UNITED STATES GOVERNMENT
MEMORANDUM

March 19, 2003

To: Public Information (MS 5034)

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

Subject: Public Information copy of plan

- Control # - N-07699
- Type - Initial Exploration Plan
- Lease(s) - OCS-G24007 Block - 211 Viosca Knoll Area
- Operator - LLOG Exploration Offshore, Inc.
- Description - Well A, B, and C
- Rig Type - JACKUP

Attached is a copy of the subject plan.

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

Elmo Cooper
Plan Coordinator

Site Type/Name	Botm Lse/Area/Blk	Surface Location	Surf Lse/Area/Blk
WELL/A	G24007/VK/211	7492 FNL, 3577 FEL	G24007/VK/211
WELL/B	G24007/VK/211	2846 FNL, 634 FEL	G24007/VK/211
WELL/C	G24007/VK/211	3683 FNL, 4770 FEL	G24007/VK/211

NOTED - SCHEXNAILDRE

ISS MAR20'03PM 2:01

LLOG
EXPLORATION OFFSHORE, INC.

CONTROL No. N-7699
REVIEWER: Elmo Cooper
PHONE: (504) 731-3083

March 5, 2003

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: Initial Exploration Plan for Lease OCS-G 24007, Viosca Knoll Block 211, OCS Federal Waters, Gulf of Mexico, Offshore, Alabama

Gentlemen:

In accordance with the provisions of Title 30 CFR 250.203 and that certain Notice to Lessees (NTL 2002-G08), LLOG Exploration Offshore, Inc. (LLOG) hereby submits for your review and approval ten (10) copies of an Initial Exploration Plan (Plan) for Lease OCS-G 24007, Viosca Knoll Block 211, Offshore, Alabama. Five (5) copies are "Proprietary Information", and five (5) copies are "Public Information".

Excluded from the Public Information copies are certain geologic and geophysical discussions and attachments.

Contingent upon receiving regulatory approvals and based on equipment and personnel availability, LLOG anticipates operations under this Plan commencing as early as March 31, 2003.

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

Sincerely,

LLOG EXPLORATION OFFSHORE, INC.

Timothy E. Lindsey/cag

Timothy E. Lindsey
Petroleum Engineer

TEL:CAG
Attachments

Public Information

BEST AVAILABLE COPY

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

INITIAL EXPLORATION PLAN

LEASE OCS-G 24007

VIOSCA KNOLL BLOCK 211

PREPARED BY:

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

DATED:

March 5, 2003

SECTION A
PLAN CONTENTS

A. Description, Objectives and Schedule

Lease OCS-G 24007, Viosca Knoll Block 211 was acquired by Magnolia Offshore Exploration LLC at the Central Gulf of Mexico Lease Sale No. 182 held on March 20, 2002. The lease was issued with an effective date of July 1, 2002 and a primary term ending date of June 30, 2007.

The current lease operatorship and ownership are as follows:

Area/Block Lease No.	Operator	Ownership
Viosca Knoll Block 211	LLOG Exploration Offshore, Inc. Qualification No. 02058	LLOG Exploration Offshore, Inc. Qualification No. 02058

LLOG proposes to drill, complete, potentially test and install minimal well protector structures over Well Locations A through C in Viosca Knoll Block 211. Information pertaining to the geological targets, including a narrative of trapping features is included as *Attachment A-1.*

LLOG proposes to conduct the proposed operations as outlined in the following activity schedule:

Proposed Activity	*Start Up Date*	*Completion Date*
Drill Well Location A	03/31/03	05/19/2003
Complete and Test Well Location A	5/20/2003	06/03/2003
Install Well Protector Structure A	06/04/2003	06/10/2003
Drill Well Location B	06/11/2003	07/30/2003
Complete and Test Well Location B	07/31/2003	08/14/2003
Install Well Protector Structure B	08/15/2003	08/21/2003
Drill Well Location C	08/22/2003	10/10/2003
Complete and Test Well Location C	10/11/2003	10/25/2003
Install Well Protector Structure C	10/26/2003	11/01/2003

SECTION A
Contents of Plan - Continued

B. Location

Included as *Attachments A-2 through A-6* are the Form MMS-137 "OCS Plan Information Form", Well Location Plats, and Bathymetry Map detailing the proposed surface location disturbance areas.

LLOG will be installing the proposed well protector structures while the drilling rig is on location.

C. Drilling Unit

LLOG will utilize a non-gorilla jack-up type drilling rig for the proposed drilling, completion and potential testing operations provided for in this Plan. 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, G 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, G 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.

(PUBLIC COPY)

ATTACHMENT A-2

OMB Control No. 1010-0049
Expiration Date: September 30, 2003

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

EXPLORATION PLAN	X	DEVELOPMENT OPERATIONS COORDINATION DOCUMENT		DEVELOPMENT & PRODUCTION PLAN	

OPERATOR:	LLOG Exploration Offshore, Inc.	ADDRESS:	433 Metairie Road, Suite 600, Metairie, Louisiana 70005
MMS OPERATOR NO.:	02058		
CONTACT PERSON:	Christine Groth or Natalie Schumann at R.E.M. Solutions, Inc.	PHONE NO.	281.492.8562

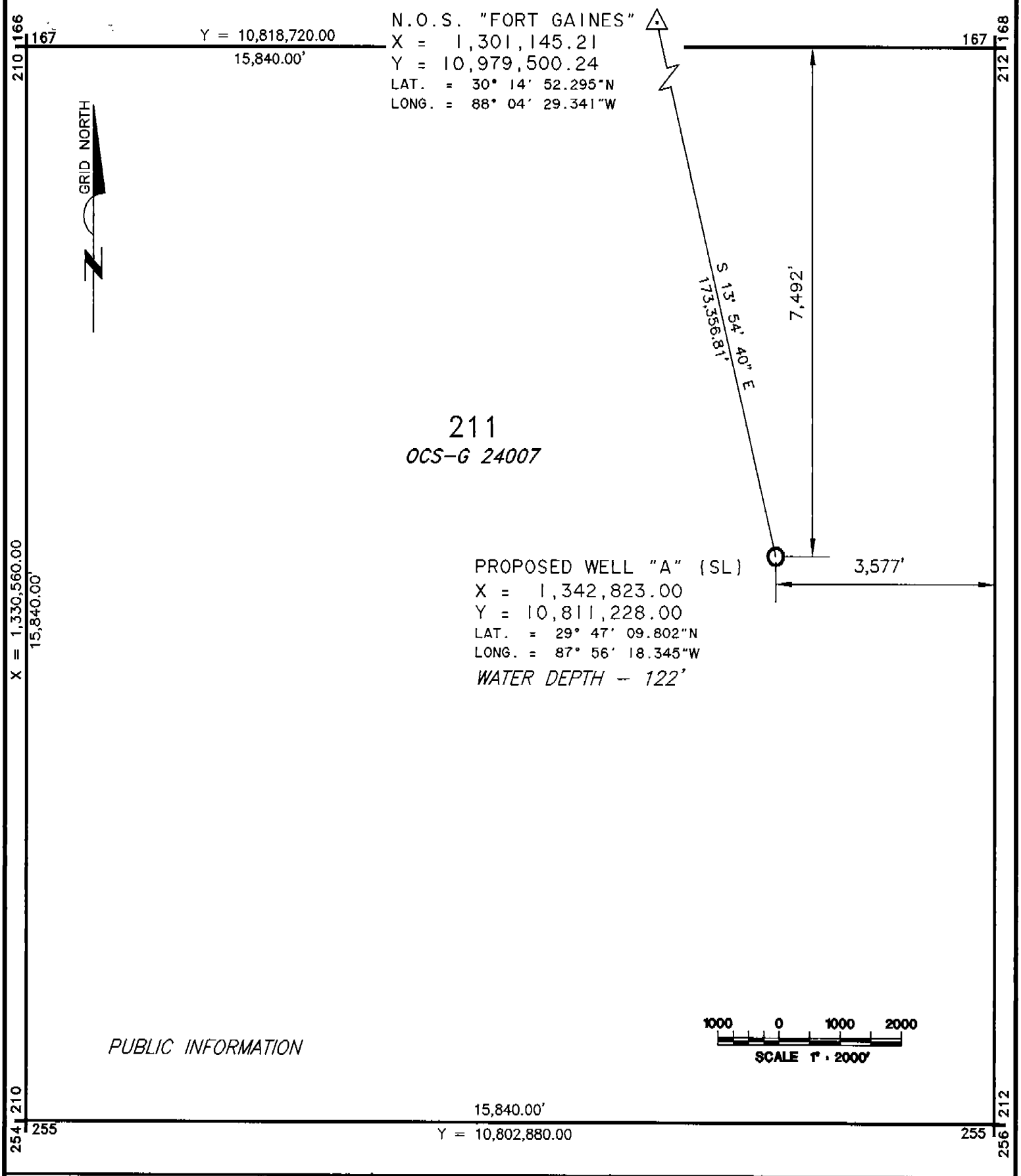
PROPOSED START DATE:	03/31/2003	RIG TYPE:	JU			DISTANCE TO CLOSEST LAND (IN MILES):	31
NEW OR UNUSUAL TECHNOLOGY	YES		NO	X	ONSHORE SUPPORT BASE:	Theodore, Alabama	
NARRATIVE DESCRIPTION PROPOSED ACTIVITIES:	Drill, potentially complete and test Well Locations A through C						
						PROJECT NAME, IF APPLICABLE:	NA

PROPOSED WELL/STRUCTURE LOCATIONS

WELL / STRUCTURE NAME	SURFACE LOCATION	BOTTOM-HOLE LOCATION (FOR WELLS)
Well A	CALLS: 7492' F N L and 3577' F E L OF LEASE OCS G 24007 , Viosca Knoll AREA, BLOCK 211	CALLS: LEASE OCS G 24007 , Viosca Knoll AREA, BLOCK 211
Name:	X: 1,342,823.00 Y: 10,811,228.00	X: Y:
	LAT: 29°47'09.802" LONG: 87°56'18.345"	LAT: LONG:
	TVD (IN FEET):	MD (IN FEET): WATER DEPTH (IN FEET): 122'
Well B	CALLS: 2846' F N L and 634' F E L OF LEASE OCS G 24007 , Viosca Knoll AREA, BLOCK 211	CALLS: LEASE OCS G 24007 , Viosca Knoll AREA, BLOCK 211
Name:	X: 1,345,766.00 Y: 10,815,874.00	X: Y:
	LAT: 29°47'56.042" LONG: 87°55'45.365"	LAT: LONG:
	TVD (IN FEET):	MD (IN FEET): WATER DEPTH (IN FEET): 118'
Well C	CALLS: 3683' F N L and 4770' F E L OF LEASE OCS G 24007 , Viosca Knoll AREA, BLOCK 211	CALLS: LEASE OCS G 24007 , Viosca Knoll AREA, BLOCK 211
Name:	X: 1,341,630.00 Y: 10,815,037.00	X: Y:
	LAT: 29°47'47.422" LONG: 87°56'32.240"	LAT: LONG:
	TVD (IN FEET):	MD (IN FEET): WATER DEPTH (IN FEET): 119'

(PUBLIC COPY)

ATTACHMENT A-3



I hereby certify that this proposed well location is correct.

Curtis M. Chaney, PLS (La. Reg. No. 4829)

DATUM:	NAD 27
SPHEROID:	CLARKE 1866
PROJECTION:	UTM
ZONE:	16

Thales GeoSolutions, Inc.
36499 Perkins Rd.
Prairieville, Louisiana 70769
Tel: 225-673-5881 Fax: 225-673-5877
THALES

LLOG EXPLORATION OFFSHORE, INC.

PROPOSED WELL LOCATION

WELL "A"

BLOCK 211

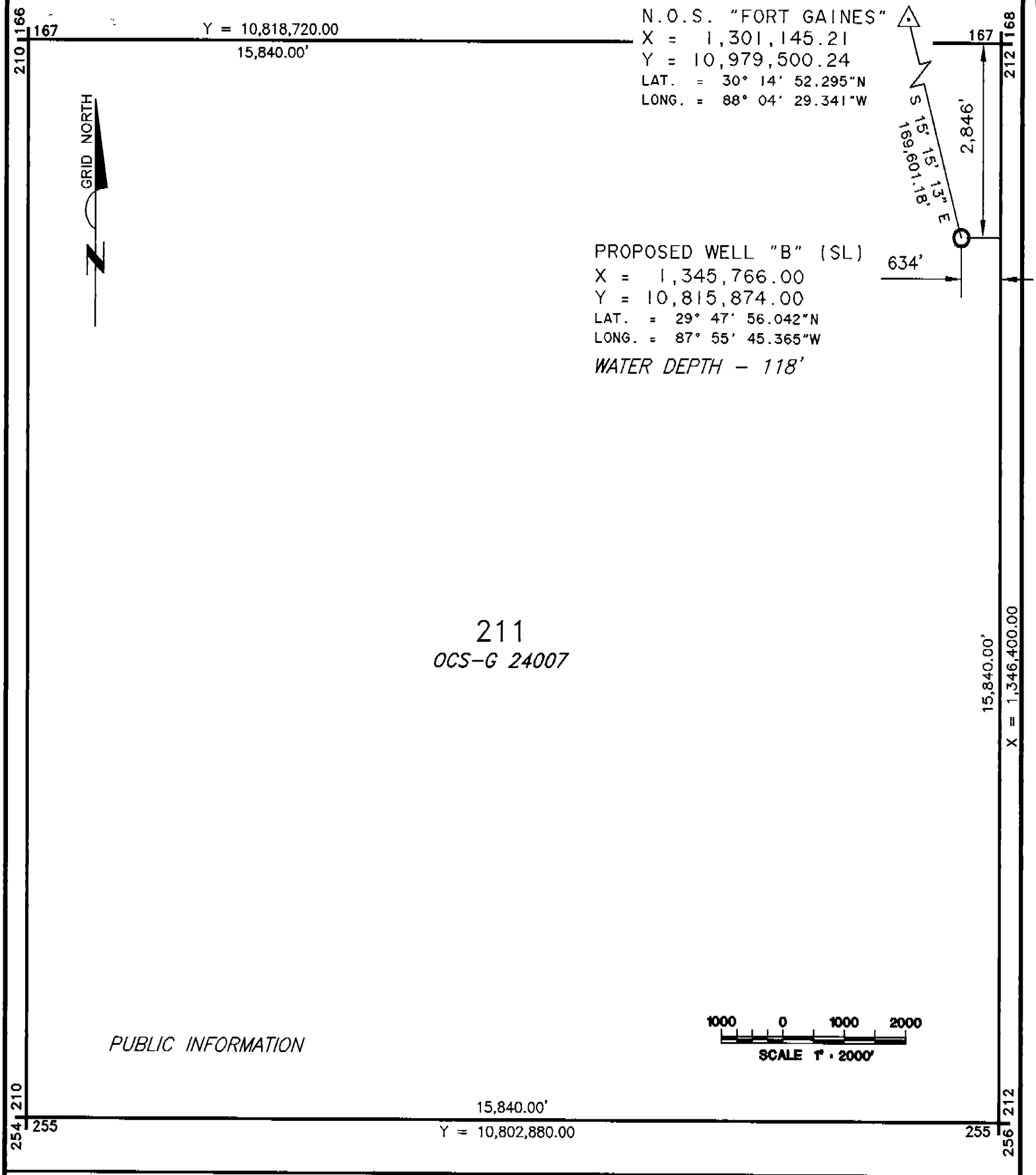
VIOSCA KNOLL AREA

OFFSHORE ALABAMA

DATE:	DRAWN BY:	CHECKED BY:	DRAWING No.
01-27-2003	ELA	cmc	02-1660- "A" WELL
REV. DATE:	REV. No.:	SCALE: 1" = 2000'	JOB No. 2550-1660

(PUBLIC COPY)

ATTACHMENT A-4



I hereby certify that this proposed well location is correct.

Curtis M. Chaney 1/28/2003

Curtis M. Chaney, PLS (La. Reg. No. 4829)

DATUM:	NAD 27
SPHEROID:	CLARKE 1866
PROJECTION:	UTM
ZONE:	16

Thales GeoSolutions, Inc.
36499 Perkins Rd.
Prairieville, Louisiana 70769
Tel: 225-673-5881 Fax: 225-673-5877
THALES

LLOG EXPLORATION OFFSHORE, INC.

PROPOSED WELL LOCATION

WELL "B"

BLOCK 211

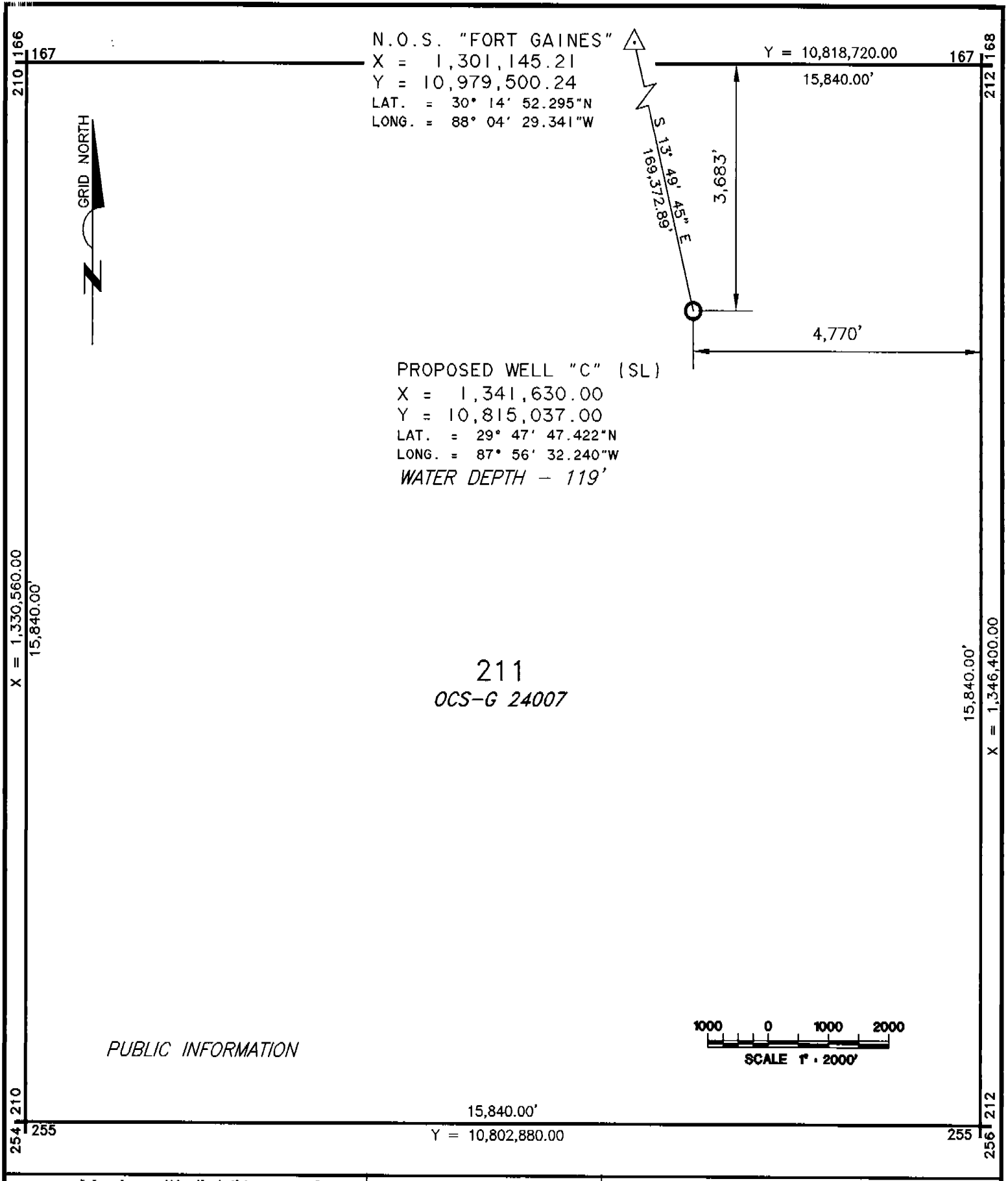
VIOSCA KNOLL AREA

OFFSHORE ALABAMA

DATE:	DRAWN BY:	CHECKED BY:	DRAWING No.
01-27-2003	ELA	cmc	02-1660- "B" WELL
REV. DATE:	REV. No.:	SCALE: 1" = 2000'	JOB No. 2550-1660

(PUBLIC COPY)

ATTACHMENT A-5



I hereby certify that this proposed well location is correct.

Curtis M. Chaney, PLS (La. Reg. No. 4829)

DATUM:	NAD 27
SPHEROID:	CLARKE 1866
PROJECTION:	UTM
ZONE:	16

Thales GeoSolutions, Inc.
36499 Perkins Rd.
Prairieville, Louisiana 70769
Tel: 225-673-5881 Fax: 225-673-5877
THALES

LLOG EXPLORATION OFFSHORE, INC.

PROPOSED WELL LOCATION

WELL "C"

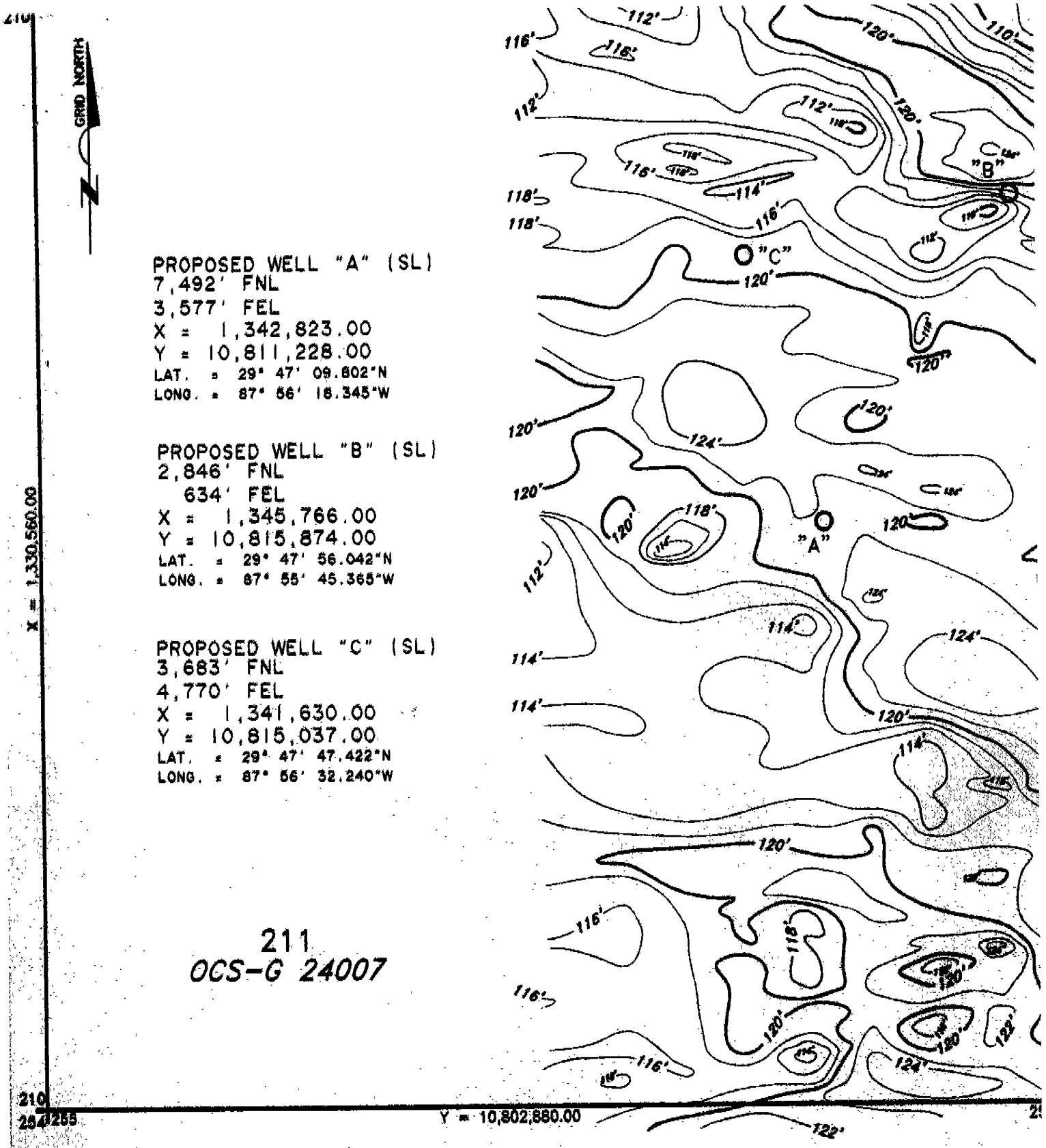
BLOCK 211

VIOSCA KNOLL AREA

OFFSHORE ALABAMA

DATE:	DRAWN BY:	CHECKED BY:	DRAWING No.
01-27-2003	ELA	cmc	02-1660- "C" WELL
REV. DATE:	REV. No.:	SCALE: 1" = 2000'	JOB No. 2550-1660

ATTACHMENT A-6



PROPOSED WELL "A" (SL)
7,492' FNL
3,577' FEL
X = 1,342,823.00
Y = 10,811,228.00
LAT. = 29° 47' 09.802"N
LONG. = 87° 56' 18.345"W

PROPOSED WELL "B" (SL)
2,846' FNL
634' FEL
X = 1,345,766.00
Y = 10,815,874.00
LAT. = 29° 47' 56.042"N
LONG. = 87° 55' 45.365"W

PROPOSED WELL "C" (SL)
3,683' FNL
4,770' FEL
X = 1,341,630.00
Y = 10,815,037.00
LAT. = 29° 47' 47.422"N
LONG. = 87° 56' 32.240"W

211
OCS-G 24007

210
254/255

GRID - UNIVERSAL TRANSVERSE MERCATOR SYSTEM ZONE 16 (NAD 27) CLARKE 1

1,000 0 1,000 2,000
SCALE IN FEET

2' CONTOUR INTERVAL

GEOPHYSICAL SURVEY

BATHYMETRIC MAP

BLOCK 211
VIOSCA KNOLL AREA

OFFSHORE ALABAMA

LLOG EXPLORATION OFFSHORE, INC.

Thales GeoSolutions, In
36409 Perkins Rd.
Prairieville, Louisiana 70769
Tel: 225-673-5881 Fax: 225-673-5877

THALES

DRN. ELA	PREP. ELA	CAL. TAO	APP. SAS	FILE NO. 02-1660
CHK. JSZ	CHK. JSZ	CHK. JSZ	DATE: 01-24-2003	FIG NO.

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 or Natalie Schumann
R.E.M. Solutions, Inc.
17171 Park Row, Suite 390
Houston, Texas 77084
281.492.8562 (Phone)
281.492.6117 (Fax)
connie@remsolutionsinc.com or natalie@remsolutionsinc.com

B. New or Unusual Technology

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

C. Bonding Information

In accordance with Title 30 CFR Part 256, Subpart I, LLOG elected and 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) 98-18N to cover plugging liability of the wellbores, removal of associated well protector structures and site clearance.

LLOG is aware that such bonding may be imposed, and will submit accordingly upon notification from the Minerals Management Service.

SECTION B
General Information - Continued

D. Onshore Base and Support Vessels

The proposed surface disturbances in Viosca Knoll Block 211 will be located approximately 30 miles from the nearest Alabama shoreline, and approximately 40 miles from the onshore support base to be located in Theodore, Alabama.

LLOG will use an existing onshore base to accomplish the following routine operations:

- Loading/Offloading point for equipment supporting the offshore operations,
- Dispatching personnel and equipment, and does not anticipate the need for any expansion of the selected facilities as a result of the activities proposed in this plan,
- 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 drilling rig via the transportation methods and frequencies shown below, taking the most direct route feasible as mandated by weather and traffic conditions:

Support Vessel	Drilling and Completion Trips Per Week
Crew Boat	4
Supply Boat	3
Helicopter	2

The proposed operations are temporary in nature and do not require any immediate action to acquire additional land, expand existing base facilities.

A Vicinity Plat showing the surface location in Viosca Knoll Block 211 relative to the shoreline and onshore base is included as *Attachment B-1.*

SECTION B
General Information - Continued

E. 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.

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 24007, Viosca Knoll Block 211 is subject to the following such stipulation and conditions:

Military Warning Area

The hold and save harmless section of the Military Areas Stipulation serves to protect the U.S. Government from liability in the event of an accident involving the designated oil and gas lease operator and military activities.

The electromagnetic emissions section of the stipulation requires the operator and its agents to reduce and curtail the use of radio or other equipment emitting electromagnetic energy within some areas.

This serves to reduce the impact of oil and gas activity on the communications of military missions and reduces the possible effects of electromagnetic energy transmissions on missile testing, tracking, and detonation.

The operational section requires notification to the military of oil and gas activity to take place within a military use area. This allows the base commander to plan military missions and maneuvers that may avoid the areas where oil and gas activities are taking place or to schedule around these activities. Prior notification helps reduce the potential impacts associated with vessels and helicopters traveling unannounced through areas where military activities are underway.

The Military Areas Stipulation reduces potential impacts, particularly in regards to safety, but does not reduce or eliminate the actual physical presence of oil and gas operations in areas where military operations are conducted.

The reduction in potential impacts resulting from this stipulation makes multiple-use conflicts most unlikely. Without the stipulation, some potential conflict is likely. The best indicator of the overall effectiveness of the stipulation may be that there has never been an accident involving a conflict between military operations and oil and gas activities.

The proposed surface disturbances in Viosca Knoll Block 211 are located within Military Warning Area W-155 A. Therefore, in accordance with the requirements of the referenced stipulation, LLOG will contact the Naval Air Training Command in order to coordinate and control the electromagnetic emissions during the proposed operations.

Marine Protected Species

Lease Stipulation No. 6 is to reduce the potential taking of marine protected species (sea turtles, marine mammals, Gulf Sturgeon, and other listed marine species. MMS permit approvals will be conditioned on collection and removal of flotsam resulting from activities related to exploration, development and production of this lease. Additionally, MMS will be issuing an NTL advising of requirements for posting of signs in prominent places on all vessels and structure, and an observer training program.

Live Bottoms

A small portion of the northeastern CPA including portions of 70 lease blocks is characterized by a pinnacle trend, which is classified as a live bottom under the definition in the stipulation. The pinnacle trend extends into the northwest portion of the Eastern Planning Area (EPA).

The pinnacles are a series of topographic irregularities with variable biotal coverage, which provide structural habitat for a variety of pelagic fish. The pinnacles in the region could be impacted from physical damage of unrestricted oil and gas activities.

The Live Bottom (Pinnacle Trend) Stipulation is intended to protect the pinnacle trend and the associated hard-bottom communities from damage and, at the same time, provide for recovery of potential oil and gas resources.

For the purpose of this stipulation, "live bottom areas" are defined as seagrass communities; or those areas which contain biological assemblages consisting of such sessile invertebrates as sea fans, sea whips, hydroids, anemones, ascidians, sponges, bryozoans, or corals living upon and attached to naturally occurring hard or rocky formations with rough, broken, or smooth

topography; or areas whose lithotope favors the accumulation of turtles, fishes, and other fauna.

Prior to any drilling activities or the construction or placement of any structure for exploration or development on this lease, including, but not limited to, anchoring, well drilling, and pipeline and platform placement, the operator must submit to the Minerals Management Service a live bottom survey report containing a bathymetry map prepared utilizing remote sensing techniques.

The bathymetry map shall be prepared for the purpose of determining the presence or absence of live bottoms, which could be impacted by the proposed activity. This map shall encompass such an area of the seafloor where surface disturbing activities, including anchoring, may occur.

If it is determined that the live bottoms might be adversely impacted by the proposed activity, the RD will require the lessee to undertake any measure deemed economically, environmentally, and technically feasible to protect the pinnacle area. These measures may include, but are not limited to, the following: (a) the relocation of operations; and (b) the monitoring to assess the impact of the activity on the live bottoms.

By identifying the individual pinnacles present at the activity site, the operator would be directed to avoid placement of the drilling rig and anchors on the sensitive areas. Thus, mechanical damage to the pinnacles is eliminated when measures required by the stipulation are imposed. The stipulation does not address the discharge of effluents near the pinnacles because the pinnacle trend is subjected to heavy natural sedimentation and is at considerable depths. The rapid dilution of drill cuttings and muds will minimize the potential of significant concentration of effluents on the pinnacles.

Even though Lease OCS-G 24007, Viosca Knoll Block 211 is not subject to the following stipulation, EPA Region IV requires that the operator conduct a survey as part of the process of the General Permit GMG280000 guidelines.

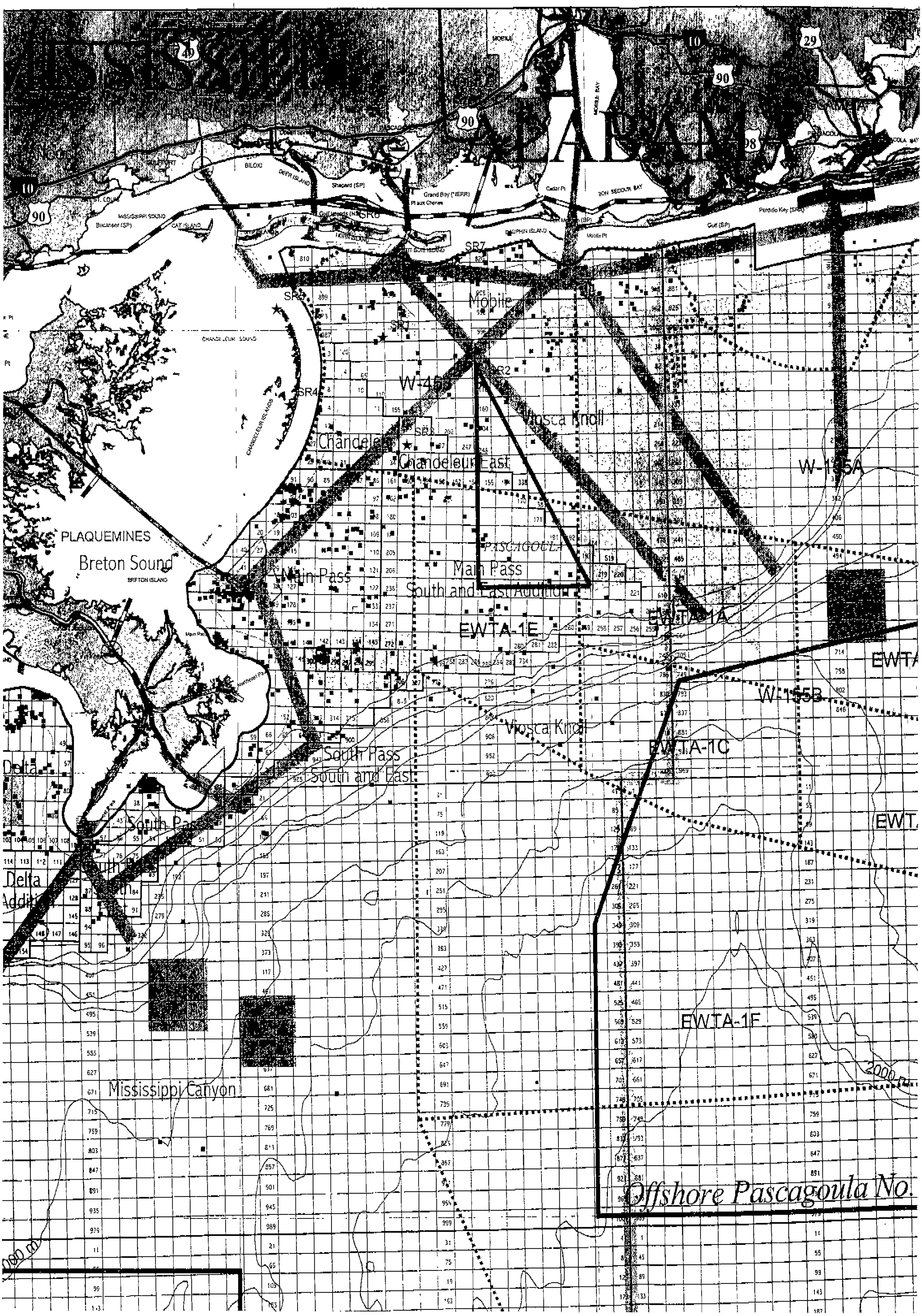
Special Conditions

Viosca Knoll Block 211 is located within (100 km) of the Breton National Wildlife Refuge, LLOG will consider the use of best available control technology as required as Notice to Lessees 98-10 if the projected air emissions are determined to significantly affect the air quality of an onshore area.

SECTION B
General Information - Continued

The proposed surface disturbances in Viosca Knoll Block 211 are located within the boundary of an Artificial Planning Reef Area. Therefore, LLOG will take the necessary precautions as outlined in our Shallow Hazards Assessment to conduct safe operations and avoid any potential hazards within this area.

ATTACHMENT B-1



49
10
90
29
98
MOBILE
MOBILE BAY
BILOXI
DEER ISLAND
MISSISSIPPI SOUND
CAT ISLAND
Bucaneer (SP)
Shepard (SP)
Grand Bay (*IERR)
Cedar Pt
BON SECOUR BAY
DAUPHIN ISLAND
Mobile Pt
Gulf (SP)
Perdido Key (SR)
SR7
SR2
SR3
SR4
Mobile
CHANDELEUR SOUND
CHANDELEUR ISLANDS
W-45
Viosca Knoll
Chandeleur
Chandeleur East
W-155A
PLAQUEMINES
Breton Sound
BRETON ISLAND
PASCAGOULA
Main Pass
Main Pass
South and East Addition
EWTA-1E
EWTA-1A
EWTA
W-155B
Viosca Knoll
EWTA-1C
South Pass
South and East
Delta
South Pass
Delta
Addition
EWTA-1F
Mississippi Canyon
2000 m
Offshore Pascagoula No.

SECTION C
Geological, Geophysical & H2S Information

A. Structure Contour Maps

Included as *Attachments C-1 and C-2* are current structure maps (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 each proposed bottom hole location and applicable geological cross section.

B. Interpreted Deep Seismic Lines

Included as *Attachments C-3 through C-5* are page size copies (original copies only) of the migrated and annotated (shot point, time lines, well paths) of the deep seismic line within 500 feet of the surface locations.

C. Geological Structure Cross Sections

An interpreted geological cross section depicting the proposed well locations and depths is included as *Attachment C-6.* Such cross section corresponds to each seismic line being submitted under separate cover.

D. Shallow Hazards/Archaeological Reports

Thales GeoSolutions, Inc. conducted a high resolution geophysical survey across the east half of Viosca Knoll Block 211 during December 2002 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.

In conjunction with this geophysical survey, an archaeological survey and report was also prepared to comply with the requirements of NTL 2002-G01, as Viosca Knoll Block 211 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.

Three (3) copies of these reports are being submitted to the Minerals Management Service under separate cover.

E. Shallow Hazards Assessment

Shallow hazards analysis has been prepared for the proposed surface locations, evaluating seafloor and subsurface geologic and manmade features and conditions, and is included as *Attachments C-7 through C-9.*

SECTION C
Geological, Geophysical & H2S Information Continued

F. High Resolution Seismic Lines

Included as *Attachment C-10* (original copy only) is a copy 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-11.*

H. Time Vs. Depth Tables

A time versus depth table is included as *Attachment C-12.*

I. Hydrogen Sulfide Classification

In accordance with Title 30 CFR 250.417, LLOG is classifying the area as "known" for the presence of hydrogen sulfide based on data obtained for well locations drilled to the stratigraphic equivalent of the wells proposed in this plan.

Therefore, LLOG will submit to the appropriate Minerals Management Service District Office a Hydrogen Sulfide Contingency Plan prepared according to Title 30 CFR 250.417(f) before conducting the proposed exploratory activities.

ATTACHMENT C-7

THALES

THALES GEOSOLUTIONS, INC.
36499 Perkins Road
Prairieville, Louisiana 70769
USA
Tel: 1 225 673 5881
Fax: 1 225 673 5877
www.thales-geosolutions.com

February 4, 2003

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 24007 'A' Well Location
Block 211, Viosca Knoll Area
Archaeological & Shallow Hazard Analysis

Dear Staff:

LLOG Exploration Offshore, Inc. proposes to drill from the OCS-G 24007 'A' surface location at:

- **7,492' FNL & 3,577' FEL of Block 211, Viosca Knoll Area, offshore Louisiana.**

Thales GeoSolutions, Inc. surveyed the eastern half of Block 211 in June 2002 along a 300-meter by 900-meter grid. LLOG Exploration Offshore, Inc. operates OCS-G 24007 and proposes to drill an exploratory well at the referenced surface location. The operator contracted Thales GeoSolutions, Inc. to provide a shallow hazard analysis and archaeological assessment of the proposed well site in accordance with **NTL No. 98-20 and NTL No. 2002-G01** from the Minerals Management Service. The enclosed Bathymetry Map and certified location plat show the specific coordinates for the planned drill site. Geophysical record copies are enclosed for the magnetometer, side scan sonar, subbottom profiler, echo sounder, and near trace seismic sections from the survey line nearest the proposed well site as required by the MMS in **NTL No. 2002-G08.**

- ***Water depths*** are 121 to 122 feet surrounding the proposed drill site.
- ***Seafloor soils*** include coarse-grained sands and shell hash. Sonar records showed sands waves with moderate slopes of 8' per 600' (1/150) just south of the drill site.
- ***Identified Man-Made features*** were not located within the survey grid.
- ***Magnetic Anomalies*** detected within the lease occurred over 2,500 feet (#14) from the proposed well location. The 19 magnetic anomalies recorded throughout the surveyed portion of the lease block do not pose a hazard to drilling or rig placement. The magnetic anomalies have been shown with appropriate avoidance criteria for the larger ferromagnetic sources. The anomalies will be marked and avoided during rig moves and anchor deployments from support vessels.
- ***Subbottom Data*** indicated that planned drill site was 500 feet south of the nearest channel margin buried three (3) feet beneath the surficial sand. No faults occurred within the upper one second of analog seismic data. The nearest amplitude anomaly occurred 1,700 feet east of the planned drill site.

LLOG Exploration Offshore, Inc. has identified the primary hazards to rig movements, anchor deployments, and drilling. No archaeological features will be disturbed by the proposed drilling, and the avoidance criteria of 100 to 240 feet for specific magnetic anomalies will be implemented during rig moves and anchoring by support vessels.

The proposed well site, lease boundaries, and 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 may request MMS approval to mark potential hazards with best available technology using computer graphic screens that are integrated to DGPS positioning units aboard the drilling rig and all support vessels. In further compliance with Item B-2, a map at a scale of 1:12,000 will be provided to key personnel on the drilling rig and anchor handling vessels. The field map will depict the location of the proposed drilling activity, all anchor patterns, magnetic anomalies and other potential hazards in the area.

Yours truly,

Robert J Floyd

Robert J. Floyd
Marine Archaeologist
Shallow Hazard Analyst

ATTACHMENT C-8

THALES

THALES GEOSOLUTIONS, INC.
36499 Perkins Road
Prairieville, Louisiana 70769
USA
Tel: 1 225 673 5881
Fax: 1 225 673 5877
www.thales-geosolutions.com

February 4, 2003

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 24007 'B' Well Location
Block 211, Viosca Knoll Area
Archaeological & Shallow Hazard Analysis

Dear Staff:

LLOG Exploration Offshore, Inc. proposes to drill from the OCS-G 24007 'B' surface location at:

- **2,846' FNL & 634' FEL of Block 211, Viosca Knoll Area, offshore Louisiana.**

Thales GeoSolutions, Inc. surveyed the eastern half of Block 211 in June 2002 along a 300-meter by 900-meter grid. LLOG Exploration Offshore, Inc. operates OCS-G 24007 and proposes to drill an exploratory well at the referenced surface location. The operator contracted Thales GeoSolutions, Inc. to provide a shallow hazard analysis and archaeological assessment of the proposed well site in accordance with **NTL No. 98-20 and NTL No. 2002-G01** from the Minerals Management Service. The enclosed Bathymetry Map and certified location plat show the specific coordinates for the planned drill site. Geophysical record copies are enclosed for the magnetometer, side scan sonar, subbottom profiler, echo sounder, and near trace seismic sections from the survey line nearest the proposed well site as required by the MMS in **NTL No. 2002-G08.**

- ***Water depths*** are 114 to 118 feet at the proposed drill site.
- ***Seafloor soils*** include coarse-grained sands and shell hash. Echo sounder and sonar records showed sands waves with a slope of 12' per 300' (.04). The slope is vertically exaggerated on the echo sounder and appears closer to normal on the subbottom profiler from Line 0008.
- ***Identified Man-Made features*** were not located within the survey grid.
- ***Magnetic Anomalies*** detected within the lease occurred over 700 feet (#19) from the proposed well location. The 19 magnetic anomalies recorded throughout the surveyed portion of the lease block do not pose a hazard to drilling or rig placement. The magnetic anomalies have been shown with appropriate avoidance criteria for the larger ferromagnetic sources. The anomalies will be marked and avoided during rig moves and anchor deployments from support vessels.
- ***Subbottom Data*** indicated that planned drill site was 3,700 feet southeast of the nearest channel margin buried four (4) feet beneath the surficial sand. No faults occurred within the upper one second of analog seismic data. The nearest amplitude anomaly occurred 2,000 feet northwest of the planned drill site.

LLOG Exploration Offshore, Inc. has identified the primary hazards to rig movements, anchor deployments, and drilling. No archaeological features will be disturbed by the proposed drilling, and the avoidance criteria of 100 to 240 feet for specific magnetic anomalies will be implemented during rig moves and anchoring by support vessels.

The proposed well site, lease boundaries, and 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 may request MMS approval to mark potential hazards with best available technology using computer graphic screens that are integrated to DGPS positioning units aboard the drilling rig and all support vessels. In further compliance with Item B-2, a map at a scale of 1:12,000 will be provided to key personnel on the drilling rig and anchor handling vessels. The field map will depict the location of the proposed drilling activity, all anchor patterns, magnetic anomalies and other potential hazards in the area.

Yours truly,

Robert J Floyd

Robert J. Floyd
Marine Archaeologist
Shallow Hazard Analyst

ATTACHMENT C-9

THALES

THALES GEOSOLUTIONS, INC.
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February 4, 2003

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 24007 'C' Well Location
Block 211, Viosca Knoll Area
Archaeological & Shallow Hazard Analysis

Dear Staff:

LLOG Exploration Offshore, Inc. proposes to drill from the OCS-G 24007 'C' surface location at:

- **3,683' FNL & 4,770' FEL of Block 211, Viosca Knoll Area, offshore Louisiana.**

Thales GeoSolutions, Inc. surveyed the eastern half of Block 211 in June 2002 along a 300-meter by 900-meter grid. LLOG Exploration Offshore, Inc. operates OCS-G 24007 and proposes to drill an exploratory well at the referenced surface location. The operator contracted Thales GeoSolutions, Inc. to provide a shallow hazard analysis and archaeological assessment of the proposed well site in accordance with **NTL No. 98-20 and NTL No. 2002-G01** from the Minerals Management Service. The enclosed Bathymetry Map and certified location plat show the specific coordinates for the planned drill site. Geophysical record copies are enclosed for the magnetometer, side scan sonar, subbottom profiler, echo sounder, and near trace seismic sections from the survey line nearest the proposed well site as required by the MMS in **NTL No. 2002-G08**.

- ***Water depths*** are 118 to 120 feet surrounding the proposed drill site.
- ***Seafloor soils*** include coarse-grained sands and shell hash. Echo sounder and sonar records showed sands waves with moderate, irregular slopes. The slopes are vertically exaggerated on the echo sounder and appear closer to normal on the subbottom profiler from Line 0004.
- ***Identified Man-Made features*** were not located within the survey grid.
- ***Magnetic Anomalies*** detected within the lease occurred 250 feet (#9 only 5 gammas, no avoidance criteria) west of the proposed well location. The 19 magnetic anomalies recorded throughout the surveyed portion of the lease block do not pose a hazard to drilling or rig placement. The magnetic anomalies have been shown with appropriate avoidance criteria for the larger ferromagnetic sources. The anomalies will be marked and avoided during rig moves and anchor deployments from support vessels.
- ***Subbottom Data*** indicated that planned drill site was 1,600 feet south of the nearest channel margin buried four (4) feet beneath the surficial sand. No faults occurred within the upper one second of analog seismic data. The nearest amplitude anomaly occurred 1,000 feet south of the planned drill site.

LLOG Exploration Offshore, Inc. has identified the primary hazards to rig movements, anchor deployments, and drilling. No archaeological features will be disturbed by the proposed drilling, and the avoidance criteria of 100 to 240 feet for specific magnetic anomalies will be implemented during rig moves and anchoring by support vessels.

The proposed well site, lease boundaries, and 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 may request MMS approval to mark potential hazards with best available technology using computer graphic screens that are integrated to DGPS positioning units aboard the drilling rig and all support vessels. In further compliance with Item B-2, a map at a scale of 1:12,000 will be provided to key personnel on the drilling rig and anchor handling vessels. The field map will depict the location of the proposed drilling activity, all anchor patterns, magnetic anomalies and other potential hazards in the area.

Yours truly,

Robert J Floyd

Robert J. Floyd
Marine Archaeologist
Shallow Hazard Analyst

SECTION D
Biological 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.

Viosca Knoll Block 211 is not located within the vicinity of a proposed live bottom area.

Even though Lease OCS-G 24007, Viosca Knoll Block 211 is not subject to the following stipulation, EPA Region IV requires that the operator conduct a survey as part of the process of the General Permit GMG280000 guidelines.

SECTION D
Biological Information - Continued

D. Remotely Operated Vehicle (ROV Surveys)

Pursuant to NTL No. 2001-G04, operators my be required to conduct remote operated vehicle (ROV) surveys during pre-spudding and post-drilling operations for the purpose of biological and physical observations.

The proposed activities with in Viosca Knoll Block 211 will not be subject to this requirement.

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 is in the process of requesting coverage under the Region IV NPDES General Permit GMG280000 for discharges associated with exploration and development activities in Viosca Knoll Block 211 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

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.

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.

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.

ATTACHMENT E-1

LLOG Exploration Offshore, Inc.
Viosca Knoll Block 211
Examples of Wastes and Discharges Information

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	Viosca Knoll Block 211 Overboard
Drill cuttings associated with water-based fluids	2,000 bbl/well	1,000 bbl/hr	Viosca Knoll Block 211 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	Viosca Knoll Block 211 Overboard
Sanitary wastes	20 gal/person/day	Not applicable	Viosca Knoll Block 211 Chlorinate and discharge
Domestic wastes	30 gal/person/day	Not applicable	Viosca Knoll Block 211 Remove floating solids and discharge
Deck Drainage	0-4,000 bbl/day Dependant upon rainfall	15 bbl per hour (maximum separator discharge)	Viosca Knoll Block 211 Treat for oil and grease and discharge
Uncontaminated fresh or seawater	37,000 bbl (drilling)	Not applicable	Viosca Knoll Block 211 Discharged overboard.
Desalinization Unit water	700 bbl/day	Not applicable	Viosca Knoll Block 211 Discharged overboard.
Uncontaminated bilge water	2,000 bbl	260 m^3/hr	Viosca Knoll Block 211 Discharged overboard.
Uncontaminated ballast water	20,000 bbl	2,600 m^3/hr	Viosca Knoll Block 211 Discharged overboard.
Misc. discharges to which treatment chemicals have been added	100 bbl/day	10 bbl/hr	Viosca Knoll Block 211 Discharged overboard.
Miscellaneous discharges (permitted under NPDES) (Excess cement with cementing chemicals)	100 bbl	Not applicable	Viosca Knoll Block 211 Discharged at seafloor without treatment

Table 1. Discharges Table (Wastes to be discharged overboard)

ATTACHMENT E-2

LLOG Exploration Offshore, Inc.
Viosca Knoll Block 211
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
Norm – contaminated wastes	1 ton	Not applicable	Viosca Knoll Block 211	Transport to a transfer station via dedicated barge
Trash and debris	1,000 ft^3	3 ft^3/day	Newpark Environmental Venice, LA	Transport in storage bins on crew boat to disposal facility
Chemical product wastes	50 bbl/yr	2 bbl/day	Newpark Environmental Venice, LA	Transport in containers to shore location
Chemical product wastes	100 bbl	2 bbl/day	Newpark Environmental Venice, 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

Effective January 9, 2003, Minerals Management Service approved the most recent modification to LLOG's Regional Oil Spill Response Plan (OSRP). The Regional OSRP covers the entities of LLOG Exploration Offshore, Inc., LLOG Exploration Company, LLOG Exploration & Production Company, and LLOG Exploration Texas, LP. Activities proposed in this Initial Exploration Plan 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 Exploration Plan WCD*
Type of Activity	Exploratory	Drilling/Completion/Testing
Facility Surface Location	East Cameron Block 81	Viosca Knoll Block 211
Facility Description	Well No. 14 (now known as No. B002)	Jack-Up Rig
Distance to Nearest Shoreline (Miles)	23	30
Volume: Storage Tanks (total) Facility Piping (total) Lease Term Pipeline Uncontrolled Blowout (day) **Potential 24 Hour Volume (Bbls.)**	2,300	 200 0 0 1000 1200
Type of Liquid Hydrocarbon	Condensate	Condensate
API Gravity	50°	45°

SECTION F
Oil Spill Response and Chemical Information Continued

Due to the estimated flow rates from an exploratory well blowout are speculative and temporary in nature, LLOG will not modify their Regional OSRP to change the WCD.

Since LLOG has the capability to respond to the worst-case discharge (WCD) spill scenario included in its Regional OSRP approved on January 9, 2003, and since the worst-case scenario determined for our EP does not replace the worst-case scenario in our Regional OSRP, I hereby certify that 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 EP.

SECTION G
Air Emissions Information

The primary air pollutants associated with OCS exploration 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) for Plan Emissions addressing drilling, potential completion and testing operations utilizing a typical non-gorilla jack-up type drilling unit, with related support vessels and construction barge information.

B. Screening Questions

As evidenced by Attachment G-1, the worksheets were completed based on LLOG proposing to flare or vent natural gas for more than 48 continuous hours and to burn produced hydrocarbon liquids.

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.

SECTION G
Air Emissions Information-Continued

E. Non-Exempt Activities

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

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.

ATTACHMENT G-1

EXPLORATION PLAN (EP)
AIR QUALITY SCREENING CHECKLIST

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

COMPANY	LLOG Exploration Offshore, Inc.
AREA	Viosca Knoll
BLOCK	211
LEASE	OCS-G 24007
RIG	Non-Gorilla Jack-Up
WELL	A - C
COMPANY CONTACT	Christine Groth or Natalie Schumann at R.E.M. Solutions, Inc.
TELEPHONE NO.	281.492.8562
REMARKS	Drill, complete and potentially test Well Locations A through C.

Screening Questions for EP'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
Are your proposed exploration activities located east of 87.5° W longitude?		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 for more than 48 continuous hours from any proposed well?	x	
Do you propose to burn produced hydrocarbon liquids?	x	

Air Pollutant		Plan Emission Amounts[1] (tons)	Calculated Exemption Amounts[2] (tons)		Calculated Complex Total Emission Amounts[3] (tons)
Carbon monoxide (CO)		177.55	32826.64		
Particulate matter (PM)		23.19	999		
Sulphur dioxide (SO_2)		110.07	999		
Nitrogen oxides (NOx)		788.9	999		
Volatile organic compounds (VOC)		24.5	999		

[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.

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 proposed surface disturbances within Viosca Knoll Block 211 are located approximately 200 miles away from the closest designated topographic feature (Diaphus 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 proposed surface disturbances within Viosca Knoll Block 211 are located approximately 20 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 proposed surface disturbances within Viosca Knoll Block 211 are located approximately 20 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 across Viosca Knoll Block 211 range from 118 feet to 122 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.

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 GMG280000, 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 GMG280000, 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 antrhropogenic 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 him 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 GMG280000, 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) 2002-G14 "Vessel Strike Avoidance and Injured/Dead Protective Species" and NTL 2003-G13 "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.

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 GMG280000, 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) 2002-G14 "Vessel Strike Avoidance and Injured/Dead Protective Species" and NTL 2003-G13 "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.

SECTION H
Environmental Impact Analysis-Continued

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 73 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 2202-052 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 2202-052 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 2202-052 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 2202-052 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 2202-052 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-G08 and NTL 98-20.

SECTION H
Environmental Impact Analysis-Continued

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.

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.	2002
MMS Environmental Impact Statement Report No. 2002-15	Minerals Management Service	2002
NTL 2002-G14 "Vessel Strike Avoidance and Injured/Dead Protective Species"	Minerals Management Service	2002
NTL 2002-G13 "Marine Trash & Debris Awareness & Elimination"	Minerals Management Service	2002
NTL 2002-G09 "Regional and Subregional Oil Spill Response Plans"	Minerals Management Service	2002
NTL 2002-G08 "Information Requirements for Exploration Plans and Development Operations Coordination Documents"	Minerals Management Service	2002
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 98-18 "Supplemental Bond Procedures"	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.	2003

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 State of Alabama is enclosed as *Attachment I-1.*

Coastal Resource Use Policies

1. Coastal Development

Coastal regions are likely sites for port, industrial, urban/suburban and energy development facilities. It is the policy of the Alabama Coastal Area Management Program to provide assistance within its means to facilitate a productive and environmental responsible port, industrial, urban/suburban and energy development facilities.

The proposed activities are located in OCS Federal Waters, Gulf of Mexico, approximately 30 miles from the nearest Alabama shoreline and 40 miles to the existing onshore support base located in Theodore, Alabama.

Due to the proposed activities being temporary and speculative in nature, LLOG does not anticipate an impact or need to pursue coastal development activities in Alabama at this time.

2. Mineral Resource Exploration and Extraction

Clay, sand, and gravel are mined in limited quantities from Alabama's coastal river bottoms and stream cuts. This resource extraction is vital to certain sections of the Alabama economy, and the associated land processes produce short and long term adverse impacts to the coastal area and resources. This activity contributes to the overall suspended sediment load in coastal area water bodies, destroys wildlife habitat, changes the visual quality of the landscapes and, irretrievably, consumes the depleted mineral resources. It is the policy of the Alabama Coastal Management Plan to encourage mining operations, and directly related development, engaged in the extraction and/or processing of construction sand, industrial sand, gravel, and other minerals to avoid hydrologically sensitive areas, including oyster reefs, submerged grassbeds, and other productive shallow water areas, with the exception of those activities related to beach nourishment and shoreline stabilization.

The proposed activities do not provide for the extraction of solid minerals from the State of Alabama. These activities provide for the exploration of oil and gas hydrocarbons located in OCS Federal Waters, Gulf of Mexico, approximately 30 miles from the nearest Alabama shoreline.

3. Commercial Fishing

Alabama's fishing industry is one of the most important uses of Alabama's natural coastal assets and the major economic factor in several Mobile and Baldwin County communities. The abundance of commercial species, especially shrimp, is heavily dependent upon the presence of extensive wetland areas for nursery grounds and good. Physical alterations of the estuarine environment that affects certain species of marine organisms are dredge spoil disposal, bacterial pollutions, heavy metals and toxic chemicals discarded by industries.

It is the policy of the Alabama Coastal Area Management Program to encourage the protection and enhancement of the water quality and wetland resources of the coastal area of Alabama in order to protect and enhance the aquatic resources; and to identify, expand and enhance existing essential habitat in an effort to extend the productivity of the ecosystem.

The proposed activities at Viosca Knoll Block 211 will be located approximately 30 miles from the nearest Alabama shoreline. LLOG does not propose any dredging and/or spoil deposition as a result of the proposed activities. The authorized effluents to be discharged during the proposed drilling operations may temporarily affect water quality in the immediate vicinity of each discharge point associated with each well location. Water quality is expected to return to normal in the area following the cessation of operations. Due to the low toxicity and rapid dispersion of these discharges, little or no impact on water column biota is likely, including fish larvae that recruit to near shore nursery areas.

The overboard authorized effluents of drilling fluids and associated cuttings may increase sedimentation rate around the well location, possibly causing burying or smothering of some benthic organisms. Results of previous monitoring programs and modeling studies suggest that burial would most likely occur within an area of a few hectares around each well location. Recovery from these temporary impacts is expected over a period of months to years.

Other minor authorized effluents discharged overboard may include sanitary and domestic waste, deck drainage from the drilling unit, uncontaminated seawater for cooling machinery, and desalination brine. Such discharges may case localized,

short-term impacts on water quality near the discharge points for each well location. There is a very low probability that a diesel spill may occur while conducting transfer operations from the supply vessel to the MODU. LLOG's Regional Oil Spill Response Plan discusses any potential impacts from these types of spills on Alabama's coastal zone. This Plan also describes response actions for specific hypothetical spill events, provisions and approvals required for the use of a dispersants by boat or aerial application, provisions for inspection and maintenance of response equipment, required spill management team tabletop exercises, procedures for spill notification to government agencies, inventories of locally and nationally available response equipment, waste disposal methods and site, and procedures for monitoring and predicting spill movement.

As discussed in the Initial Exploration Plan, LLOG will be utilizing a drilling unit equipped with equipment and technology for well control and blowout prevention as a preventative measure for the safety of personnel and protection of the environment. If a blowout should occur, which results in an oil spill, LLOG's Regional Oil Spill Response Plan addresses the processed for containment, recovery, and removal of the spill liquid hydrocarbons.

The precautions addressed in LLOG's standard safety and environmental operating procedures and our Regional Oil Spill Response Plan are considered consistent with the state's enforceable policies to conserve and protect marine habitat and saltwater fisheries.

4. Hazard Management

Natural hazards such as storms and hurricanes can change the natural beach and dune systems. Human activities such as construction on dune systems and construction of seawalls, bulkheads or jetties can have an adverse effect on adjacent properties and property forward of vertical structures. The Alabama Coastal Area Management Program recognizes that dynamic, unpredictable and damaging natural events such as floods, hurricanes and erosion, occurring within the coastal area are part of the necessary cyclical functions needed to maintain the natural environment. However, the effects of these natural hazard events must be managed, by means of mitigating as a strategy that necessitates proper planning. It is the policy of the Alabama Coastal Area Management Program to encourage land-use planning that avoids or eliminates development in hazardous coastal areas prone to loss due to flood, hurricane surge and/or erosion.

The proposed activities in Viosca Knoll Block 211 should not impact Alabama's measures to protect the coastal area from natural hazards. Furthermore, since the

proposed operations are temporary and speculative in nature, LLOG does not propose or anticipate the need to develop any coastal/onshore sites which could have an adverse effect.

LLOG has adopted industry standards for conducting the proposed exploratory operations. Such standards are adopted to prevent unanticipated occurrences such as a well blowout or oil spill release, which could potentially cause adverse water/air environmental consequences. Such anticipated occurrences will be handled as quickly as possible by LLOG implementing their Regional Oil Spill Response Plan and/or well control standards and procedures.

5. Shoreline Erosion

Shorelines are the transitional areas between water and land because of their location. These shorelines represent the most dynamic interface in the coastal area and are very productive. Their continuous change from wet to dry conditions result in diverse habitats and ecosystems. The shorelines of the Alabama coastal area provide the State and its citizens with many direct and indirect benefits of great value. At the same time, they are highly vulnerable to the pressures of development and to a variety of natural hazards, most notably erosion. Construction and development are primary activities affecting the Alabama shoreline. As development intensifies, the natural topography diminishes critical habitat and creates hazards or intensifies existing hazards. Therefore, it is the policy of the Alabama Coastal Area Management Program to encourage the maintenance and stability of Alabama's natural shoreline and shoreline resources and to minimize erosion by assuring compatibility of shoreline uses.

LLOG will be using the existing onshore support infrastructure located in Theodore, Alabama; and as such does not anticipate a need for new development, construction, dredging or filling activities on Alabama's lands or waters. All travel routes to and from the onshore support base and the offshore locations in Viosca Knoll Block 211 will avoid any recreational trail systems established by the State of Alabama. Therefore, the proposed activities are consistent with the enforceable policies of this chapter.

6. Recreation

Alabama's recreational opportunities are centered around the water resources and include, but are not limited to, sport fishing, boating, swimming and sightseeing. There is an increasing demand for recreational opportunities, both public and private, in Alabama's coastal area; as evidenced by the increased number of boater

registrations, waterfront developments and demand for permit requests for private docks, harbors and marinas. Is it the policy of the Alabama Coastal Area Management Program to safeguard public access to and use of coastal lands and waters such as beaches and shorelines, boat landings, and fishing grounds.

LLOG will be using the existing onshore support infrastructure located in Theodore, Alabama, and will utilize the most direct travel routes to and from the onshore support base and the offshore locations in Viosca Knoll Block 211, and will take measures to avoid any recreational systems recognized by the State of Alabama.

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 our Regional Oil Spill Response Plan which address available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

The precautions addressed in LLOG's standard safety and environmental operating procedures and our Regional Oil Spill Response Plan are considered consistent with the state's enforceable policies to protect and maintain Alabama's lands and water areas for outdoor recreation, conservation, and wildlife management.

7. Transportation

The State of Alabama 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 operations proposed in this Plan at Viosca Knoll Block 211 are temporary and speculative in nature. LLOG will be using an existing infrastructure in Theodore, Alabama for its onshore support operations.

SECTION I
CZM Consistency

Natural Resource Protection Policies

1. Biological Productivity

Biologically, more than 90% of all Alabama's commercial and recreational fishing dollars are dependent on estuaries like Mobile Bay, Weeks Bay and Perdido Bay, which provide habitat for one or more critical life stages for species of fish and shellfish. Protective functions if the coastal area and coastal resources are instrumental in ecosystem preservation and enhancement.

The proposed surface disturbances in Viosca Knoll Block 211 will be located approximately 30 miles from the nearest Alabama shoreline, and approximately 40 miles from the onshore support base to be located in Theodore, Alabama. These proposed activities are temporary and speculative in nature, and LLOG does not anticipate an adverse impact on the biological productivity of the coastal area and/or coastal resources.

2. Water Quality

The policies address the conservation of surface and ground waters for full beneficial use; sustainable water management; preservation of natural resources, fish, and wildlife; protecting public land; and promoting the health and general welfare of the general public in Alabama. The State manages and conserves water and related natural resources by determining whether activities will unreasonable consume water, degrade water quality, or adversely affect environmental values such as protected species habitat, recreational pursuits, and marine productivity.

LLOG will be using the existing onshore support infrastructure in Theodore, Alabama; we do not anticipate any new construction, dredging, or filling on Alabama's lands or waters to affect water quality. The authorized overboard discharges attributable to the proposed activities will be temporary in nature, and will be localized in the vicinity of the surface location for each proposed well; which should not impact Alabama lands or waters.

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 our Regional Oil Spill Response Plan which address available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

The precautions addressed in LLOG's standard safety and environmental operating procedures and our Regional Oil Spill Response Plan are considered consistent with the state's enforceable policies to conserve surface and ground waters of the State.

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 GMG280000. 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 Louisiana. These wastes will be manifested and disposed as per the State of Louisiana Department of Environmental Quality's regulations.

3. Water Resources

In the coastal area, two important reasons for managing water resources and protecting water quality are the availability of adequate supplies of clean, safe waters for private, public and industrial consumers, and to protect the water quality for managing most of the other coastal area resources. The key to protecting the quality of the water resources is to manage the impacts to Alabama's bays, tidal streams, estuaries, wetlands and near shore waters.

The proposed surface disturbances in Viosca Knoll Block 211 will be located approximately 30 miles from the nearest Alabama shoreline, and approximately 40 miles from the onshore support base to be located in Theodore, Alabama. These proposed activities are temporary and speculative in nature, and do not include any permanent installations which may have an impact on area runoff in coastal waters.

4. Air Quality

The quality of air in the Alabama coastal area affects many aspects of the environment that directly relate to the quality of life on the coastal area. The coastal area of Alabama is rapidly expanding, and the increased coastal urbanization and industrial development and increased motor vehicle traffic have increased the amount and complexity of air pollution. Therefore, it is the policy of the Coastal Area Management Program to encourage all sources of air pollution in Alabama's coastal area meet or exceed all applicable emission standards.

Air emissions associated with the proposed activities in Viosca Knoll Block 211 have been projected using a matrix and formula supplied by the Minerals Management Service who has primacy from the Environmental Protection Agency for regulating such emissions. The resultant emissions are below the exemption levels for Carbon Monoxide, Particulate Matter, Sulphur Oxides, Nitrogen Oxides and Volatile Organic Compounds.

5. Wetlands and Submerged Grassbeds

The State of Alabama has dominion and control of submerged lands extending three miles seaward from its coast. Proper management ensures the continued viability of this resource and prevents obstructions to navigation, reductions in water quality, biological diversity and production, and restriction of public access. It is the policy of the Alabama Coastal Area Management Program to encourage the protection of wetlands and submerged grassbeds to maintain or increase the vital role they play in the coastal ecosystem and the coastal quality of life.

The proposed activities addressed in this Plan will be located 30 miles from the nearest Alabama shoreline, with an existing onshore support infrastructure in Theodore, Alabama. Therefore, LLOG does not anticipate an impact on associated wetlands and submerged grassbeds as a result of the proposed activities.

6. Beach and Dune Protection

Beach and dune systems are dynamic and respond to the many forces of the sea. Their characteristics serve to buffer and cushion against wave attach and, therefore, are the first line of defense against the destructive and erosive forces of the sea, Beach and dune systems also re-supply the land-water interface before, during and after periods of high energy conditions (wave actions). Beach and dune systems cover approximately 10,000 acres along Alabama's shoreline and are highly productive and protective to the coastal area. Protection and preservation of these systems in a natural state it vital. Loss of beaches and dunes eliminates wildlife, habitat, reduces buffers protecting inland areas from the forces of storms, and significantly impacts the Alabama economy. Therefore, it is the policy of the Alabama Coastal Zone Management Program to encourage the maintenance of the natural attributes of beach and dune systems in the Alabama coastal area and to assure adequate public access.

The offshore activities to be conducted in Viosca Knoll Block 211 will be located approximately 30 miles from the nearest Alabama coastline; whereas the onshore support operations will be conducted from an existing infrastructure located in Theodore, Alabama.

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 our Regional Oil Spill Response Plan which address available equipment and personnel, techniques for containment and recovery, and removal of the oil spill.

The precautions addressed in LLOG's standard safety and environmental operating procedures and our Regional Oil Spill Response Plan are considered consistent with the policies for protecting beach and shore preservation.

7. Wildlife Habitat Protection

The enforceable policies direct the State of conserve its diverse fish and wildlife resources, with emphasis on the protection of species defined as endangered or threatened. State lands that provide habitat needed by these species shall be maintained and enhanced for their value wildlife habitat. Substances thrown, spilled, drained, or discharged into fresh waters that injure or kill fish are expressly prohibited.

As LLOG will be using the existing onshore support infrastructure in Theordore, Alabama; we do not anticipate any impact on Alabama lands or waters to affect wildlife habitats. The most direct traffic routes for support vessels from support base to Viosca Knoll Block 211. The authorized overboard discharges attributable to the proposed activities will be temporary in nature, and will be localized in the vicinity of the surface location for each proposed well; which should not impact Alabama lands, waters or wildlife. Disposal of trash and debris into the receiving waters is strictly prohibited by the Minerals Management Service, US Environmental Protection Agency and the US Coast Guard. Implementation of a stipulation attached to the oil and gas leases address the measures for preventing disposal of trash and debris overboard and subsequently endangering wildlife. Minerals Management Service recently issued Notice to Lessees No. 2002-G13 and 2002-G14 outlining the requirements for posting of signs and training of personnel on such unauthorized disposals, as well as accident reporting related to marine species.

The precautions addressed in LLOG's standard safety and environmental operating procedures and our Regional Oil Spill Response Plan are considered consistent with the state's enforceable policies to conserve Alabama's wildlife resources, including endangered and/or threatened species.

8. Endangered Species

Coastal area habitats are important in the life-cycles for many endangered and threatened species, migratory birds, waterfowls, and terrestrial species and, of course, finfish and shellfish. Therefore, it is the policy of the State of Alabama Coastal Area Management Program to promote the preservation of these habitats which are important to the endangered species.

The proposed activities addressed in this Plan are temporary and speculative in nature and will be located approximately 30 miles from the nearest Alabama shoreline; therefore, LLOG does not anticipate an impact on these areas and species.

9. Cultural Resources Protection

The cultural resources of the Alabama coastal area include historical resources, architectural resources, archaeological resources and heritage resources. The importance of cultural resources is that they allow insight into the past inhabitants of the coastal area and provide valuable information and clues to understanding the conditions of the past natural environment. Therefore, it is the policy of the State of Alabama Coastal Area Management Program to promote the preservation of cultural resources and to insure that the knowledge of Alabama's history and pre-history is not lost.

The proposed activities are located in Viosca Knoll Block 211, and are located within a high probability area for potential archaeological resources; however, we do not anticipate any impact as a result of the proposed operations.

ATTACHMENT I-1

COASTAL ZONE MANAGEMENT CONSISTENCY CERTIFICATION

INITIAL EXPLORATION PLAN

VIOSCA KNOLL BLOCK 211

LEASE OCS-G 24007

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

By: LLOG Exploration Offshore, Inc.

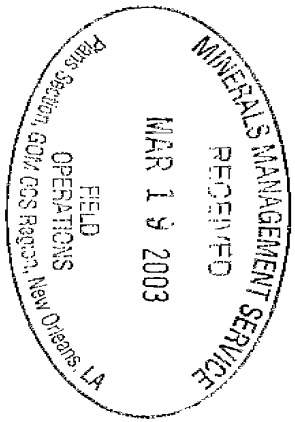
Signed By: Carol Eaton

Dated: 03/06/03

EXPLORATION PLAN (EP)
AIR QUALITY SCREENING CHECKLIST

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

COMPANY	LLOG Exploration Offshore, Inc.
AREA	Viosca Knoll
BLOCK	211
LEASE	OCS-G 24007
RIG	Non-Gorilla Jack-Up
WELL	A - C
COMPANY CONTACT	Christine Groth or Natalie Schumann at R.E.M. Solutions, Inc.
TELEPHONE NO.	281.492.8562
REMARKS	Drill, complete and potentially test Well Locations A through C.



Screening Questions for EP'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
Are your proposed exploration activities located east of 87.5° W longitude?		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 for more than 48 continuous hours from any proposed well?	x	
Do you propose to burn produced hydrocarbon liquids?	x	

Air Pollutant		Plan Emission Amounts[1] (tons)	Calculated Exemption Amounts[2] (tons)		Calculated Complex Total Emission Amounts[3] (tons)
Carbon monoxide (CO)		177.55	32826.64		
Particulate matter (PM)		23.19	999		
Sulphur dioxide (SO_2)		110.07	999		
Nitrogen oxides (NOx)		788.9	999		
Volatile organic compounds (VOC)		24.5	999		

[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.

EMISSIONS FACTORS

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

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

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

EMISSIONS CALCULATIONS 1ST YEAR

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL		CONTACT	PHONE	REMARKS
LLOG Exploration Offshor	Viosca Knoll	211	OCS-G 24007	on-Gorilla Jack-U	A - C		Christine Groth or Natalie Schume	281 492.6562	

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	11700	565.11	13562.64	24	216	8 25	37 83	283.48	8.50	61 85	21 38	98.06	734 78	22.04	160 32
	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	123	1.46	6 68	50 03	1 50	10 92	0.72	3 29	24 62	0.74	5.37
	VESSELS>600hp diesel(supply)	2065	99.7395	2393 75	10	93	1 46	6 68	50.03	1.50	10 92	0.68	3 10	23 27	0 70	5.08
	VESSELS>600hp diesel(tugs)	4200	202.86	4868.64	12	6	2 96	13.58	101 76	3.05	22 20	0.11	0.49	3 66	0.11	0 80
FACILITY INSTALLATION	DERRICK BARGE diesel	0	0	0 00	0	0	0 00	0.00	0.00	0.00	0.00	0 00	0.00	0 00	0 00	0 00
	MATERIAL TUG diesel	0	0	0 00	0	0	0.00	0 00	0.00	0.00	0.00	0 00	0 00	0.00	0 00	0 00
	VESSELS>600hp diesel(crew)	0	0	0.00	0	0	0.00	0.00	0 00	0.00	0 00	0 00	0.00	0.00	0.00	0 00
	VESSELS>600hp diesel(supply)	0	0	0 00	0	0	0.00	0 00	0.00	0 00	0 00	0 00	0.00	0 00	0.00	0.00
	MISC.	BPD	SCF/HR	COUNT												
	TANK-	0			0	0				0 00					0.00	
DRILLING WELL TEST	OIL BURN	250			24	6	4 38	71 15	20.83	0 10	2.19	0 32	5 12	1 50	0 00	0 16
	GAS FLARE		208333.33		24	6		0 12	14 87	12.56	80 94		0 01	1 07	0.90	5 83
2003 YEAR TOTAL							18.49	136.04	521.02	27.23	189.01	23.19	110.07	788.90	24.50	177.55
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES											999.00	999.00	999.00	999.00	32826.64
	30.0															

SUMMARY

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL
LLOG Exploration Offshore, Inc.	Viosca Knoll	211	OCS-G 24007	Non-Gorilla Jack-Up	A - C

Year	Emitted Substance				
	PM	SOx	NOx	VOC	CO
2003	23.19	110.07	788.90	24.50	177.55
Allowable	999.00	999.00	999.00	999.00	32826.64