002		
2003		
2004		
2005	1	10
2006		
2007		
2008		
2009		

Screening Questions for DOCD's	Yes	No
Is any calculated Complex Total (CT) Emission amount (in tons associated with your proposed exploration activities more than 90% of the amounts calculated using the following formulas: CT = $3400D^{2/3}$ for CO, and CT = 33.3D for the other air pollutants (where D = distance to shore in miles)?		X
Does your emission calculations include any emission reduction measures or modified emission factors?		X
Does or will the facility complex associated with your proposed development and production activities process production from eight or more wells?		X
Do you expect to encounter H_2S at concentrations greater than 20 parts per million (ppm)?		X
Do you propose to flare or vent natural gas in excess of the criteria set forth under 250.1105(a)(2) and (3)?	X	
Do you propose to burn produced hydrocarbon liquids?	X	
Are your proposed development and production activities located within 25 miles from shore?		X
Are your proposed development and production activities located within 200 kilometers of the Breton Wilderness Area?		X

Air Pollutant		Plan Emission Amounts[1] (tons)	Calculated Exemption Amounts[2] (tons)		Calculated Complex Total Emission Amounts[3] (tons)
Carbon monoxide (CO)		118.38	32826.64		NA
Particulate matter (PM)		14.77	999		NA
Sulphur dioxide (SO_2)		63.59	999		NA
Nitrogen oxides (NOx)		471.03	999		NA
Volatile organic compounds (VOC)		15.84	999		NA

[1] For activities proposed in your EP or DOCD, list the projected emissions calculated from the worksheets.
[2] List the exemption amounts in your proposed activities calculated using the formulas in 30 CFR 250.303(d).
[3] List the complex total emissions associated with your proposed activities calculated from the worksheets.

AIR EMISSION CALCULATIONS - FIRST YEAR

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL		CONTACT			PHONE	REMARKS					
LLOG Exploration Offsho	High Island	170	OCS-G 25561	D	G and H			Christine Groth, R.E.M. Solution		281.492.8562	#REF!					
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	11400	550.62	13214.88	24	114	8.04	36.86	276.21	8.29	60.26	10.99	50.43	377.86	11.34	82.44
	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	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	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
	AUXILIARY EQUIP<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
	VESSELS>600hp diesel(crew)	2065	99.7395	2393.75	8	49	1.46	6.68	50.03	1.50	10.92	0.29	1.31	9.81	0.29	2.14
	VESSELS>600hp diesel(supply)	2064	99.6912	2392.59	10	49	1.45	6.67	50.01	1.50	10.91	0.36	1.64	12.25	0.37	2.67
	VESSELS>600hp diesel(tugs)	4200	202.86	4868.64	12	2	2.96	13.58	101.76	3.05	22.20	0.04	0.16	1.22	0.04	0.27
PIPELINE INSTALLATION	PIPELINE LAY/BURY BARGE diesel	2000	96.6	2318.40	24	10	1.41	6.47	48.46	1.45	10.57	0.17	0.78	5.81	0.17	1.27
	SUPPORT VESSEL diesel	2500	120.75	2898.00	24	10	1.76	8.08	60.57	1.82	13.22	0.21	0.97	7.27	0.22	1.59
	VESSELS>600hp diesel	2065	99.7395	2393.75	8	2	1.46	6.68	50.03	1.50	10.92	0.01	0.05	0.40	0.01	0.09
	VESSELS>600hp diesel	2065	99.7395	2393.75	10	2	1.46	6.68	50.03	1.50	10.92	0.01	0.07	0.50	0.02	0.11
FACILITY INSTALLATION	DERRICK BARGE diesel	3500	169.05	4057.20	24	5	2.47	11.32	84.80	2.54	18.50	0.15	0.68	5.09	0.15	1.11
	MATERIAL TUG diesel	6000	289.8	6955.20	24	5	4.23	19.40	145.37	4.36	31.72	0.25	1.16	8.72	0.26	1.90
	MATERIAL TUG diesel	6000	289.8	6955.20	14	3	4.23	19.40	145.37	4.36	31.72	0.09	0.41	3.05	0.09	0.67
	VESSELS>600hp diesel	2500	120.75	2898.00	24	5	1.76	8.08	60.57	1.82	13.22	0.11	0.49	3.63	0.11	0.79
PRODUCTION	RECIP.<600hp diesel (Crane)	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
	RECIP.>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
	SUPPORT VESSEL diesel (Crew)	2065	99.7395	2393.75	8	32	1.46	6.68	50.03	1.50	10.92	0.19	0.85	6.40	0.19	1.40
	SUPPORT VESSEL diesel (Supply)	2065	99.7395	2393.75	10	32	1.46	6.68	50.03	1.50	10.92	0.23	1.07	8.01	0.24	1.75
	TURBINE nat gas	0	0	0.00	0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	RECIP.2 cycle lean nat gas	0	0	0.00	0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	RECIP.4 cycle lean nat gas	0	0	0.00	0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	RECIP.4 cycle rich nat gas	0	0	0.00	0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	BURNER nat gas, Glycol Reboiler	75	71428.57	1714285.71	24	225	0.54	0.04	7.14	0.39	6.00	1.47	0.11	19.29	1.06	16.20
	MISC.	**BPD**	**SCF/HR**	**COUNT**												
	TANK-	0			0	0				0.00					0.00	
	FLARE-		0		0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	PROCESS VENT-		0		0	0				0.00					0.00	
	FUGITIVES-			500.0		225				0.25					0.68	
	GLYCOL STILL VENT-		0		0	0				0.00					0.00	
DRILLING	OIL BURN	250			24	4	4.38	71.15	20.83	0.10	2.19	0.21	3.42	1.00	0.00	0.11
WELL TEST	GAS FLARE		208333.33		24	4		0.12	14.87	12.56	80.94		0.01	0.71	0.60	3.88
2005 YEAR TOTAL							**40.50**	**234.57**	**1266.15**	**50.01**	**356.03**	**14.77**	**63.59**	**471.03**	**15.84**	**118.38**
EXEMPTION CALCULATION	**DISTANCE FROM LAND IN MILES**											**999.00**	**999.00**	**999.00**	**999.00**	**32826.64**
	30.0															

AIR EMISSIONS CALCULATIONS - SECOND YEAR

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL		CONTACT	PHONE	REMARKS
LLOG Exploration Offsho	High Island	170	OCS-G 25561	D	G and H		Christine Groth, R.E.M. Solution	281.492.8562	#REF!

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	0.00	0.00	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	0.00	0.00	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	0.00	0.00	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	0.00	0.00	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
	AUXILIARY EQUIP<600hp diesel	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(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
	VESSELS>600hp diesel(tugs)	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
PIPELINE INSTALLATION	PIPELINE LAY 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
	SUPPORT VESSEL 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
	PIPELINE BURY 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
	SUPPORT VESSEL 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
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	0.00	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
PRODUCTION	RECIP.<600hp diesel (Crane)	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
	RECIP.>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
	SUPPORT VESSEL diesel (Crew)	2065	99.7395	2393.75	8	52	1.46	6.68	50.03	1.50	10.92	0.30	1.39	10.41	0.31	2.27
	SUPPORT VESSEL diesel (Supply)	2065	99.7395	2393.75	10	52	1.46	6.68	50.03	1.50	10.92	0.38	1.74	13.01	0.39	2.84
	TURBINE nat gas	0	0	0.00	0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	RECIP.2 cycle lean nat gas	0	0	0.00	0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	RECIP.4 cycle lean nat gas	0	0	0.00	0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	RECIP.4 cycle rich nat gas	0	0	0.00	0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	BURNER nat gas- Glycol Reboiler	75	75.00	1800.00	24	365	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.03	0.00	0.03
	MISC.	BPD	SCF/HR	COUNT												
	TANK-	0			0	0				0.00					0.00	
	FLARE-		0		0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	PROCESS VENT-		0		0	0				0.00					0.00	
	FUGITIVES-			500.0		365				0.25					1.10	
	GLYCOL STILL VENT-		0		0	0				0.00					0.00	
DRILLING WELL TEST	OIL BURN	0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	GAS FLARE		0		0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
2006	YEAR TOTAL						2.91	13.35	100.07	3.25	21.84	0.68	3.13	23.45	1.80	5.14
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES											999.00	999.00	999.00	999.00	32826.64
	30.0															

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SECTION H
Environmental Impact Analysis

A. IMPACT PRODUCING FACTORS (IPF'S)

The following matrix is utilized to identify the environmental resources that could be impacted by these IPF's. An "x" has been marked for each IPF category that LLOG has determined may impact a particular environmental resource as a result of the proposed activities. For those cells which are footnoted, a statement is provided as to the applicability of the proposed activities, and where there may be an effect, an analysis of the effect is provided.

Environmental Resources	Emissions (air, noise, light, etc.)	Effluents (muds, cuttings, other discharges to the water column or seafloor	Physical Disturbances To the seafloor (rig or anchor emplacement, etc.)	Wastes Sent to Shore for Treatment Or disposal	Accidents (e.g. oil spills, chemical spills, H2S releases)	Other IPF's identified
Site Specific at Offshore Location						
Designated topographic feature						
Pinnacle Trend area live bottoms						
Eastern Gulf live bottoms						
Chemosynthetic communities						
Water quality		X			X	
Fisheries		X			X	
Marine mammals	X	X			X	
Sea turtles	X	X			X	
Air quality						
Shipwreck sites (known or potential)						
Prehistoric archaeological sites						
Vicinity of Offshore Location						
Essential fish habitat					X	
Marine and pelagic birds					X	
Public health and safety						
Coastal and Onshore						
Beaches					X	
Wetlands					X	
Shorebirds and coastal nesting birds					X	
Coastal wildlife refuges					X	
Wilderness areas					X	
Other Resources						

SECTION H
Environmental Impact Analysis-Continued

B. VICINITY OF OFFSHORE LOCATION ANALYSES

1. Designated Topographic Features

There are no anticipated effluents, physical disturbances to the seafloor, and accidents from the proposed activities that could cause impacts to topographic features. The surface disturbance within High Island Block 170 is located approximately 55 miles away from the closest designated topographic feature (Claypile Bank). The crests of designated topographic features in the northern Gulf are found below 10 m. In the event of an accidental oil spill from the proposed activities, the gravity of such oil (high gravity condensate and/or diesel fuel) would rise to the surface, quickly dissipate, and/or be swept clear by the currents moving around the bank; thereby avoiding the sessile biota.

2. Pinnacle Trend Live Bottoms

There are no anticipated effluents, physical disturbances to the seafloor, and accidents from the proposed activities that could cause impacts to a pinnacle trend area. The surface disturbance within High Island Block 170 is located a significant distance (>100 miles) from the closest pinnacle trend live bottom stipulated block. The crests of the pinnacle trend area are much deeper than 20 m. In the event of an accidental oil spill from the proposed activities, the gravity of such oil (high gravity condensate and/or diesel fuel) would rise to the surface, quickly dissipate, and/or be swept clear by currents moving around the bank; and thus not impacting the pinnacles.

3. Eastern Gulf Live Bottoms

There are no anticipated effluents, physical disturbances to the seafloor, and accidents from the proposed activities that could cause impacts to Eastern Gulf live bottoms. The surface disturbance within High Island Block 170 is located a significant distance (>100 miles) from the closest pinnacle Eastern Gulf live bottom stipulated block. In the event of an accidental oil spill from the proposed activities, the gravity of such oil (high gravity condensate and/or diesel fuel) would rise to the surface, quickly dissipate, and/or be swept clear by currents moving around the bank; and would not be expected to cause adverse impacts to Eastern Gulf live bottoms because of the depth of the features and dilutions of spills.

4. Chemosynthetic Communities

Water depths in High Island Block 170 range from 53 feet to 54 feet. Therefore, the proposed activities are not located within the vicinity of any known chemosynthetic communities, which typically occur in water depths greater than 400 meters.

SECTION H
Environmental Impact Analysis-Continued

5. Water Quality

Accidental oil spill releases from the proposed activities, and cumulative similar discharge activity within the vicinity could potentially cause impacts to water quality. It is unlikely that an accidental oil spill release would occur from the proposed activities. In the event of such a release, the water quality would be temporarily affected by the dissolved components and small droplets. Currents and microbial degradation would remove the oil from the water column or dilute the constituents to background levels.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of LLOG's Regional Oil Spill Response Plan which address available equipment and personnel, techniques for containment and recovery, and removal of the oil spill. LLOG will conduct the proposed activities under EPA's Region VI NPDES General Permit GMG290000, which authorizes the discharge of certain effluents, subject to certain limitations, prohibitions and recordkeeping requirements. As such, it is not anticipated these discharges will cause significant adverse impacts to water quality.

6. Fisheries

Accidental oil spill releases from the proposed activities, and cumulative similar discharge activity within the vicinity may potentially cause some detrimental effects on fisheries. It is unlikely a spill would occur; however, such a release in open waters closed to mobile adult finfish or shellfish would likely be sublethal and the extent of damage would be reduced to the capability of adult fish and shellfish to avoid a spill, to metabolize hydrocarbons, and to excrete both metabolites and parent compounds.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of LLOG's Regional Oil Spill Response Plan which address available equipment and personnel, techniques for containment and recovery, and removal of the oil spill. LLOG will conduct the proposed activities under EPA's Region VI NPDES General Permit GMG290000, which authorizes the discharge of certain effluents, subject to certain limitations, prohibitions and recordkeeping requirements. As such, it is not anticipated these discharges will cause significant adverse impacts to water quality.

7. Marine Mammals

As a result of the proposed activities, marine mammals may be adversely impacted by traffic, noise, accidental oil spills, cumulative similar discharge activity, and loss of trash and debris.

Chronic and sporadic sublethal effects could occur that may stress and/or weaken individuals of a local group or population and make them more susceptible to infection from natural or anthropogenic sources. Few lethal effects are expected from accidental oil spill, chance collisions with service vessels and ingestion of plastic material.

The net results of any disturbance would depend on the size and percentage of the population affected, ecological importance of the disturbed area, environmental and biological parameters that influence an animal's sensitivity to disturbance and stress, and the accommodation time in response to prolonged disturbance (Geraci and St. Aubin), 1980). Collisions between cetaceans and ship could cause serious injury or death (Laist et al., 2001). Sperm whales are one of 11 whale species that are hit commonly by ships (Laist et al., 2001). Collisions between OCS vessels and cetaceans within the project area are expected to be unusual events.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of LLOG's Regional Oil Spill Response Plan which address available equipment and personnel, techniques for containment and recovery, and removal of the oil spill. LLOG will conduct the proposed activities under EPA's Region VI NPDES General Permit GMG290000, which authorizes the discharge of certain effluents, subject to certain limitations, prohibitions and recordkeeping requirements. As such, it is not anticipated these discharges will cause significant adverse impacts to water quality. Additionally, LLOG and its contractors will conduct the proposed activities under the additional criteria addressed by MMS in Notice to Lessee's (NTL's) 2003-G10 "Vessel Strike Avoidance and Injured/Dead Protective Species" and NTL 2003-G11 "Marine Trash & Debris Awareness & Elimination".

8. Sea Turtles

As a result of the proposed activities, sea turtles may be adversely impacted by traffic, noise, accidental oil spills, cumulative similar discharges, and loss of trash and debris. Small numbers of turtles could be killed or injured by chance collision with service vessels or by eating indigestible trash, particularly plastic items accidentally lost from drilling rigs, production facilities and service vessels. Drilling rigs and project vessels (construction barges) produce noise that could disrupt normal behavior patterns and crease some stress to sea turtles, making them more susceptible to disease. Accidental oil spill releases are potential threats, which could have lethal effects on turtles. Contact and/or consumption of this released material could seriously affect individual sea turtles. Most OCS related impacts on sea turtles are expected to be sublethal. Chronic and/or avoidance of effected areas could cause declines in survival or productivity, resulting in gradual population declines.

SECTION H
Environmental Impact Analysis-Continued

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of LLOG's Regional Oil Spill Response Plan which address available equipment and personnel, techniques for containment and recovery, and removal of the oil spill. LLOG will conduct the proposed activities under EPA's Region VI NPDES General Permit GMG290000, which authorizes the discharge of certain effluents, subject to certain limitations, prohibitions and recordkeeping requirements.

As such, it is not anticipated these discharges will cause significant adverse impacts to water quality. Additionally, LLOG and its contractors will conduct the proposed activities under the additional criteria addressed by MMS in Notice to Lessee's (NTL's) 2003-G10 "Vessel Strike Avoidance and Injured/Dead Protective Species" and NTL 2003-G11 "Marine Trash & Debris Awareness & Elimination".

9. Air Quality

The proposed activities are located approximately 30 miles to the nearest shoreline. There would be a limited degree of air quality degradation in the immediate vicinity of the proposed activities. Air quality analyses of the proposed activities are below the MMS exemption level.

10. Shipwreck Site (Known or Potential)

There are no physical disturbances to the seafloor, which could impact known or potential shipwreck sites, as the review of high resolution shallow hazards data indicate there are no known or potential shipwreck sites located within the surveyed area.

11. Prehistoric Archaeological Sites

There are no physical disturbances to the seafloor, which could cause impacts to prehistoric archaeological sites, as the review of high resolution shallow hazards data and supporting studies did not reflect the occurrence of prehistoric archaeological sites.

Site Specific Offshore Location Analyses

1. Essential Fish Habitat

An accidental oil spill that may occur as a result of the proposed activities has potential to cause some detrimental effects on essential fish habitat. It is unlikely that an accidental oil spill release would occur; however, if a spill were to occur in close proximity to finfish or shellfish, the effects would likely be sublethal and the extent of damage would be reduced to

the capability of adult fish and shellfish to avoid a spill, to metabolize hydrocarbons, and to excrete both metabolites and parent compounds.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of LLOG's Regional Oil Spill Response Plan which address available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

2. Marine and Pelagic Birds

An accidental oil spill that may occur as a result of the proposed activities has potential to impact marine and pelagic birds, by the birds coming into contact with the released oil. It is unlikely that an accidental oil spill release would occur.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of LLOG's Regional Oil Spill Response Plan which address available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

3. Public Health and Safety Due to Accidents

There are no anticipated IPF's from the proposed activities that could impact the public health and safety. LLOG has requested MMS approval to classify the proposed objective area as absent of hydrogen sulfide.

Coastal and Onshore Analyses

1. Beaches

An accidental oil spill release from the proposed activities could cause impacts to beaches. However, due to the distance from shore (approximately 30 miles), and the response capabilities that would be implemented, no significant adverse impacts are expected. Both historical spill data and the combined trajectory/risk calculations referenced in the publication of OCS EIA /EA MMS 2002-052 indicate there is little risk of contact or impact to the coastline and associated environmental resources.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of LLOG's Regional Oil Spill Response Plan which address

available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

2. Wetlands

An accidental oil spill release from the proposed activities could cause impacts to wetlands. However, due to the distance from shore (approximately 30 miles) and the response capabilities that would be implemented, no significant adverse impacts are expected. Both historical spill data and the combined trajectory/risk calculations referenced in the publication of OCS EIA /EA MMS 2002-052 indicate there is little risk of contact or impact to the coastline and associated environmental resources.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of LLOG's Regional Oil Spill Response Plan which address available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

3. Shore Birds and Coastal Nesting Birds

An accidental oil spill release from the proposed activities could cause impacts to shore birds and coastal nesting birds. However, due to the distance from shore (approximately 30 miles) and the response capabilities that would be implemented, no significant adverse impacts are expected. Both historical spill data and the combined trajectory/risk calculations referenced in the publication of OCS EIA /EA MMS 2002-052 indicate there is little risk of contact or impact to the coastline and associated environmental resources.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of LLOG's Regional Oil Spill Response Plan which address available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

4. Coastal Wildlife Refuges

An accidental oil spill release from the proposed activities could cause impacts to coastal wildlife refuges. However, due to the distance from shore (approximately 30 miles) and the response capabilities that would be implemented, no significant adverse impacts are expected. Both historical spill data and the combined trajectory/risk calculations referenced in the publication of OCS EIA /EA MMS 2002-052 indicate there is little risk of contact or impact to the coastline and associated environmental resources.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of LLOG's Regional Oil Spill Response Plan which address available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

5. Wilderness Areas

An accidental oil spill release from the proposed activities could cause impacts to wilderness areas. However, due to the distance from shore (approximately 30 miles) and the response capabilities that would be implemented, no significant adverse impacts are expected. Both historical spill data and the combined trajectory/risk calculations referenced in the publication of OCS EIA /EA MMS 2002-052 indicate there is little risk of contact or impact to the coastline and associated environmental resources.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of LLOG's Regional Oil Spill Response Plan which address available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

Other Identified Environmental Resources

LLOG has not identified any other environmental resources other than those addressed above.

Impacts on Proposed Activities

No impacts are expected on the proposed activities as a result of taking into consideration the site specific environmental conditions.

A High Resolution Shallow Hazards Survey was conducted, a report prepared in accordance with NTL 2002-G01 and NTL 98-20.

Based on the analysis of the referenced data, there are no surface or subsurface geological and manmade features and conditions that may adversely affect the proposed activities. LLOG will institute procedures to avoid pipelines and abandoned wells within the vicinity of the proposed operations.

SECTION H
Environmental Impact Analysis-Continued

Alternatives

LLOG did not consider any alternatives to reduce environmental impacts as a result of the proposed activities.

Mitigation Measures

LLOG will not implement any mitigation measures to avoid, diminish, or eliminate potential environmental resources, other than those required by regulation and policy.

Consultation

LLOG has not contacted any agencies or persons for consultation regarding potential impacts associated with the proposed activities. Therefore, a list of such entities is not being provided.

SECTION H
Environmental Impact Analysis-Continued

References

The following documents were utilized in preparing the Environmental Impact Assessment:

Document	*Author*	*Dated*
Shallow Hazards Survey	Thales GeoSolutions, Inc.	2003
MMS Environmental Impact Statement Report No. 2002-15	Minerals Management Service	2002
NTL 2003-N06 "Supplemental Bond Procedures"	Minerals Management Service	2003
NTL 2004-G01 "Implementation of Seismic Survey Mitigation Measures and Protected Species Observer Program"	Minerals Management Service	2004
NTL 2003-G10 "Vessel Strike Avoidance and Injured/Dead Protective Species"	Minerals Management Service	2003
NTL 2003-G11 "Marine Trash & Debris Awareness & Elimination"	Minerals Management Service	2003
NTL 2002-G09 "Regional and Subregional Oil Spill Response Plans"	Minerals Management Service	2002
NTL 2003-G17 "Guidance for Submitting Exploration Plans and Development Operations Coordination Documents"	Minerals Management Service	2003
NTL 2002-G01 "Archaeological Resource Surveys and Reports"	Minerals Management Service	2002
NTL 2000-G16 "Guidelines for General Lease Surety Bonds"	Minerals Management Service	2000
NTL 98-20 "Shallow Hazards Survey Requirements"	Minerals Management Service	1998
NTL 98-16 "Hydrogen Sulfide Requirements"	Minerals Management Service	1998
NPDES General Permit GMG290000	EPA - Region VI	1998
Regional Oil Spill Response Plan	LLOG Exploration Offshore, Inc.	2004

SECTION I
CZM Consistency

Under direction of the Coastal Zone Management Act (CMZA), the States of Alabama, Florida, Louisiana, Mississippi and Texas developed Coastal Zone Management Programs (CZMP) to allow for the supervision of significant land and water use activities that take place within or that could significantly impact their respective coastal zones.

A certificate of Coastal Zone Management Consistency for the States of Texas and Louisiana are enclosed as *Attachment I-1.*

Included as *Attachment I-2* are the enforceable policies from the State of Texas that are related to OCS Plan Filings.

LLOG Exploration Offshore, Inc. has considered all of Louisiana's enforceable policies and certifies the consistency for the proposed operations.

Coastal Zone Consistency Statements

Attachment I-1
(Public Information)

COASTAL ZONE MANAGEMENT CONSISTENCY CERTIFICATION

JOINT SUPPLEMENTAL DEVELOPMENT OPERATIONS COORDINATION DOCUMENT

HIGH ISLAND BLOCKS 170/A5

LEASES OCS-G 25561/17156

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

By: LLOG Exploration Offshore, Inc.

Signed By: Carol Sator

Dated: 1/27/05

COASTAL ZONE MANAGEMENT CONSISTENCY CERTIFICATION

JOINT SUPPLEMENTAL DEVELOPMENT OPERATIONS COORDINATION DOCUMENT

HIGH ISLAND BLOCKS 170/A5

LEASES OCS-G 25561/17156

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

By: **LLOG Exploration Offshore, Inc.**

Signed By: Carol Eaton

Dated: 1/27/05

Enforceable Policies for the State of Texas

Attachment I-2
(Public Information)

STATE OF TEXAS

COASTAL ZONE CONSISTENCY POLICIES

Category 2 - Construction, Operation and Maintenance of Oil and Gas Exploration and Development Facilities

The General Land Office (GLO) and State Mineral Board (SMB) are the management entities for oil and gas exploration and production on state submerged lands under the authority of the Texas Natural Resources Code. The GLO and SLB serve proprietary rather than regulatory roles and determine whether a proposed use of state land is appropriate. Standards and procedures for granting permits and leases for geophysical exploration for and production of oil and gas on state-owned land are established, with rules setting out provisions to prevent damage to or pollution of all lands and waters, including restrictions on the release of solid wastes, restrictions on the use of vehicles to minimize impacts to submerged lands and marshes; provisions for the protection of natural resources, including aquatic life and wildlife, from seismic and production operations; and provisions for remediation of any surface damage from operations.

The proposed activities addressed in the Plan for High Island Blocks 170/A5 are located approximately 30 miles from the nearest Texas shoreline. LLOG Exploration Offshore, Inc. is proposing to utilize the existing onshore support infrastructure in Cameron, Louisiana. Due to the proposed activities being temporary and speculative in nature, we do not anticipate a need for new construction, operation and/or maintenance of facilities.

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

Under the authority of the Texas Natural Resources Code and Texas Water Code, the Railroad Commission (RRC) regulates the management of oil and gas waste and wastewater discharges from exploration and production activities. The RRC must comply with the policies for the discharge of wastewater and disposal of waste from oil and gas exploration and production activities when issuing permits and adopting rules under these authorities.

Such policies include 1) disposal of oil and gas waste in the coastal zone shall comply with the policies in the category, 2) discharge of oil and gas exploration and production wastewater in the coastal zone shall comply with policies in the category.

The proposed activities addressed in the Plan for High Island Blocks 170/A5 are located approximately 30 miles from the nearest Texas shoreline. LLOG Exploration Offshore, Inc. is proposing to discharge authorized effluents into the receiving waters of the Gulf of Mexico. Overboard discharges (i.e., drilling fluids and associated cuttings) associated with the proposed activities must be tested first for toxicity limitations as mandated by EPA's NPDES General Permit GMG290000. Other solid waste such as ground food will first pass through a 25-millimeter type mesh screen before being discharged overboard, as regulated by the U.S. Coast Guard's Marine Pollution Research and Control Act (MARPOL) of 1987.

Solid wastes will be collected and stored on the facility, and then transported by an offshore support vessel to an authorized onshore disposal site with the State of Texas. These wastes will be manifested and disposed as per the State of Texas regulations.

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

Under the Texas Solid Waste Disposal Act, the Texas Natural Resources Conservation Commission (TNRCC) implements a permitting program for solid waste disposal sites. The TNRCC must comply with the policies in this category when issuing permits and adopting rules governing the construction and operations of solid waste facilities in the coastal zone. These regulations establish standards and enforcement provisions to implement the state hazardous waste program, which regulates, from the point of generation to ultimate disposal, those wastes which have been identified as hazardous by the EPA. These regulations includes standards for location of certain hazardous waste facilities, including certain prohibited locations such as wetlands, barrier islands, and peninsulas, land disposal of hazardous waste, pollution prevention through hazardous waste source reduction and hazardous waste minimization; and hazardous waste closure, correction actions, and remediation activities.

Due to the proposed activities being temporary and speculative in nature, we do not anticipate a need for new construction and operation of any solid waste treatment, storage or use of disposal facilities for the proposed activities addressed in the Plan for High Island Blocks 170/A5.

Category 5 - Prevention, Response, and Remediation of Oil Spills

The General Land Office (GLO) rules govern prevention of, response to, and remediation of coastal oil spills, and the assessment of damages to natural resources injured as the result of an unauthorized discharge of oil into coastal waters. The policies require GLO to provide for measures to prevent coastal oil spills and to ensure adequate response and removal actions.

Under the authority of the Texas Natural Resources Code, the GLO promulgated rules requiring coastal facilities that handle oil to obtain a certificate of spill prevention and response capability from the GLO. These rules require that vessels carrying oil in coastal waters have a spill prevention and response plan approved by the GLO. The rules also address spill response and remediation, establishing standards for spill response plans, requiring facilities and vessels to maintain access to adequate response equipment and qualified personnel, and providing for the FLO to subject facilities and vessels to announced and unannounced drills and inspections.

The proposed activities are located in OCS Federal Waters, Gulf of Mexico, approximately 30 miles from the nearest Texas shoreline. Protection of the environment during the proposed operations is of primary concern; with LLOG mandating regulatory compliance from its contractors and vendors associated with the proposed activities.

LLOG has adopted industry standards for safe well operations to prevent potential blowout situations, as well as implementing a Regional Oil Spill Response Plan to respond to a potential spill incident.

The likelihood of land and water uses in the coastal area being impacted is minimal based on the temporary nature of the proposed activities, the implementation measures LLOG would employ in the event of a blowout or oil spill, along with the wind and wave currents which could potentially divert such an unanticipated release outside the coastal areas.

Category 6 - Discharge of Municipal and Industrial Wastewater to Coastal Waters

The Texas Water Code states that it is the policy of the state to maintain the quality of water in the state consistent with public health and enjoyment, the propagation and protection of terrestrial and aquatic life, the operation of existing industries, and the economic development of the state and to require the use of all reasonable methods to implement this policy. The TNRCC is designated as the principal authority in the state on matters relating to water quality, resources protection, include the Texas Surface Water Quality Standards, the Texas State Water Quality Management Plan, and wastewater permits.

The proposed activities addressed in the Plan for High Island Blocks 170/A5 are located approximately 30 miles from the nearest Texas shoreline. LLOG Exploration Offshore, Inc. is proposing to discharge authorized effluents into the receiving waters of the Gulf of Mexico as regulated by EPA's NPDES General Permit GMG290000.

LLOG does not anticipate the need for discharging any municipal or industrial type waste from these activities into coastal waters of the State of Texas.

Category 7 - Nonpoint-Source (NPS) Water Pollution

The TSSWCB is the lead authority regarding activity for abating agricultural nonpoint sources pollutions. Under this authority, the agency administers the state's soil and water conservation program and coordinates programs of and provides technical assistance to the soil and water conservation district.

The TNRCC has the authority to promulgate rules and regulate on-site sewage disposal systems. The policy of the agency is that individual on-site sewage treatment facilities must be designed, constructed, and operated to provide adequate sewage treatment and disposal that will not contaminate potable water supplies, threaten the health and welfare of the public, result in a hazard to the state's recreational areas, or result in pollution of groundwater or surface water.

The proposed activities addressed in the Plan for High Island Blocks 170/A5 are located approximately 30 miles from the nearest Texas shoreline. LLOG Exploration Offshore, Inc. is proposing to discharge authorized effluents into the receiving waters of the Gulf of Mexico as regulated by EPA's NPDES General Permit GMG290000.

LLOG does not anticipate discharges from any nonpoint-source from these activities into coastal waters of the State of Texas.

Category 8 - Development in Critical Areas

The TNRCC and RRC shall comply with the policies in this chapter when issuing certification and adopting rules under Texas Water Code, and the Texas Natural Resources Code, governing certification of compliance with surface water quality standards for federal actions and permits authorizing development affecting critical area.

The GLO and SLB shall comply with the policies in this category when approving oil, gas, or other mineral lease plans of operations or granting surface leases, easements, and permit and adopting rules under the Texas Natural resources Code and Texas Water Code.

The proposed activities addressed in the Plan for High Island Blocks 170/A5 are located approximately 30 miles from the nearest Texas shoreline; and due to the activities be temporary and speculative in nature, LLOG does not anticipate the need for development of facilities in critical areas.

Category 9 - Construction of Waterfront Facilities and Other Structures on Submerged Lands

The GLO and SLB, in governing development on state submerged lands, shall comply with the policies in this category when approving oil, gas, and other minerals lease plans of operations and granting surface leases, easements, and permit permits and adopting rules under the Texas Natural Resources Code and Texas Water Code. These sites must be evaluated under more specific guidelines for a proposed waterfront structure including site selection to avoid restriction of water circulation, navigations, or public use of the waters, design considerations such as joint use of a moorage facility by a subdivision, motel, or multiple dwelling, and the use of a pier of a pier or catwalk in preference to solid fills to provide requirements that facilities provide proper handling of waste, refuse, and petroleum products where applicable.

The proposed activities addressed in the Plan for High Island Blocks 170/A5 are located approximately 30 miles from the nearest Texas shoreline; and due to the activities be temporary and speculative in nature, LLOG does not anticipate construction of any waterfront facilities and other structures on submerged lands.

Category 10 - Dredging and Dredged Material Disposal and Placement

The TNRCC and the RRC shall comply with specified policies when issuing certification and adopting rules under the Texas Water Code and the Texas Natural Resources Code governing certification of compliance with surface water quality standards for federal action and permit authorizing dredging or the discharge or placement of dredged material. Dredging and the disposal and placement of dredged material shall avoid and otherwise minimize adverse effects to coastal waters, submerged lands, critical areas, coastal shore areas, and Gulf beaches to the greatest extent practicable. The policies in the in this category

are supplemented to any further restrictions or requirements relating to the beach access and use rights of the public. In implementing this policy category, cumulative and secondary adverse effects of dredging and the disposal and placement of dredged material and the unique characteristics of affected sites shall be considered.

The proposed activities addressed in the Plan for High Island Blocks 170/A5 are located approximately 30 miles from the nearest Texas shoreline; and do not include any anticipated plans for dredging and/or disposal of material.

Category 11 - Construction in the Beach/Dune System

The GLO shall comply with the policies in this category when certifying local government dune protection and beach access plans and adopting rules under the Texas Natural Resources Code. Local governments required by the Texas Natural Resources Code to adopt dune protection and beach access plans shall comply with the applicable policies in this category when issuing beachfront construction certificates and dune protection permits.

The GLO is responsible for protecting the public's right to use and have access to and from the public beaches and for providing standards to the local governments certifying that construction on land adjacent to the Gulf of Mexico in is consistent with such public rights.

The proposed activities addressed in the Plan for High Island Blocks 170/A5 are located approximately 30 miles from the nearest Texas shoreline; and due to the activities be temporary and speculative in nature, LLOG does not anticipate any construction activities impacting the beach/dune system of the State of Texas.

Category 12 - Development in Coastal Hazard Areas

The GLO is responsible for coordinating a plan and promulgating rules for coastal erosion avoidance and remediation. Local governments participating in the National Flood Insurance Program shall adopt ordinances and orders governing development in special hazards areas, as defined by the Texas Water Code, that comply with construction standards adopted pursuant to the National Flood Insurance Program.

The proposed activities addressed in the Plan for High Island Blocks 170/A5 are located approximately 30 miles from the nearest Texas shoreline; and due to the activities be temporary and speculative in nature, LLOG does not anticipate any construction activities impacting special hazard areas or coastal erosion in the State of Texas.

Category 13 - Development within Coastal Barrier Resources System Units and Otherwise Protected Areas on Coastal Barriers

The TNRCC has statutory authority to create and supervise certain water and water-related districts and to approve the issuance and sale of bonds for a district's construction of infrastructure. The purpose of the TNRCC's oversight of district creation and projects is to ensure that the districts fulfill their obligation to conserve and develop the natural resources of the state in a manner not contrary to the public health, safety, and welfare.

The proposed activities addressed in the Plan for High Island Blocks 170/A5 are located approximately 30 miles from the nearest Texas shoreline; and due to the activities be temporary and speculative in nature, LLOG does not anticipate any construction activities impacting the infrastructure on coastal barriers of the State of Texas.

Category 14 - Development in State Parks, Wildlife Management Areas, or Preserves

Chapter 26 of the Parks and Wildlife Code limits development on protected lands. The statute states that a governmental entity of the state may not approve any program or project that requires the use or taking of any public land designate and used as a park, recreation area, scientific area, wildlife refuge, or historic site unless the approving entity determines that (1) there is no feasible and prudent alternative to the use or taking of such land; and (2) the program or project includes all reasonable planning to minimize harm to the land, for purposes for which it is designated, resulting from the use or taking.

The proposed activities addressed in the Plan for High Island Blocks 170/A5 are located approximately 30 miles from the nearest Texas shoreline; and due to the activities be temporary and speculative in nature, LLOG does not anticipate any construction and/or development activities impacting the state parks, wildlife management areas, or preserves of the State of Texas.

Category 15 - Alteration of Coastal Historic Areas

The Texas Historical Commission (THC) shall comply with the policies in this category when adopting rules and issuing permits under the Texas Natural Resources Code governing alteration of coastal historic sites by avoiding and otherwise minimizing alteration or disturbance of the site unless the site's excavation will promote historical, archaeological, educational, or scientific understanding. The THC is directed to protected and preserve the cultural resources of Texas. Cultural resources include archaeological sites, historical sites, and shipwrecks on land or underwater.

The proposed activities addressed in the Plan for High Island Blocks 170/A5 are located approximately 30 miles from the nearest Texas shoreline; and will be located in an area determined by the Minerals Management Service as a low potential for cultural or historical resources.

Category 16 - Transportation

Texas Department of Transportation (DOT) is responsible for approving plans for the location, construction and maintenance of the state highway system and public roads and the location, construction, and maintenance of individual state highway system projects. Rules and project approvals governing transportation projects within the coastal zone must comply with the policies in this category. Standard specifications include measures for erosion and sedimentation control, waste disposal, earthwork, and revegetation during construction.

The proposed activities addressed in the Plan for High Island Blocks 170/A5 are located approximately 30 miles from the nearest Texas shoreline; and due to the activities being temporary and speculative in nature, LLOG does not anticipate any construction related transportation activities within the State of Texas.

Category 17 - Emission of Air Pollutants

The Texas Natural Resource Conservation Commission (TNRCC) is charged with the responsibility under the Texas Clean Air Act to adopt any rules necessary to carry out its duties under the Act, including establishment of air quality standards and of a permitting program for air emissions. The TNRCC is also designated as the agency responsible for developing a comprehensive plan for proper control of air pollution sources.

The proposed activities addressed in the Plan for High Island Blocks 170/A5 are located approximately 30 miles from the nearest Texas shoreline. Utilizing a matrix with calculations and formulas supplied by the Minerals Management Service, the projected air emissions from the proposed activities should not have a long-term adverse impact on the State of Texas.

Category 18 - Appropriations of Water

The TNRCC has sole authority for the regulation and management of surface water rights in Texas as authorized by the Texas Water Code. The TRNCC rules and authorizations governing review and actions on application for new permits, or amendments proposing changes to existing permits for diversion or impoundments of state water with 200 stream miles of the coast, must comply with the policies. The TNRCC may place limitations and conditions such as flow stream restrictions to protect existing water rights holders, water quality, aquatic fish and wildlife habitat, inflows from bays and estuaries, and recreational uses; habitat mitigation measures; and water conservation measures.

The proposed activities addressed in the Plan for High Island Blocks 170/A5 are located approximately 30 miles from the nearest Texas shoreline. Due to the proposed activities being temporary and speculative in nature, LLOG does not anticipate an impact to State Waters of Texas.

Category 19 - Levee and Flood Control Projects

The TRNCC must approve construction, attempted construction, or maintenance of any levee or other such improvement on, along, or near any stream of this state that is subject to floods, freshets, or overflows so as to control, regulate, or otherwise change the floodwater of the stream. TNRCC rules and approvals for levee construction or modification, drainage, reclamation, channelization, or flood or floodwater control projects must comply with the policies in this category.

The proposed activities addressed in the Plan for High Island Blocks 170/A5 are located approximately 30 miles from the nearest Texas shoreline. Due to the proposed activities

being temporary and speculative in nature, LLOG does not anticipate an impact to the levees or floodwater control projects of the State of Texas.

Category 20 - Major Actions

For purposes of this category, "major actions" means an individual action relating to an activity for which a federal environmental impact statement under the National Environmental Policy Act is required.

The proposed activities addressed in the Plan for High Island Blocks 170/A5 are temporary and speculative in nature, and would not be classified as a major action.

Category 22 - Administrative Policies

The Texas Coastal Zone Management Program (TCMP) recommends the local and regional governments, as well as state designated planning agencies adhere to the planning, acquisition, conservation/preservation, restoration, research/education, pollution prevention/recycling, coastal hazards areas, coastal barriers, coastal shores, water quality, public access/recreation, visual/scenic access, fisheries management, and construction/development activities within the TCMP boundary.

The proposed activities addressed in the Plan for High Island Blocks 170/A5 are located approximately 30 miles from the nearest Texas shoreline. Due to the proposed activities being temporary and speculative in nature, LLOG does not anticipate an impact to the Texas Coastal Zone Management Program policies.