

UNITED STATES GOVERNMENT  
MEMORANDUM

November 15, 2005

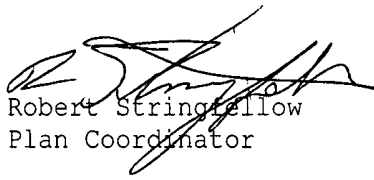
To: Public Information (MS 5030)  
From: Plan Coordinator, FO, Plans Section (MS 5231)

Subject: Public Information copy of plan

Control #	-	N-08613
Type	-	Initial Exploration Plan
Lease(s)	-	✓ OCS-G15906 Block - 518 Garden Banks Area OCS-G15914 Block - 561 Garden Banks Area
Operator	-	Kerr-McGee Oil & Gas Corporation
Description	-	Wells GB 518 A thru E and GB 561 A thru F
Rig Type	-	SEMISUBMERSIBLE

Attached is a copy of the subject plan.

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

  
Robert Stringfellow  
Plan Coordinator

Site Type/Name	Botm Lse/Area/Blk	Surface Location	Surf Lse/Area/Blk
WELL/A	G15906/GB/518	4997 FSL, 1722 FWL	G15906/GB/518
WELL/A	G15914/GB/561	2901 FNL, 4257 FEL	G15914/GB/561
WELL/B	G15906/GB/518	9718 FSL, 5574 FWL	G15906/GB/518
WELL/B	G15914/GB/561	2967 FNL, 14349 FEL	G15914/GB/561
WELL/C	G15906/GB/518	6170 FSL, 2690 FWL	G15906/GB/518
WELL/C	G15914/GB/561	2056 FNL, 2721 FEL	G15914/GB/561
WELL/D	G15906/GB/518	6545 FSL, 5384 FWL	G15906/GB/518
WELL/D	G15914/GB/561	559 FNL, 625 FEL	G15914/GB/561
WELL/E	G15906/GB/518	655 FSL, 2379 FWL	G15906/GB/518
WELL/E	G15914/GB/561	1312 FNL, 687 FEL	G15914/GB/561
WELL/F	G15914/GB/561	559 FNL, 2146 FEL	G15914/GB/561

NOTED - SCHEXNAILDRE

PRS  
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# KERR-McGEE OIL & GAS CORPORATION

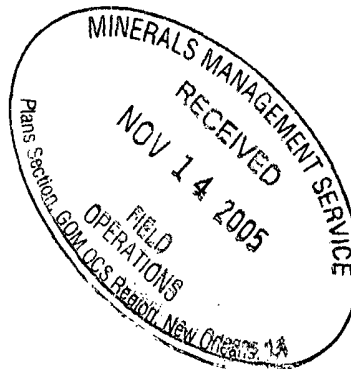
16666 Northchase · Houston, Texas 77060

Cary V. Bradford  
Manager of Regulatory Affairs  
GOM and North America Region

Phone: 281/618-6338  
Fax: 281/673-4338

November 8, 2005

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



Attention: Mr. Nick Wetzel  
Plans Unit

RE: Joint Initial Exploration Plan for Leases OCS-G 15906/15914, Garden Banks Blocks 518/561 (Grand Cayman Prospect), OCS Federal Waters, Gulf of Mexico, Offshore, Louisiana

Gentlemen:

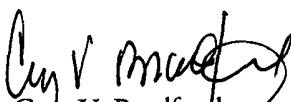
In accordance with the provisions of Title 30 CFR 250.203 and that certain Notice to Lessees (NTL 2003-G17), Kerr-McGee Oil & Gas Corporation (Kerr-McGee) hereby submits for your review and approval a Joint Initial Exploration Plan (Plan) for Leases OCS-G 15906/15914, Garden Banks Blocks 518/561, Offshore, Louisiana. Excluded from the Public Information copies are certain geologic and geophysical discussions and attachments.

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

***Kerr-McGee hereby requests an expedited review of this Plan due to the MODU becoming available sooner than anticipated. Kerr-McGee anticipates operations under this Plan commencing as early as January 1, 2006.***

Should additional information be required, please contact the undersigned, or our regulatory consultant, Christine Groth, R.E.M. Solutions, Inc., at 281.492.8562 or at [christine@remolutionsinc.com](mailto:christine@remolutionsinc.com).

Sincerely,

  
Cary V. Bradford

**Public Information**

CVB:CAG  
Attachments

**KERR-MCGEE OIL & GAS CORPORATION**

16666 Northchase  
Houston, Texas 77060

Cary V. Bradford  
cbradford@kmg.com

**JOINT INITIAL EXPLORATION PLAN**

**LEASES OCS-G 15906/15914**

**GARDEN BANKS BLOCKS 518/561**

**(GRAND CAYMAN PROSPECT)**

**PREPARED BY:**

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

**DATED:**

November 8, 2005

## SECTION A

### Plan Contents

#### A. Description, Objectives and Schedule

Leases OCS-G 15906/15914, Garden Banks Blocks 518/561 was acquired by Enserch Exploration, Inc., Mobil Producing Texas and New Mexico Inc. at the Western Gulf of Mexico Lease Sale No. 155 held on September 15, 1995. The leases were issued with effective dates of February 1, 1996 and primary term ending dates of January 31, 2006.

The current lease operatorship and ownership are as follows:

Area/Block Lease No.	Operator	Ownership
Garden Banks Block 518 Lease OCS-G 15906	Kerr-McGee Oil & Gas Corporation	Shell Gulf of Mexico Inc. Kerr-McGee Oil & Gas Corporation Newfield Exploration Gulf Coast Inc.
Garden Banks Block 561 Lease OCS-G 15914	Kerr-McGee Oil & Gas Corporation	Shell Gulf of Mexico Inc. Kerr-McGee Oil & Gas Corporation

Kerr-McGee proposes to drill, complete, and potentially test eleven (11) well locations in Garden Banks Blocks 518/561. Information pertaining to the geological targets, including a narrative of trapping features, is included as **Attachment A-1**.

#### B. Location

Included as **Attachments A-2 through A-4** is Form MMS-137 "OCS Plan Information Form", well location plats, and a bathymetry map detailing the proposed well surface location disturbance areas with proposed anchor patterns.

#### C. Drilling Unit

Kerr-McGee will utilize a typical semi-submersible 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 Kerr-McGee, and mandates regulatory compliance with the contractors and vendors associated with the proposed operations as follows:

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

## SECTION A

### Plan Contents - Continued

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.

# Geological Targets and Trapping Features

Attachment A-1  
(Proprietary Information)

**OCS Plan Information Form**

**Attachment A-2  
(Public Information)**

### OCS PLAN INFORMATION FORM

#### General Information

Type of OCS Plan	<input checked="" type="checkbox"/>	Exploration Plan (EP)	Development Operations Coordination Document (DOCD)
Company Name:	Kerr-McGee Oil & Gas Corporation		MMS Operation Number: 02219
Address:	16666 Northchase Drive Houston, Texas 77060		Contact Person: Christine Groth / R.E.M. Solutions, Inc. Phone Number: (281) 492-8562 E-Mail Address: christine@remolutionsinc.com
Lease(s):	G15906/15914	Area: GB	Block(s): 518/561
Project Name (If Applicable):		Grand Cayman	
Objective(s):	<input type="checkbox"/> Oil	<input checked="" type="checkbox"/> Gas	<input type="checkbox"/> Sulphur
<input type="checkbox"/> Salt	Onshore Base: Fourchon, LA	Distance to Closes Land (Miles): 137	

#### Description of Proposed Activities (Mark all that apply)

<input checked="" type="checkbox"/>	Exploration drilling	<input type="checkbox"/>	Development drilling
<input checked="" type="checkbox"/>	Well completion	<input type="checkbox"/>	Installation of production platform
<input checked="" type="checkbox"/>	Well test flaring (for more than 48 hours)	<input type="checkbox"/>	Installation of production facilities
<input type="checkbox"/>	Installation of caisson or platform as well protection structure	<input type="checkbox"/>	Installation of satellite structure
<input checked="" type="checkbox"/>	Installation of subsea wellheads and/or manifolds	<input type="checkbox"/>	Commence production
<input type="checkbox"/>	Installation of lease term pipelines	<input type="checkbox"/>	Other (Specify and describe)
Have you submitted or do you plan to submit a Conservation Information Document to accompany this plan?		<input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No
Do you propose to use new or unusual technology to conduct your activities?		<input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No
Do you propose any facility that will serve as a host facility for deepwater subsea development?		<input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No
Do you propose any activities that may disturb an MMS-designated high-probability archaeological area?		<input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No
Have all of the surface locations of your proposed activities been previously reviewed and approved by MMS?		<input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No

#### Tentative Schedule of Proposed Activities

Proposed Activity	Start Date	End Date	No. of Days
Drill, complete and test Well Location A in GB 518	01/01/2006	03/01/2006	60
Drill, complete and test Well Location B in GB 518	03/02/2006	04/30/2006	60
Drill, complete and test Well Location C in GB 518	05/01/2006	06/29/2006	60
Drill, complete and test Well Location D in GB 518	06/30/2006	08/28/2006	60
Drill, complete and test Well Location E in GB 518	08/29/2006	10/27/2006	60
Drill, complete and test Well Location A in GB 561	10/28/2006	12/26/2006	60
Drill, complete and test Well Location B in GB 561	12/27/2006	02/24/2007	60
Drill, complete and test Well Location C in GB 561	02/25/2007	04/25/2007	60
Drill, complete and test Well Location D in GB 561	04/26/2007	06/24/2007	60
Drill, complete and test Well Location E in GB 561	06/25/2007	08/23/2007	60
Drill, complete and test Well Location F in GB 561	08/24/2007	10/22/2007	60

#### Description of Drilling Rig

#### Description of Production Platform

<input type="checkbox"/>	Jackup	<input type="checkbox"/>	Drillship	<input type="checkbox"/>	Caisson	<input type="checkbox"/>	Tension Leg Platform
<input type="checkbox"/>	Gorilla Jackup	<input type="checkbox"/>	Platform rig	<input type="checkbox"/>	Well protector	<input type="checkbox"/>	Compliant tower
<input checked="" type="checkbox"/>	Semi-submersible	<input type="checkbox"/>	Submersible	<input type="checkbox"/>	Fixed Platform	<input type="checkbox"/>	Guyed tower
<input type="checkbox"/>	DP Semi-submersible	<input type="checkbox"/>	Other (Attach description)	<input type="checkbox"/>	Subsea manifold	<input type="checkbox"/>	Floating production system
Drilling Rig Name (if known): Unknown				<input type="checkbox"/>	Spar	<input type="checkbox"/>	Other (Attach Description)

#### Description of Lease Term Pipelines

From (Facility/Area/Block)	To (Facility/Area/Block)	Diameter (Feet)	Length (Feet)
NA			

**OCS PLAN INFORMATION FORM (CONTINUED)**  
Include one copy of this page for each proposed well/structure

Proposed Well/Structure Location					
Well or Structure Name/Number (If renaming well or structure, reference previous name): <b>Well Location A</b>					Subsea Completion
Anchor Radius (if applicable) in feet:					<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	Surface Location		Bottom-Hole Location (For Wells)		
Lease No.	OCS-G 15906		OCS-G 15906		
Area Name	Garden Banks		Garden Banks		
Block No.	518		518		
Blockline Departures (in feet)	N/S Departure	4,997'	F S L	N/S Departure	
	E/W Departure	1,722'	F W L	E/W Departure	
Lambert X-Y coordinates	X: 1,870,842		X:		
	Y: -9,968,357		Y:		
Latitude / Longitude	Latitude 27-28-06.665		Latitude		
	Longitude -92-17-20.979		Longitude		
TVD (Feet):		MD (Feet):		Water Depth (Feet): 2,198'	
<b>Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)</b>					
Anchor Name or No.	Area	Block	X Coordinate	Y Coordinate	Length of Anchor Chain on Seafloor
1	GB	521	X= 1,863,650	Y= 9,965,440	3,259'
2	GB	521	X= 1,864,749	Y= 9,968,223	3,359'
3	GB	477	X= 1,867,951	Y= 9,975,564	3,358'
4	GB	521	X= 1,873,078	Y= 9,975,477	3,301'
5	GB	522	X= 1,878,034	Y= 9,971,274	3,380'
6	GB	521	X= 1,878,542	Y= 9,967,354	3,407'
7	GB	521	X= 1,873,874	Y= 9,960,789	3,625'
8	GB	521	X= 1,869,809	Y= 9,960,665	3,502'
<p><b>Paperwork Reduction Act of 1995 Statement:</b> The Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35) requires us to inform you that MMS collects this information as part of an applicant's Exploration Plan or Development Operations Coordination Document submitted for MMS approval. We use the information to facilitate our review and data entry for OCS plans. We will protect proprietary data according to the Freedom of Information Act and 30 CFR 250.196. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid Office of Management and Budget Control Number. The use of this form is voluntary. The public reporting burden for this form is included in the burden for preparing Exploration Plans and Development Operations Coordination Documents. We estimate that burden to average 580 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to the Information Collection Clearance Officer, Mail Stop 4230, Minerals Management Service, 1849 C Street, N.W., Washington, DC 20240.</p>					

**OCS PLAN INFORMATION FORM (CONTINUED)**  
Include one copy of this page for each proposed well/structure

Proposed Well/Structure Location					
Well or Structure Name/Number (If renaming well or structure, reference previous name): <b>Well Location B</b>					Subsea Completion
Anchor Radius (if applicable) in feet:					<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Surface Location</b>		<b>Bottom-Hole Location (For Wells)</b>			
Lease No.	OCS-G 15906		OCS-G 15906		
Area Name	Garden Banks		Garden Banks		
Block No.	518		518		
Blockline Departures (in feet)	N/S Departure	9,718'	F S L	N/S Departure	
	E/W Departure	5,574'	F W L	E/W Departure	
Lambert X-Y coordinates	X: 1,874,694		X:		
	Y: -9,973,078		Y:		
Latitude / Longitude	Latitude 27-28-53.210		Latitude		
	Longitude -92-16-37.897		Longitude		
TVD (Feet):		MD (Feet):		Water Depth (Feet): 2,460'	
<b>Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)</b>					
Anchor Name or No.	Area	Block	X Coordinate	Y Coordinate	Length of Anchor Chain on Seafloor
1	GB	517	X= 1,867,905	Y= 9,976,827	3,259'
2	GB	474	X= 1,871,951	Y= 9,980,343	3,268'
3	GB	518	X= 1,880,260	Y= 9,978,499	3,395'
4	GB	518	X= 1,881,966	Y= 9,975,791	3,392'
5	GB	518	X= 1,881,155	Y= 9,968,783	3,380'
6	GB	518	X= 1,877,437	Y= 9,965,813	3,407'
7	GB	518	X= 1,870,133	Y= 9,967,046	3,420'
8	GB	517	X= 1,867,334	Y= 9,970,616	3,502'
<p><b>Paperwork Reduction Act of 1995 Statement:</b> The Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35) requires us to inform you that MMS collects this information as part of an applicant's Exploration Plan or Development Operations Coordination Document submitted for MMS approval. We use the information to facilitate our review and data entry for OCS plans. We will protect proprietary data according to the Freedom of Information Act and 30 CFR 250.196. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid Office of Management and Budget Control Number. The use of this form is voluntary. The public reporting burden for this form is included in the burden for preparing Exploration Plans and Development Operations Coordination Documents. We estimate that burden to average 580 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to the Information Collection Clearance Officer, Mail Stop 4230, Minerals Management Service, 1849 C Street, N.W., Washington, DC 20240.</p>					

**OCS PLAN INFORMATION FORM (CONTINUED)**  
Include one copy of this page for each proposed well/structure

Proposed Well/Structure Location					
Well or Structure Name/Number (If renaming well or structure, reference previous name): <b>Well Location C</b>					Subsea Completion
Anchor Radius (if applicable) in feet:					<input checked="" type="checkbox"/> X <input type="checkbox"/> Yes <input type="checkbox"/> No
	Surface Location		Bottom-Hole Location (For Wells)		
Lease No.	OCS-G 15906		OCS-G 15906		
Area Name	Garden Banks		Garden Banks		
Block No.	518		518		
Blockline Departures (in feet)	N/S Departure	6,170'	F S L	N/S Departure	
	E/W Departure	2,690'	F W L	E/W Departure	
Lambert X-Y coordinates	X: 1,871,810		X:		
	Y: -9,969,530		Y:		
Latitude / Longitude	Latitude  27-28-18.230		Latitude		
	Longitude  -92-17-10.154		Longitude		
TVD (Feet):		MD (Feet):		Water Depth (Feet): 2,260'	
Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)					
Anchor Name or No.	Area	Block	X Coordinate	Y Coordinate	Length of Anchor Chain on Seafloor
1	GB	517	X= 1,864,641	Y= 9,966,565	3,259'
2	GB	517	X= 1,864,580	Y= 9,972,343	3,285'
3	GB	517	X= 1,868,812	Y= 9,976,685	3,322'
4	GB	518	X= 1,874,337	Y= 9,976,866	3,392'
5	GB	518	X= 1,879,448	Y= 9,970,912	3,380'
6	GB	518	X= 1,879,273	Y= 9,967,393	3,407'
7	GB	562	X= 1,873,698	Y= 9,961,997	3,494'
8	GB	562	X= 1,870,386	Y= 9,961,900	3,502'
<p><b>Paperwork Reduction Act of 1995 Statement:</b> The Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35) requires us to inform you that MMS collects this information as part of an applicant's Exploration Plan or Development Operations Coordination Document submitted for MMS approval. We use the information to facilitate our review and data entry for OCS plans. We will protect proprietary data according to the Freedom of Information Act and 30 CFR 250.196. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid Office of Management and Budget Control Number. The use of this form is voluntary. The public reporting burden for this form is included in the burden for preparing Exploration Plans and Development Operations Coordination Documents. We estimate that burden to average 580 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to the Information Collection Clearance Officer, Mail Stop 4230, Minerals Management Service, 1849 C Street, N.W., Washington, DC 20240.</p>					

**OCS PLAN INFORMATION FORM (CONTINUED)**  
Include one copy of this page for each proposed well/structure

Proposed Well/Structure Location					
Well or Structure Name/Number (If renaming well or structure, reference previous name): <b>Well Location D</b>					Subsea Completion
Anchor Radius (if applicable) in feet:					<input checked="" type="checkbox"/> X <input type="checkbox"/> Yes <input type="checkbox"/> No
	Surface Location		Bottom-Hole Location (For Wells)		
Lease No.	OCS-G 15906		OCS-G 15906		
Area Name	Garden Banks		Garden Banks		
Block No.	518		518		
Blockline Departures (in feet)	N/S Departure	6,545'	F S L	N/S Departure	
	E/W Departure	5,384'	F W L	E/W Departure	
Lambert X-Y coordinates	X: 1,874,504		X:		
	Y: -9,969,905		Y:		
Latitude / Longitude	Latitude		Latitude		
	27-28-22.790				
	Longitude		Longitude		
	-92-16-40.212				
TVD (Feet):		MD (Feet):		Water Depth (Feet): 2,336'	
<b>Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)</b>					
Anchor Name or No.	Area	Block	X Coordinate	Y Coordinate	Length of Anchor Chain on Seafloor
1	GB	562	X= 1,878,349	Y= 9,963,183	3,259'
2	GB	562	X= 1,871,976	Y= 9,962,561	3,357'
3	GB	517	X= 1,866,821	Y= 9,968,781	3,395'
4	GB	517	X= 1,867,267	Y= 9,972,709	3,355'
5	GB	518	X= 1,873,833	Y= 9,977,348	3,289'
6	GB	518	X= 1,878,489	Y= 9,977,780	3,754'
7	GB	518	X= 1,882,242	Y= 9,970,582	3,494'
8	GB	518	X= 1,881,179	Y= 9,965,955	3,502'
<p><b>Paperwork Reduction Act of 1995 Statement:</b> The Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35) requires us to inform you that MMS collects this information as part of an applicant's Exploration Plan or Development Operations Coordination Document submitted for MMS approval. We use the information to facilitate our review and data entry for OCS plans. We will protect proprietary data according to the Freedom of Information Act and 30 CFR 250.196. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid Office of Management and Budget Control Number. The use of this form is voluntary. The public reporting burden for this form is included in the burden for preparing Exploration Plans and Development Operations Coordination Documents. We estimate that burden to average 580 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to the Information Collection Clearance Officer, Mail Stop 4230, Minerals Management Service, 1849 C Street, N.W., Washington, DC 20240.</p>					

**OCS PLAN INFORMATION FORM (CONTINUED)**  
Include one copy of this page for each proposed well/structure

Proposed Well/Structure Location					
Well or Structure Name/Number (If renaming well or structure, reference previous name): <b>Well Location E</b>					Subsea Completion
Anchor Radius (if applicable) in feet:					<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	Surface Location		Bottom-Hole Location (For Wells)		
Lease No.	OCS-G 15906		OCS-G 15906		
Area Name	Garden Banks		Garden Banks		
Block No.	518		518		
Blockline Departures (in feet)	N/S Departure	633' F S L	N/S Departure		
	E/W Departure	2,379' F W L	E/W Departure		
Lambert X-Y coordinates	X: 1,871,499		X:		
	Y: -9,963,993		Y:		
Latitude / Longitude	Latitude 27-27-23.399		Latitude		
	Longitude -92-17-13.961		Longitude		
TVD (Feet):		MD (Feet):		Water Depth (Feet): 2,217'	
<b>Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)</b>					
Anchor Name or No.	Area	Block	X Coordinate	Y Coordinate	Length of Anchor Chain on Seafloor
1	GB	517	X= 1,863,941	Y= 9,965,757	3,259'
2	GB	517	X= 1,865,787	Y= 9,969,253	3,357'
3	GB	518	X= 1,873,293	Y= 9,971,548	3,395'
4	GB	518	X= 1,877,714	Y= 9,970,010	3,682'
5	GB	562	X= 1,879,057	Y= 9,962,229	3,380'
6	GB	562	X= 1,877,211	Y= 9,958,733	3,407'
7	GB	566	X= 1,869,705	Y= 9,956,438	3,494'
8	GB	565	X= 1,866,220	Y= 9,958,304	3,502'
<p><b>Paperwork Reduction Act of 1995 Statement:</b> The Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35) requires us to inform you that MMS collects this information as part of an applicant's Exploration Plan or Development Operations Coordination Document submitted for MMS approval. We use the information to facilitate our review and data entry for OCS plans. We will protect proprietary data according to the Freedom of Information Act and 30 CFR 250.196. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid Office of Management and Budget Control Number. The use of this form is voluntary. The public reporting burden for this form is included in the burden for preparing Exploration Plans and Development Operations Coordination Documents. We estimate that burden to average 580 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to the Information Collection Clearance Officer, Mail Stop 4230, Minerals Management Service, 1849 C Street, N.W., Washington, DC 20240.</p>					

**OCS PLAN INFORMATION FORM (CONTINUED)**  
Include one copy of this page for each proposed well/structure

Proposed Well/Structure Location					
Well or Structure Name/Number (If renaming well or structure, reference previous name): <b>Well Location A</b>					Subsea Completion
Anchor Radius (if applicable) in feet:					<input checked="" type="checkbox"/> X <input type="checkbox"/> Yes <input type="checkbox"/> No
Surface Location		Bottom-Hole Location (For Wells)			
Lease No.	OCS-G 15914		OCS-G 15914		
Area Name	Garden Banks		Garden Banks		
Block No.	561		561		
Blockline Departures (in feet)	N/S Departure	2,901'	F N L	N/S Departure	
	E/W Departure	4,257'	F E L	E/W Departure	
Lambert X-Y coordinates	X: 1,864,863		X:		
	Y: -9,960,459		Y:		
Latitude / Longitude	Latitude 27-26-48.763		Latitude		
	Longitude -92-18-27.864		Longitude		
TVD (Feet):		MD (Feet):		Water Depth (Feet): 2,198'	
Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)					
Anchor Name or No.	Area	Block	X Coordinate	Y Coordinate	Length of Anchor Chain on Seafloor
1	GB	561	X= 1,857,103	Y=9,960,316	3,259'
2	GB	517	X= 1,858,592	Y= 9,965,026	3,357'
3	GB	517	X= 1,864,749	Y= 9,968,223	3,395'
4	GB	517	X= 1,868,586	Y= 9,967,269	3,392'
5	GB	562	X= 1,872,623	Y= 9,960,602	3,380'
6	GB	562	X= 1,871,691	Y= 9,956,761	3,407'
7	GB	561	X= 1,863,642	Y= 9,952,784	3,494'
8	GB	561	X= 1,860,910	Y= 9,953,780	3,502'
<p><b>Paperwork Reduction Act of 1995 Statement:</b> The Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35) requires us to inform you that MMS collects this information as part of an applicant's Exploration Plan or Development Operations Coordination Document submitted for MMS approval. We use the information to facilitate our review and data entry for OCS plans. We will protect proprietary data according to the Freedom of Information Act and 30 CFR 250.196. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid Office of Management and Budget Control Number. The use of this form is voluntary. The public reporting burden for this form is included in the burden for preparing Exploration Plans and Development Operations Coordination Documents. We estimate that burden to average 580 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to the Information Collection Clearance Officer, Mail Stop 4230, Minerals Management Service, 1849 C Street, N.W., Washington, DC 20240.</p>					

**OCS PLAN INFORMATION FORM (CONTINUED)**  
Include one copy of this page for each proposed well/structure

Proposed Well/Structure Location					
Well or Structure Name/Number (If renaming well or structure, reference previous name): <b>Well Location B</b>					Subsea Completion
Anchor Radius (if applicable) in feet:					<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	Surface Location		Bottom-Hole Location (For Wells)		
Lease No.	OCS-G 15914		OCS-G 15914		
Area Name	Garden Banks		Garden Banks		
Block No.	561		561		
Blockline Departures (in feet)	N/S Departure	2,967' F N L	N/S Departure		
	E/W Departure	14,349' F E L	E/W Departure		
Lambert X-Y coordinates	X: 1,854,771		X:		
	Y: -9,960,393		Y:		
Latitude / Longitude	Latitude 27-26-48.653		Latitude		
	Longitude -92-20-19.918		Longitude		
TVD (Feet):		MD (Feet):		Water Depth (Feet): 2,239'	
<b>Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)</b>					
Anchor Name or No.	Area	Block	X Coordinate	Y Coordinate	Length of Anchor Chain on Seafloor
1	GB	560	X= 1,847,031	Y= 9,960,973	3,259'
2	GB	516	X= 1,848,317	Y=9,964,712	3,357'
3	GB	517	X= 1,855,382	Y= 9,968,134	3,340'
4	GB	517	X= 1,859,112	Y= 9,966,827	3,392'
5	GB	561	X= 1,862,511	Y= 9,959,813	3,380'
6	GB	561	X= 1,861,225	Y= 9,956,074	3,371'
7	GB	561	X= 1,854,028	Y= 9,952,663	3,438'
8	GB	560	X= 1,850,430	Y= 9,953,959	3,502'
<p><b>Paperwork Reduction Act of 1995 Statement:</b> The Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35) requires us to inform you that MMS collects this information as part of an applicant's Exploration Plan or Development Operations Coordination Document submitted for MMS approval. We use the information to facilitate our review and data entry for OCS plans. We will protect proprietary data according to the Freedom of Information Act and 30 CFR 250.196. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid Office of Management and Budget Control Number. The use of this form is voluntary. The public reporting burden for this form is included in the burden for preparing Exploration Plans and Development Operations Coordination Documents. We estimate that burden to average 580 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to the Information Collection Clearance Officer, Mail Stop 4230, Minerals Management Service, 1849 C Street, N.W., Washington, DC 20240.</p>					

**OCS PLAN INFORMATION FORM (CONTINUED)**  
Include one copy of this page for each proposed well/structure

Proposed Well/Structure Location					
Well or Structure Name/Number (If renaming well or structure, reference previous name): <b>Well Location C</b>					Subsea Completion
Anchor Radius (if applicable) in feet:					<input checked="" type="checkbox"/> X <input type="checkbox"/> Yes <input type="checkbox"/> No
	Surface Location		Bottom-Hole Location (For Wells)		
Lease No.	OCS-G 15914		OCS-G 15914		
Area Name	Garden Banks		Garden Banks		
Block No.	561		561		
Blockline Departures (in feet)	N/S Departure	2,056'	F N L	N/S Departure	
	E/W Departure	2,721'	F E L	E/W Departure	
Lambert X-Y coordinates	X: 1,866,399		X:		
	Y: -9,961,304		Y:		
Latitude / Longitude	Latitude 27-26-57.048		Latitude		
	Longitude -92-18-10.757		Longitude		
TVD (Feet):		MD (Feet):		Water Depth (Feet): 2,452'	
Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)					
Anchor Name or No.	Area	Block	X Coordinate	Y Coordinate	Length of Anchor Chain on Seafloor
1	GB	561	X= 1,847,031	Y= 9,960,973	3,259'
2	GB	517	X= 1,858,833	Y= 9,965,019	3,357'
3	GB	517	X= 1,862,377	Y= 9,967,938	3,395'
4	GB	518	X= 1,868,208	Y= 9,968,848	3,392'
5	GB	518	X= 1,873,052	Y= 9,965,295	3,380'
6	GB	562	X= 1,873,949	Y= 9,959,525	3,389'
7	GB	562	X= 1,871,198	Y= 9,955,222	3,457'
8	GB	561	X= 1,864,241	Y= 9,953,842	3,427'
<p><b>Paperwork Reduction Act of 1995 Statement:</b> The Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35) requires us to inform you that MMS collects this information as part of an applicant's Exploration Plan or Development Operations Coordination Document submitted for MMS approval. We use the information to facilitate our review and data entry for OCS plans. We will protect proprietary data according to the Freedom of Information Act and 30 CFR 250.196. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid Office of Management and Budget Control Number. The use of this form is voluntary. The public reporting burden for this form is included in the burden for preparing Exploration Plans and Development Operations Coordination Documents. We estimate that burden to average 580 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to the Information Collection Clearance Officer, Mail Stop 4230, Minerals Management Service, 1849 C Street, N.W., Washington, DC 20240.</p>					

**OCS PLAN INFORMATION FORM (CONTINUED)**  
Include one copy of this page for each proposed well/structure

Proposed Well/Structure Location					
Well or Structure Name/Number (If renaming well or structure, reference previous name): <b>Well Location D</b>					Subsea Completion
Anchor Radius (if applicable) in feet:					<input checked="" type="checkbox"/> X <input type="checkbox"/> Yes <input type="checkbox"/> No
	Surface Location		Bottom-Hole Location (For Wells)		
Lease No.	OCS-G 15914		OCS-G 15914		
Area Name	Garden Banks		Garden Banks		
Block No.	561		561		
Blockline Departures (in feet)	N/S Departure	559'	F N L	N/S Departure	
	E/W Departure	625'	F E L	E/W Departure	
Lambert X-Y coordinates	X: 1,868,495		X:		
	Y: -9,962,801		Y:		
Latitude / Longitude	Latitude		Latitude		
	27-27-11.760				
	Longitude		Longitude		
	-92-17-47.391				
TVD (Feet):		MD (Feet):		Water Depth (Feet): 2,404'	
Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)					
Anchor Name or No.	Area	Block	X Coordinate	Y Coordinate	Length of Anchor Chain on Seafloor
1	GB	561	X= 1,861,326	Y= 9,959,836	3,259'
2	GB	517	X= 1,861,265	Y= 9,965,614	3,357'
3	GB	517	X= 1,866,372	Y= 9,970,270	3,395'
4	GB	518	X= 1,871,520	Y= 9,969,943	3,392'
5	GB	518	X= 1,874,980	Y= 9,965,908	3,199'
6	GB	562	X= 1,875,700	Y= 9,959,927	3,389'
7	GB	562	X= 1,871,433	Y= 9,955,621	3,457'
8	GB	566	X= 1,865,592	Y= 9,955,607	3,446'
<p><b>Paperwork Reduction Act of 1995 Statement:</b> The Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35) requires us to inform you that MMS collects this information as part of an applicant's Exploration Plan or Development Operations Coordination Document submitted for MMS approval. We use the information to facilitate our review and data entry for OCS plans. We will protect proprietary data according to the Freedom of Information Act and 30 CFR 250.196. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid Office of Management and Budget Control Number. The use of this form is voluntary. The public reporting burden for this form is included in the burden for preparing Exploration Plans and Development Operations Coordination Documents. We estimate that burden to average 580 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to the Information Collection Clearance Officer, Mail Stop 4230, Minerals Management Service, 1849 C Street, N.W., Washington, DC 20240.</p>					

**OCS PLAN INFORMATION FORM (CONTINUED)**  
Include one copy of this page for each proposed well/structure

Proposed Well/Structure Location					
Well or Structure Name/Number (If renaming well or structure, reference previous name): <b>Well Location E</b>				Subsea Completion	
Anchor Radius (if applicable) in feet:				X	Yes
					No
	Surface Location		Bottom-Hole Location (For Wells)		
Lease No.	OCS-G 15914		OCS-G 15914		
Area Name	Garden Banks		Garden Banks		
Block No.	561		561		
Blockline Departures (in feet)	N/S Departure	1,312' F N L	N/S Departure		
	E/W Departure	687' F E L	E/W Departure		
Lambert X-Y coordinates	X: 1,868,433		X:		
	Y: -9,962,048		Y:		
Latitude / Longitude	Latitude 27-27-04.305		Latitude		
	Longitude -92-17-48.127		Longitude		
TVD (Feet):		MD (Feet):		Water Depth (Feet): 2,459'	
<b>Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)</b>					
Anchor Name or No.	Area	Block	X Coordinate	Y Coordinate	Length of Anchor Chain on Seafloor
1	GB	562	X= 1,870,416	Y= 9,954,547	3,241'
2	GB	561	X= 1,865,622	Y= 9,955,556	3,089'
3	GB	561	X= 1,860,714	Y= 9,961,188	3,395'
4	GB	517	X= 1,861,370	Y= 9,965,262	3,392'
5	GB	517	X= 1,867,145	Y= 9,970,298	3,578'
6	GB	566	X= 1,871,681	Y= 9,970,767	3,881'
7	GB	562	X= 1,876,110	Y= 9,963,214	3,457'
8	GB	562	X= 1,875,686	Y= 9,959,285	3,464'
<p><b>Paperwork Reduction Act of 1995 Statement:</b> The Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35) requires us to inform you that MMS collects this information as part of an applicant's Exploration Plan or Development Operations Coordination Document submitted for MMS approval. We use the information to facilitate our review and data entry for OCS plans. We will protect proprietary data according to the Freedom of Information Act and 30 CFR 250.196. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid Office of Management and Budget Control Number. The use of this form is voluntary. The public reporting burden for this form is included in the burden for preparing Exploration Plans and Development Operations Coordination Documents. We estimate that burden to average 580 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to the Information Collection Clearance Officer, Mail Stop 4230, Minerals Management Service, 1849 C Street, N.W., Washington, DC 20240.</p>					

**OCS PLAN INFORMATION FORM (CONTINUED)**  
Include one copy of this page for each proposed well/structure

Proposed Well/Structure Location					
Well or Structure Name/Number (If renaming well or structure, reference previous name): <b>Well Location F</b>					Subsea Completion
Anchor Radius (if applicable) in feet:					<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Surface Location		Bottom-Hole Location (For Wells)			
Lease No.	OCS-G 15914		OCS-G 15914		
Area Name	Garden Banks		Garden Banks		
Block No.	561		561		
Blockline Departures (in feet)	N/S Departure	559'	F N L	N/S Departure	
	E/W Departure	2,146'	F E L	E/W Departure	
Lambert X-Y coordinates	X: 1,866,974		X:		
	Y: -9,962,801		Y:		
Latitude / Longitude	Latitude		Latitude		
	27-27-11.845				
	Longitude		Longitude		
	-92-18-04.280				
TVD (Feet):		MD (Feet):		Water Depth (Feet): 2,386'	
<b>Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)</b>					
Anchor Name or No.	Area	Block	X Coordinate	Y Coordinate	Length of Anchor Chain on Seafloor
1	GB	561	X= 1,859,804	Y= 9,959,836	3,259'
2	GB	517	X= 1,859,804	Y= 9,965,614	3,357'
3	GB	517	X= 1,963,824	Y= 9,970,310	3,607'
4	GB	518	X= 1,869,213	Y= 9,971,023	3,089'
5	GB	518	X= 1,874,143	Y= 9,965,766	2,970'
6	GB	562	X= 1,874,179	Y= 9,959,927	2,970'
7	GB	562	X= 1,871,569	Y= 9,955,862	2,970'
8	GB	561	X= 1,865,622	Y= 9,955,556	3,089'
<p><b>Paperwork Reduction Act of 1995 Statement:</b> The Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35) requires us to inform you that MMS collects this information as part of an applicant's Exploration Plan or Development Operations Coordination Document submitted for MMS approval. We use the information to facilitate our review and data entry for OCS plans. We will protect proprietary data according to the Freedom of Information Act and 30 CFR 250.196. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid Office of Management and Budget Control Number. The use of this form is voluntary. The public reporting burden for this form is included in the burden for preparing Exploration Plans and Development Operations Coordination Documents. We estimate that burden to average 580 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to the Information Collection Clearance Officer, Mail Stop 4230, Minerals Management Service, 1849 C Street, N.W., Washington, DC 20240.</p>					

**Well Location Plat**

**Attachment A-3  
(Public Information)**

**MURPHY**

OCS-G-  
22318  
473

**KERR-McGEE**

OCS-G-26657  
474

Y= 9,979,200

X= 1,869,120

**KMG PROP SL "C"**  
6170' FSL, 2690' FWL  
X= 1,871,810  
Y= 9,969,530  
Lat= 27° 28' 18.230" N  
Long= 92° 17' 10.154" W

**KMG PROP SL "B"**  
9718' FSL, 5574' FWL  
X= 1,874,694  
Y= 9,973,078  
Lat= 27° 28' 53.210" N  
Long= 92° 16' 37.897" W

**KMG PROP SL "D"**  
6545' FSL, 5384' FWL  
X= 1,874,504  
Y= 9,969,905  
Lat= 27° 28' 21.790" N  
Long= 92° 16' 40.212" W

**KMG PROP SL "A"**  
4997' FSL, 1722' FWL  
X= 1,870,842  
Y= 9,968,357  
Lat= 27° 28' 06.665" N  
Long= 92° 17' 20.979" W

**KMG PROP SL "E"**  
633' FSL, 2379' FWL  
X= 1,871,499  
Y= 9,963,993  
Lat= 27° 27' 23.399" N  
Long= 92° 17' 13.961" W

Y= 9,963,360

Submitted By: F. Kong/B. Barnes  
Date: 10/05

**Public Document**



**KERR McGEE OIL & GAS CORPORATION**

16666 Northchase Dr. Houston, Texas 77060

**GARDEN BANKS BLOCK 518 (OCS-G-15906)**

**PROPOSED WELL LOCATIONS**

**"A", "B", "C", "D" & "E"**

517  
SHELL

OCS-G-17384

KMG PROP SL "F"

559' FNL, 2146' FEL

X= 1,866,974

Y= 9,962,801

Lat= 27°27' 11.845" N

Long= 92°18' 04.280" W

KMG PROP SL "D"

559' FNL, 625' FEL

X= 1,868,495

Y= 9,962,801

Lat= 27°27' 11.760" N

Long= 92°17' 47.391" W

X= 1,869,120

Y= 9,963,360

KMG PROP SL "A"

2901' FNL, 4257' FEL

X= 1,864,863

Y= 9,960,459

Lat= 27°26' 48.763" N

Long= 92°18' 27.864" W

KERR-McGEE

OCS-G-15

561

KMG PROP SL "C"

2056' FNL, 2721' FEL

X= 1,866,399

Y= 9,961,304

Lat= 27°26' 57.048" N

Long= 92°18' 10.757" W

KMG PROP SL "B"

2967' FNL, 14,349' FEL

X= 1,854,771

Y= 9,960,393

Lat= 27°26' 48.653" N

Long= 92°20' 19.918" W

KMG PROP SL "E"

1312' FNL, 687' FEL

X= 1,868,433

Y= 9,962,048

Lat= 27°27' 04.305" N

Long= 92°17' 48.127" W

Y= 9,947,520



KERR MCGEE OIL & GAS CORPORATION

16666 Northchase Dr. Houston, Texas 77060

GARDEN BANKS BLOCK 561 (OCS-G-15914)

PROPOSED WELL LOCATION

"A", "B", "C", "D", "E" & "F"

Submitted By: B. Barnes/F. Kong

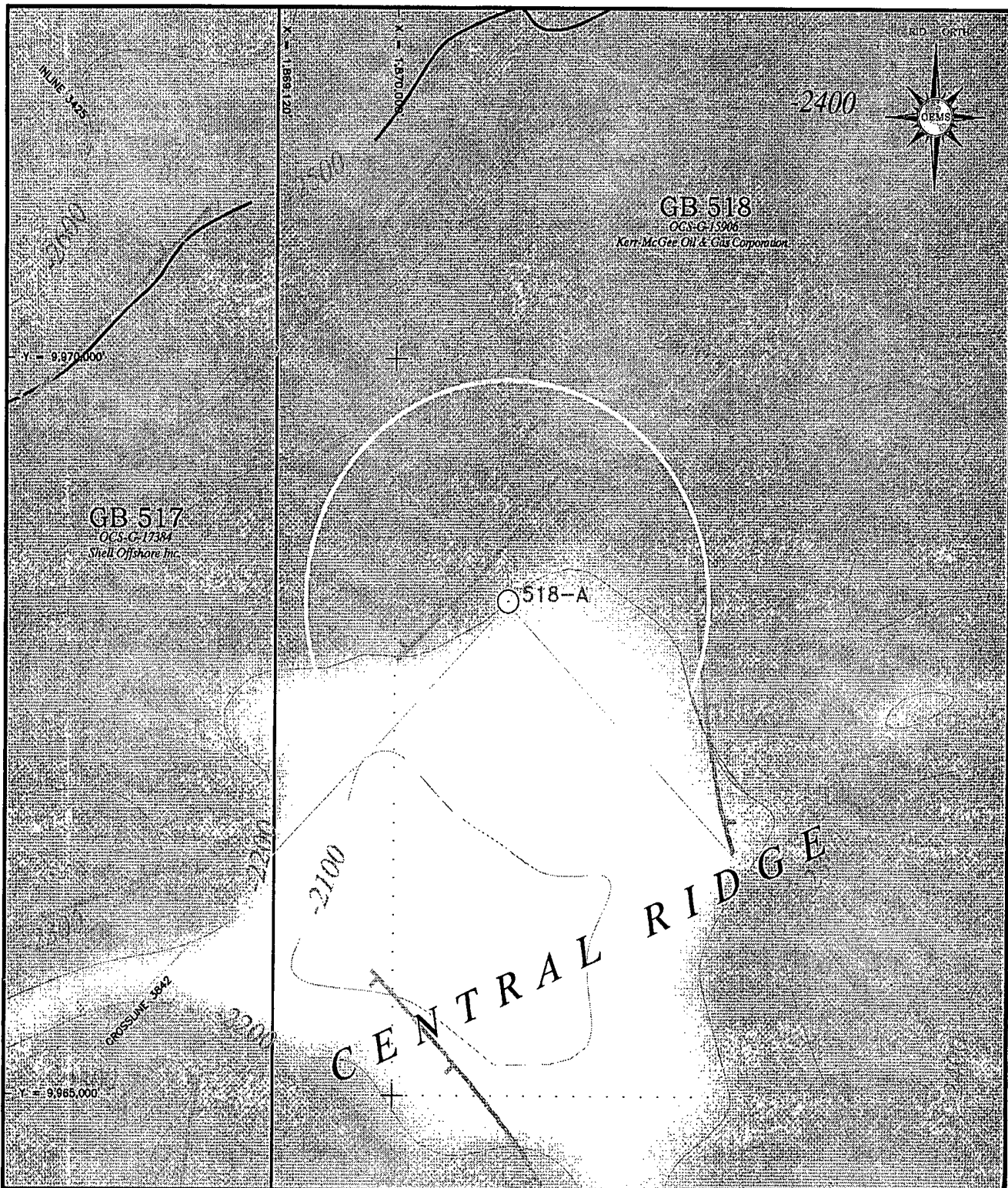
Date: 8/05

Public Document

0' 2000' Scale: 4000' 6000'

**Bathymetry Map**

**Attachment A-4  
(Public Information)**



CONTOUR INTERVAL: 100 FEET

518-A



PROPOSED WELL LOCATION.  
CIRCLE REPRESENTS 1500 FT  
RADIUS AROUND PROPOSED  
WELLSITE.



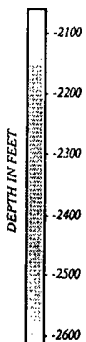
SEAFLOOR FAULTS. TICKS  
INDICATE DOWNTHROWN SIDE  
OF FAULT.

-2500

BATHYMETRY CONTOUR IN FEET.

0 500 1000 1500 2000

SCALE 1 : 12,000 or 1" = 1000'



PROJECT NO.: 0805-1044

FILE NAME: 1044B\_P1.DWG



KERR-McGEE OIL & GAS CORPORATION

BATHYMETRY MAP

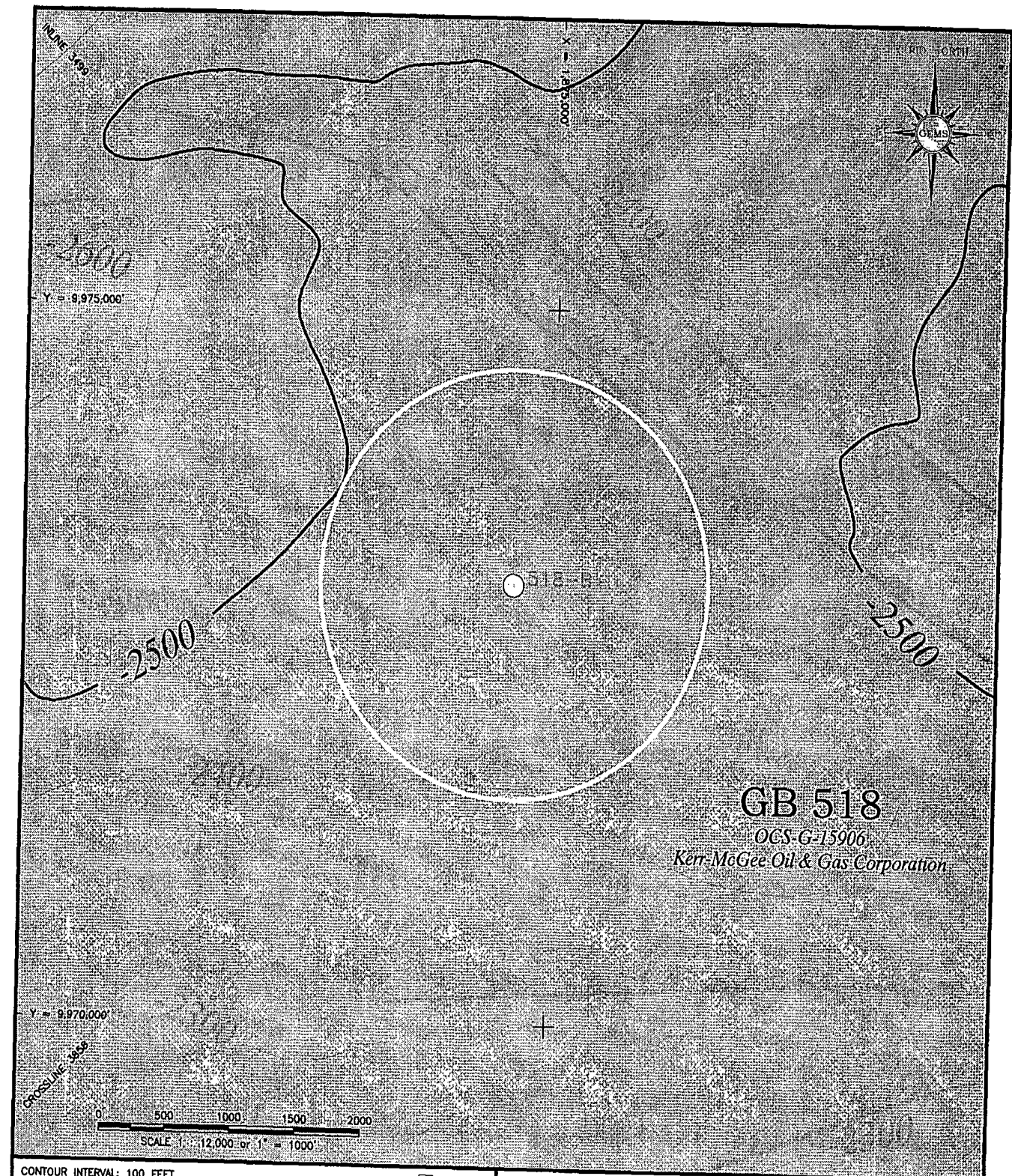
BLOCK 518

GARDEN BANKS AREA

GULF OF MEXICO



MAP NO. 1-518-A

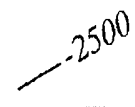


CONTOUR INTERVAL: 100 FEET

518-B



PROPOSED WELL  
LOCATION. CIRCLE  
REPRESENTS 1500  
FT RADIUS AROUND  
PROPOSED WELLSITE.

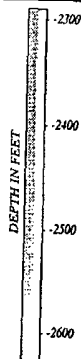


BATHYMETRY CONTOUR IN FEET.



SEA FLOOR FAULTS.  
TICKS INDICATE  
DOWNTOWN  
SIDE OF FAULT.

BOUNDING FAULTS.  
HOUSE INDICATES  
DOWNTOWN  
SIDE OF FAULT.



PROJECT NO.: 1104-913

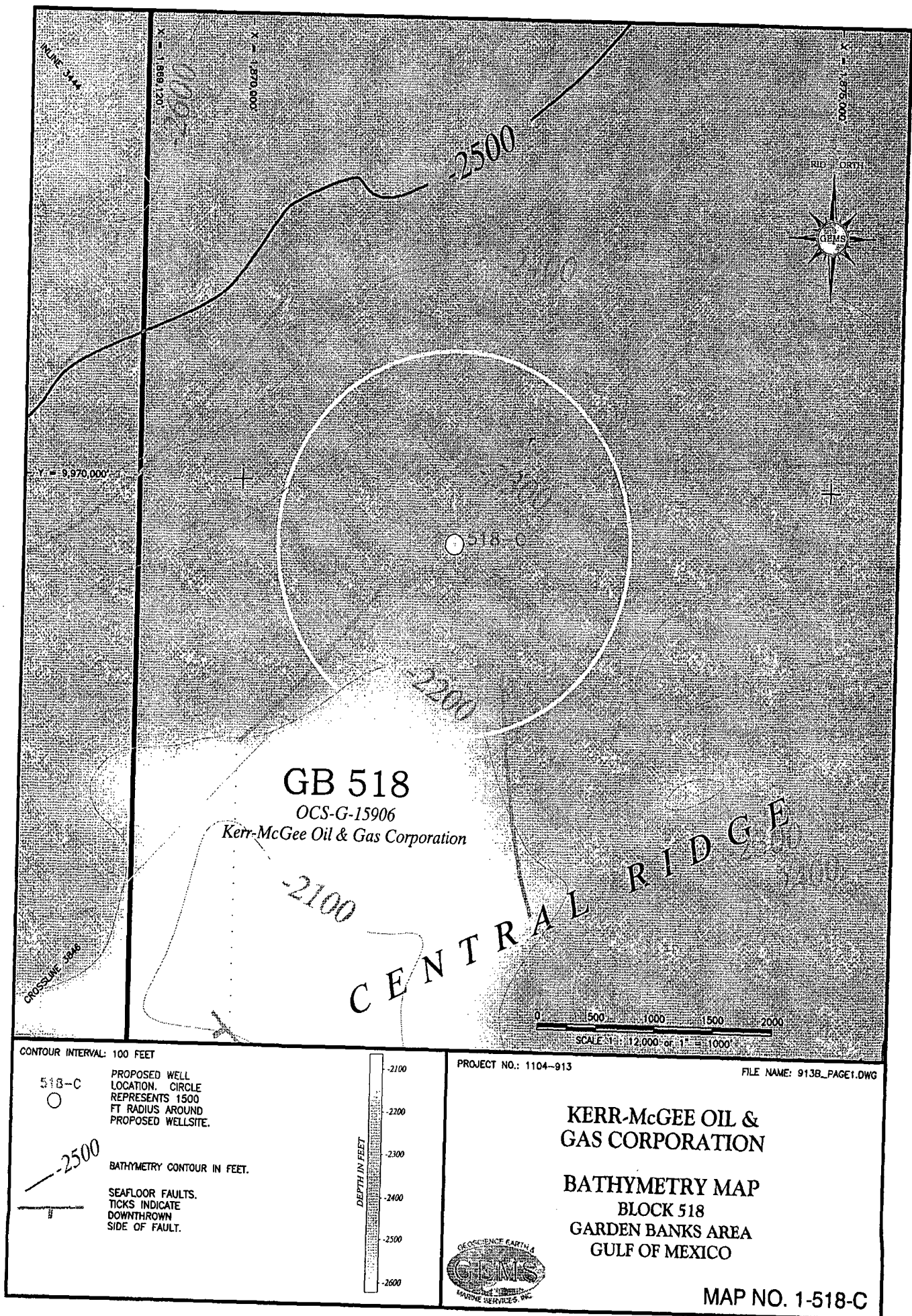
FILE NAME: 913B\_PAGE1.DWG

**KERR-McGEE OIL &  
GAS CORPORATION**

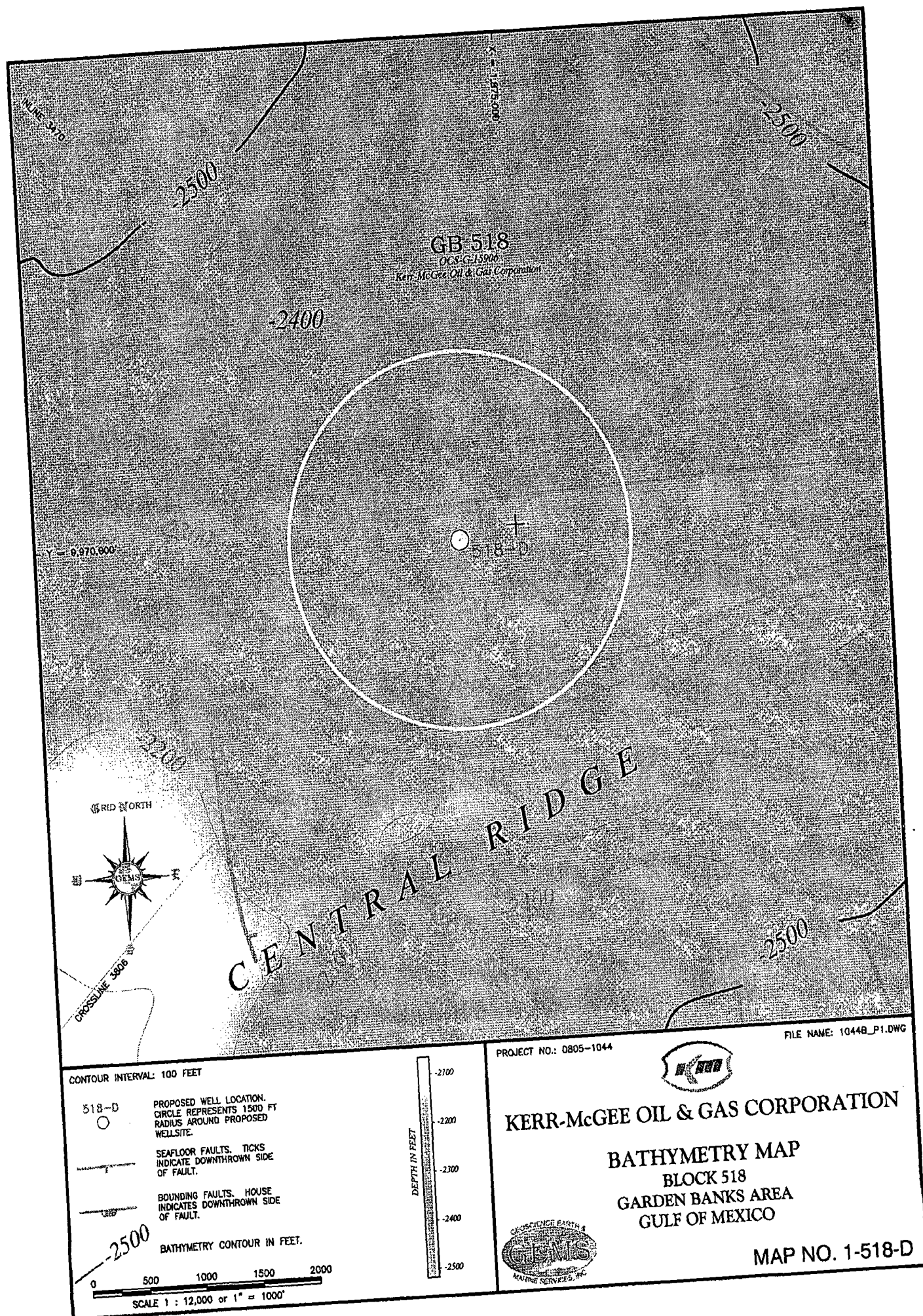
**BATHYMETRY MAP  
BLOCK 518  
GARDEN BANKS AREA  
GULF OF MEXICO**

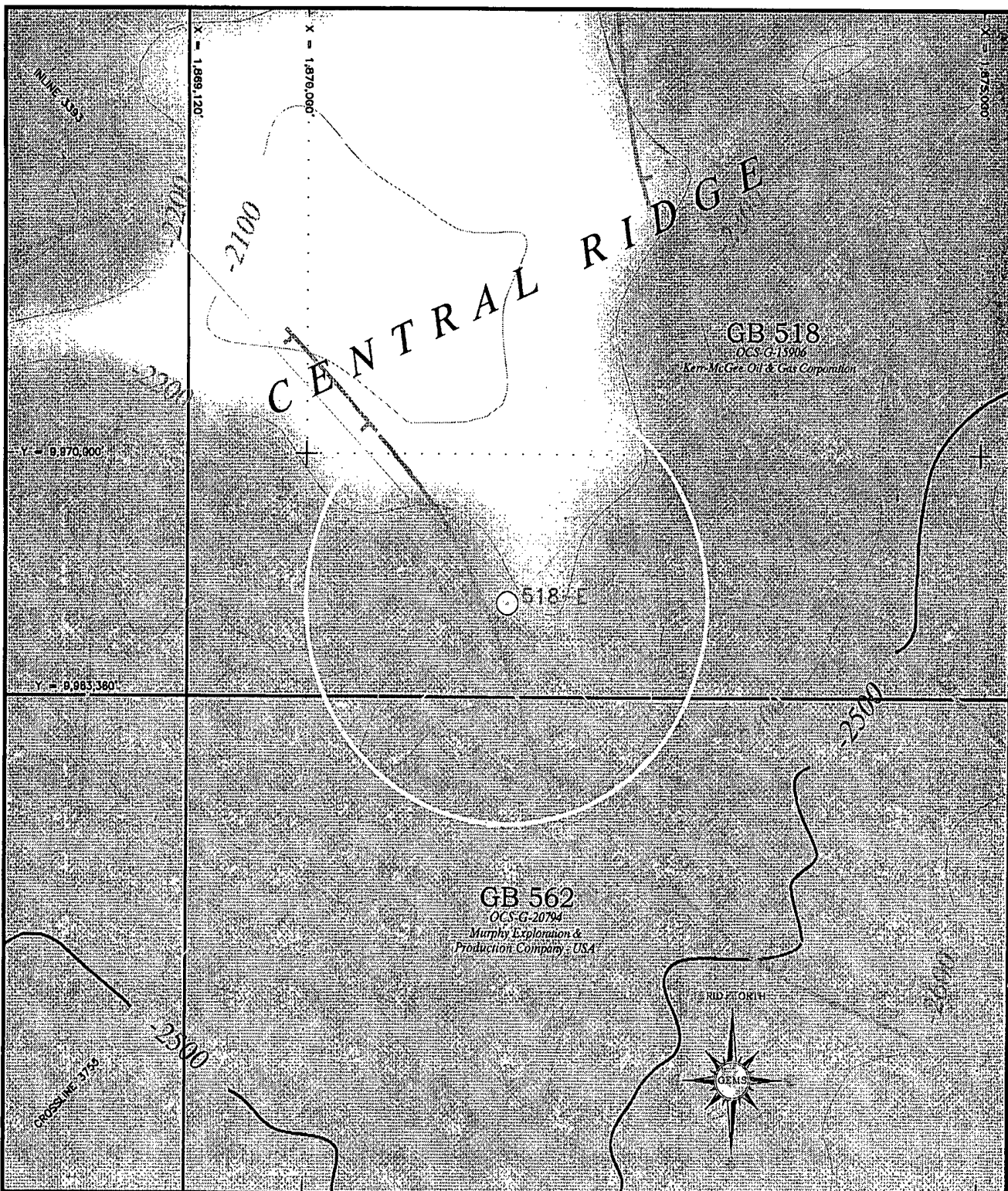


**MAP NO. 1-518-B**



BEST AVAILABLE COPY





CONTOUR INTERVAL: 100 FEET

518-E

PROPOSED WELL LOCATION.  
CIRCLE REPRESENTS 1500 FT  
RADIUS AROUND PROPOSED  
WELLSITE.

SEAFLOOR FAULTS. TICKS  
INDICATE DOWNTOWN SIDE  
OF FAULT.

BATHYMETRY CONTOUR IN FEET.

0 500 1000 1500 2000

SCALE 1 : 12,000 or 1" = 1000'

DEPTH IN FEET  
-2100  
-2200  
-2300  
-2400  
-2500  
-2600

PROJECT NO.: 0805-1044

FILE NAME: 1044B\_P1.DWG

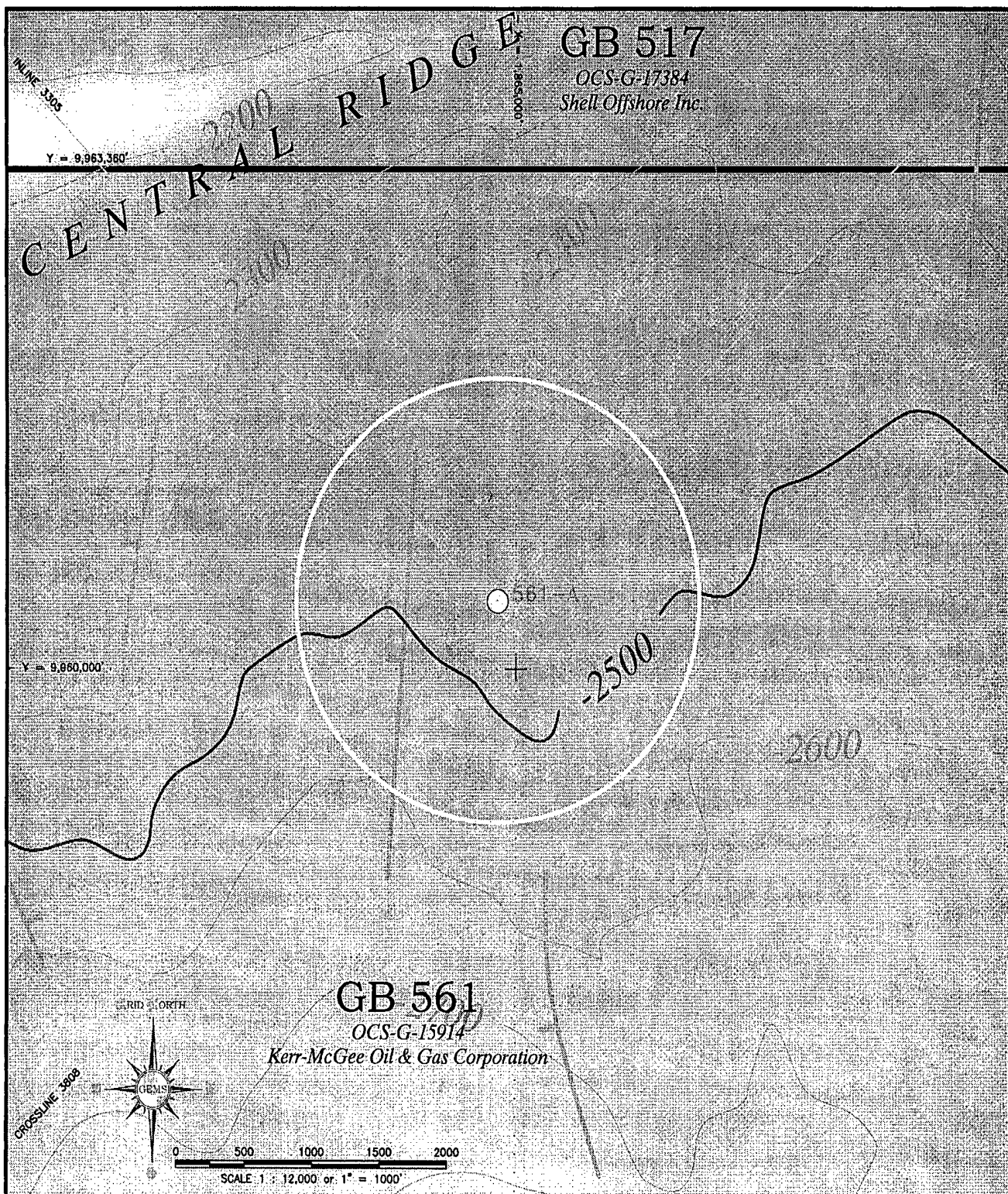


KERR-McGEE OIL & GAS CORPORATION

BATHYMETRY MAP  
BLOCK 518  
GARDEN BANKS AREA  
GULF OF MEXICO



MAP NO. 1-518-E



CONTOUR INTERVAL: 100 FEET

561-A

PROPOSED WELL  
LOCATION. CIRCLE  
REPRESENTS 1500  
FT RADIUS AROUND  
PROPOSED WELLSITE.

-2500

BATHYMETRY CONTOUR IN FEET.

SEAFLOOR FAULTS.  
TICKS INDICATE  
DOWNTOWN  
SIDE OF FAULT.

DEPTH IN FEET

-2200  
-2300  
-2400  
-2500  
-2600  
-2700  
-2800

PROJECT NO.: 1104-913

FILE NAME: 913B\_PAGE1.DWG

**KERR-McGEE OIL &  
GAS CORPORATION**

**BATHYMETRY MAP  
BLOCK 561  
GARDEN BANKS AREA  
GULF OF MEXICO**



MAP NO. 1-561-A

LINE 517

Y = 9,963,360

LINE 560

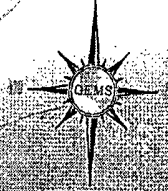
LINE 561

GB 517

OCS-G-17384  
Shell Offshore Inc.

-2200

GRID NORTH



Y = 9,960,000

GB 560

OCS-G-15913  
Kerr-McGee Oil &  
Gas Corporation

GB 561

OCS-G-15914  
Kerr-McGee Oil & Gas Corporation

CROSSLINE 3580

0 500 1000 1500 2000

SCALE 1" = 12,000' or 1" = 1000'

CONTOUR INTERVAL: 100 FEET

561-B  
○

PROPOSED WELL  
LOCATION. CIRCLE  
REPRESENTS 1500  
FT RADIUS AROUND  
PROPOSED WELLSITE.

-2500

BATHYMETRY CONTOUR IN FEET.

SEAFLOOR FAULTS.  
TICKS INDICATE  
DOWNTOWN  
SIDE OF FAULT.

DEPTH IN FEET  
-2300  
-2400  
-2500  
-2600

PROJECT NO.: 1104-913

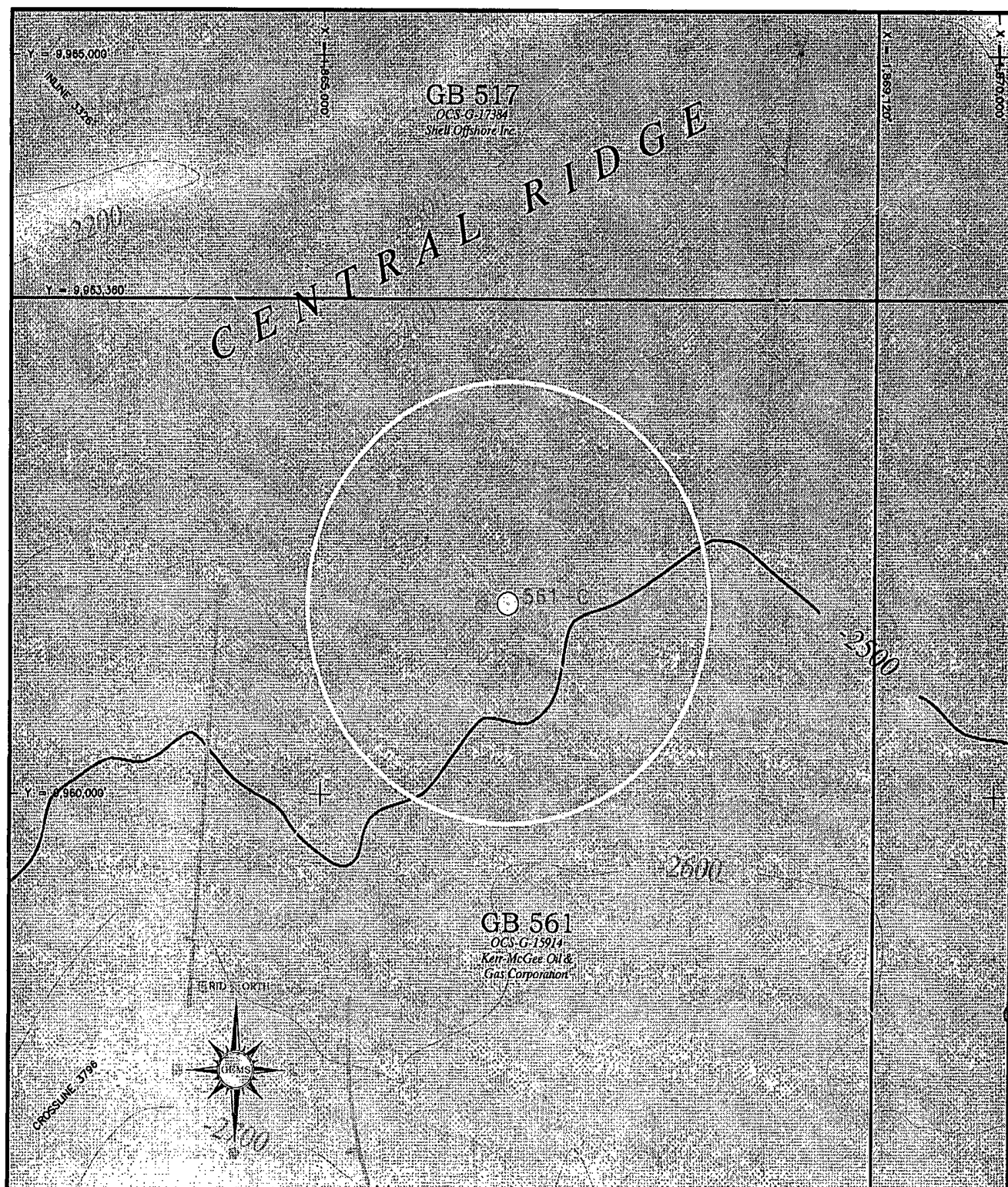
FILE NAME: 913B\_PAGE1.DWG

KERR-McGEE OIL &  
GAS CORPORATION

BATHYMETRY MAP  
BLOCK 561  
GARDEN BANKS AREA  
GULF OF MEXICO



MAP NO. 1-561-B



CONTOUR INTERVAL: 100 FEET

561-C  
○

PROPOSED WELL LOCATION.  
CIRCLE REPRESENTS 1500 FT  
RADIUS AROUND PROPOSED  
WELLSITE.

—

SEAFLOOR FAULTS. TICKS  
INDICATE DOWNTHROWN SIDE  
OF FAULT.

-2500

BATHYMETRY CONTOUR IN FEET.

0 500 1000 1500 2000

SCALE 1 : 12,000 or 1" = 1000'

DEPTH IN FEET  
-2200  
-2300  
-2400  
-2500  
-2600  
-2700

PROJECT NO.: 0805-1044

FILE NAME: 1044B\_P1.DWG



KERR-McGEE OIL & GAS CORPORATION

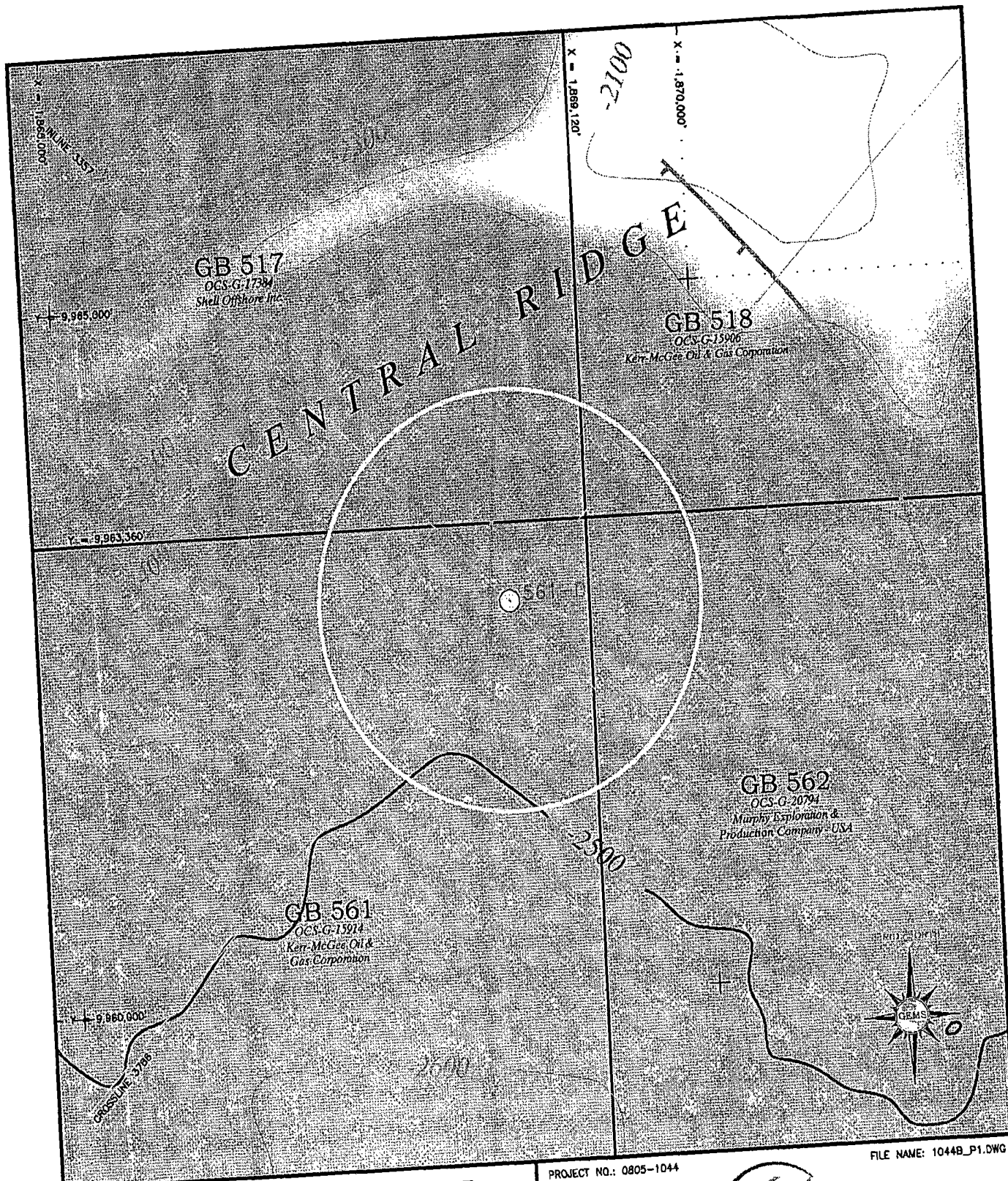
BATHYMETRY MAP

BLOCK 518

GARDEN BANKS AREA  
GULF OF MEXICO



MAP NO. 1-561-C



CONTOUR INTERVAL: 100 FEET

561-D



PROPOSED WELL LOCATION.  
CIRCLE REPRESENTS 1500 FT  
RADIUS AROUND PROPOSED  
WELLSITE.



SEAFLOOR FAULTS. TICKS  
INDICATE DOWNTOWN SIDE  
OF FAULT.

2500

BATHYMETRY CONTOUR IN FEET.

0 500 1000 1500 2000  
SCALE 1 : 12,000 or 1" = 1000'

DEPTH IN FEET  
-2100  
-2200  
-2300  
-2400  
-2500  
-2600

PROJECT NO.: 0805-1044

FILE NAME: 1044B\_P1.DWG

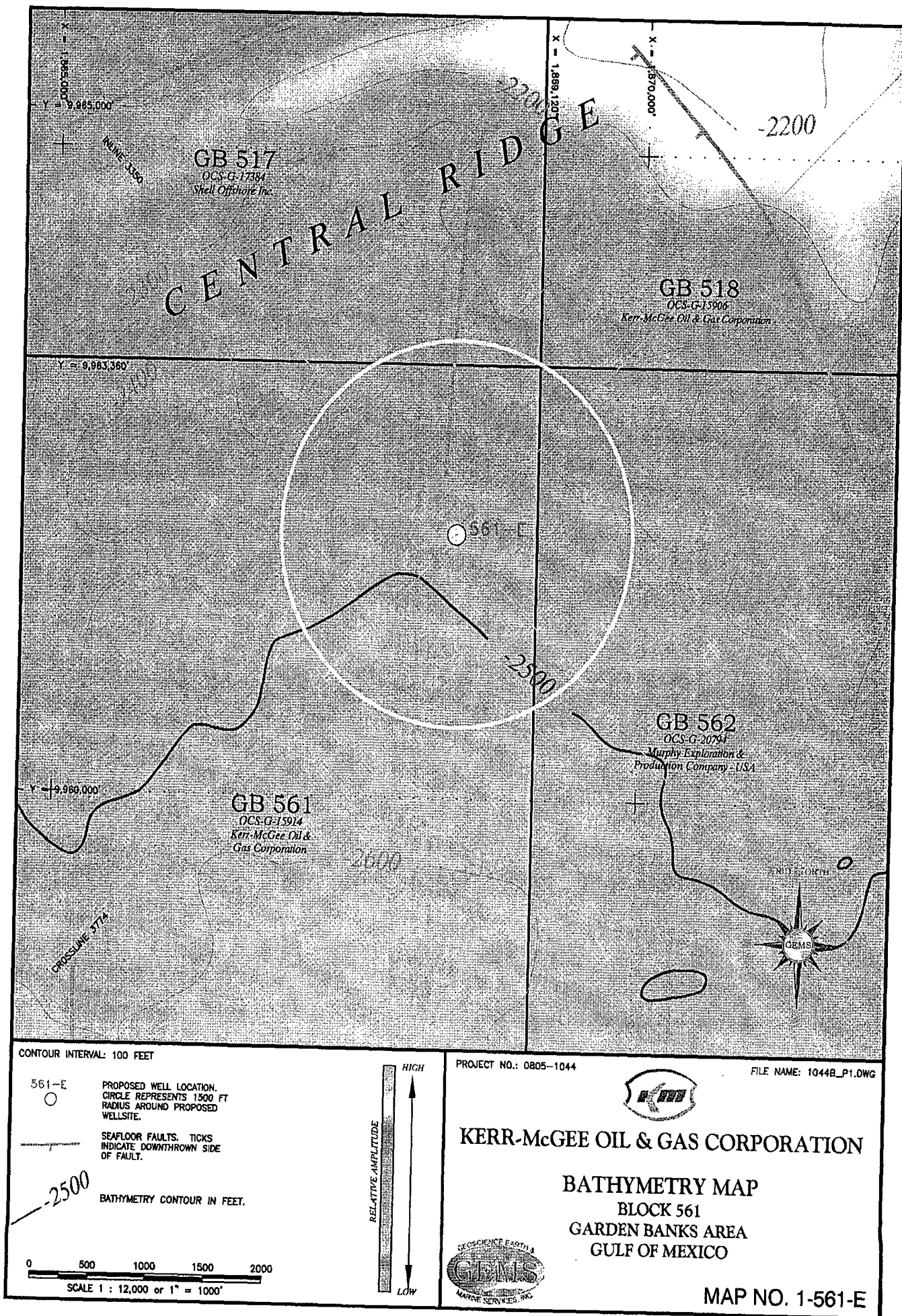


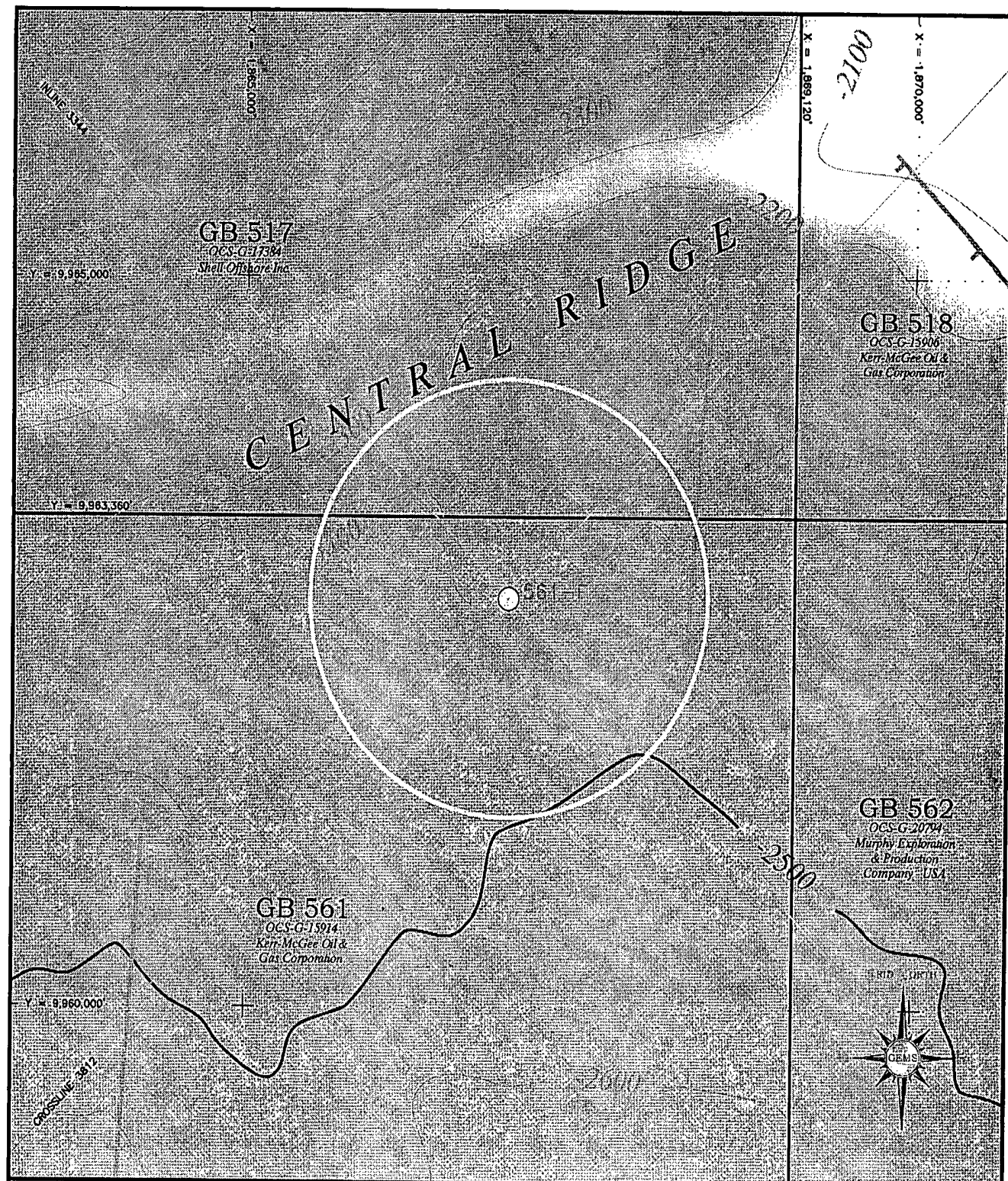
KERR-McGEE OIL & GAS CORPORATION

BATHYMETRY MAP  
BLOCK 561  
GARDEN BANKS AREA  
GULF OF MEXICO



MAP NO. 1-561-D





CONTOUR INTERVAL: 100 FEET

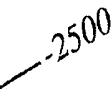
561-F



PROPOSED WELL LOCATION.  
CIRCLE REPRESENTS 1500 FT  
RADIUS AROUND PROPOSED  
WELLSITE.



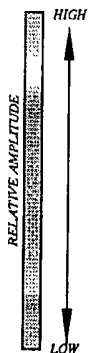
SEAFLOOR FAULTS. TICKS  
INDICATE DOWNTHROWN SIDE  
OF FAULT.



BATHYMETRY CONTOUR IN FEET.

0 500 1000 1500 2000

SCALE 1 : 12,000 or 1" = 1000'



PROJECT NO.: 0805-1044

FILE NAME: 1044B\_P1.DWG



KERR-McGEE OIL & GAS CORPORATION

BATHYMETRY MAP

BLOCK 561

GARDEN BANKS AREA  
GULF OF MEXICO



MAP NO. 1-561-F

## **SECTION B**

### **General Information**

#### **A. Contact**

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

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

#### **B. Prospect Name**

Kerr-McGee will refer to the exploratory activities in Garden Banks Blocks 518/561 as the Grand Cayman Prospect.

#### **C. New or Unusual Technology**

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

#### **D. Bonding Information**

In accordance with Title 30 CFR Part 256, Subpart I, Kerr-McGee 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) 2003-N06 to cover plugging liability of the wellbores, removal of associated well protector structures and site clearance.

Kerr-McGee is on the exempt list with the Minerals Management Service for supplemental bonding.

#### **E. Onshore Base and Support Vessels**

The proposed surface disturbances in Garden Banks Blocks 518/561 will be located approximately 137 miles from the nearest Louisiana shoreline, and approximately 177 miles from the onshore support base to be located in Fourchon, Louisiana.

## SECTION B

### General Information - Continued

Kerr-McGee 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	3
Supply Boat	7
Helicopter	3

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 locations of Garden Banks Blocks 518/561 relative to the shoreline and onshore base is included as ***Attachment B-1***.

#### **F. 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.

Leases OCS-G 15906/15914, Garden Banks Blocks 518/561 are subject to the following lease stipulations and special conditions:

## SECTION B

### General Information - Continued

#### Marine Protected Species

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

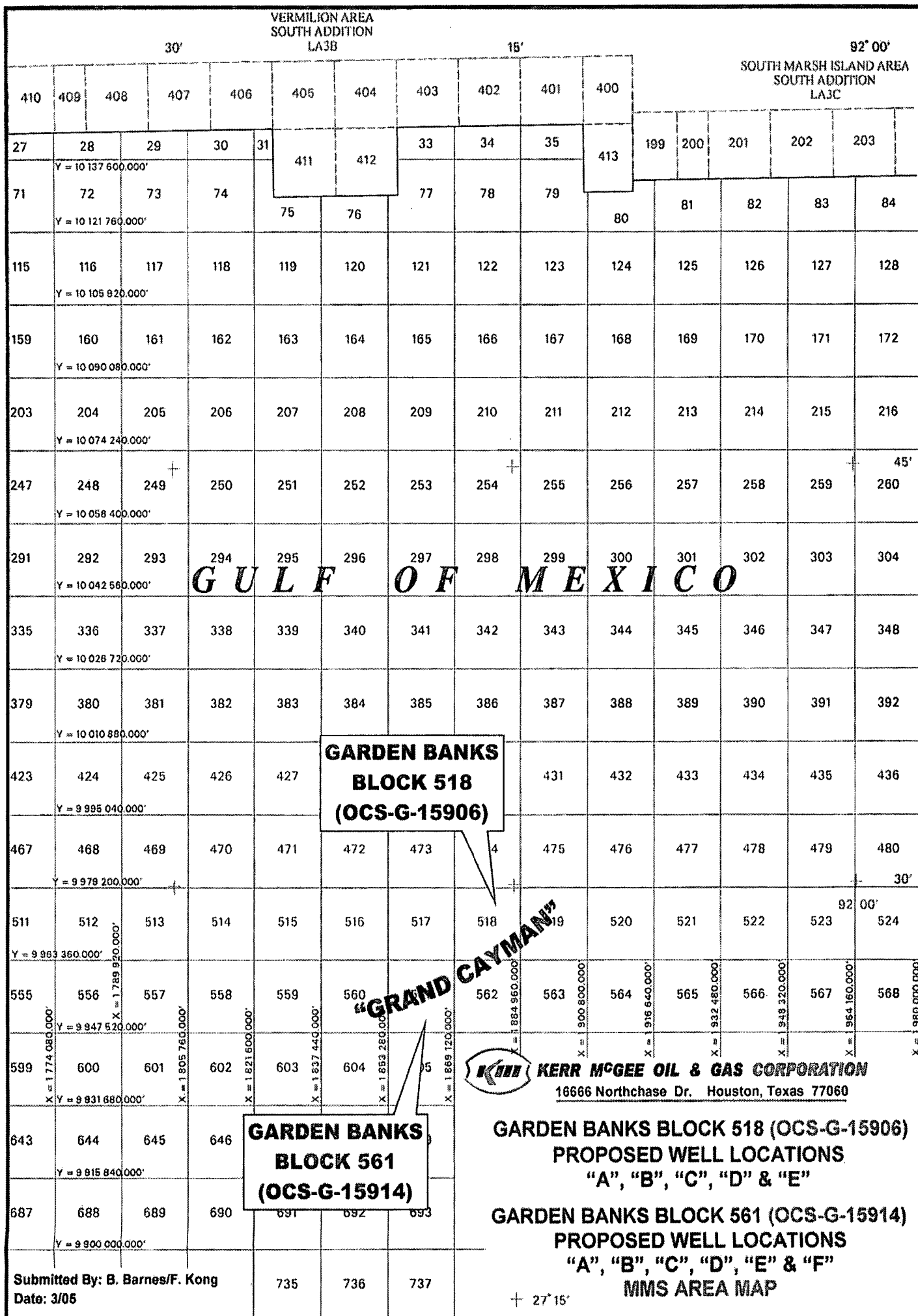
#### Special Conditions

Kerr-McGee may potentially complete the well locations as subsea completions. In this event, Kerr-McGee will follow the guidelines of the applicable Notice to Lessees (NTL's) 2000-N05 and 2000-N06, which mandates the submittal and approval of separate regulatory filings entitled as "Conservation Information Document" and "Deepwater Operations Plan", respectively.

The proposed operations under this Plan are in water depths greater than 400 meters (1312 feet); therefore, Kerr-McGee will follow the guidelines of the applicable Notice to Lessees NTL 2005-G02 by continuously monitoring and gathering ocean current data using Acoustic Doppler Current Profile (ADCP) while the MODU is on location.

**Vicinity Plat**

**Attachment B-1  
(Public Information)**



## **SECTION C**

### **Geological, Geophysical & H2S Information**

#### **A. Structure Contour Maps**

Included as *Attachment C-1* 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 *Attachment C-2* are the migrated and annotated (shot point, time lines, well paths) deep seismic lines within 500 feet of the surface locations.

#### **C. Geological Structure Cross Sections**

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

#### **D. Shallow Hazards Report**

GeoScience, Earth & Marine Services conducted a 3D geophysical survey of Garden Banks Blocks 518/561 in February 2005 on behalf of Kerr-McGee Oil & Gas Corporation. The purpose of the survey was to evaluate geologic conditions and inspect for potential hazards or constraints to lease development.

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

#### **E. Shallow Hazards Assessment**

Utilizing the 3D deep seismic exploration data a shallow hazards analysis was prepared for the proposed surface locations, evaluating seafloor and subsurface geologic and manmade features and conditions, and is included as *Attachment C-4*.

#### **F. High Resolution Seismic Lines**

Utilizing the 3D seismic exploration data, a shallow hazards analysis was prepared for the proposed surface location, evaluating seafloor and subsurface geologic and manmade features and conditions.

## SECTION C

### Geological, Geophysical & H2S Information-Continued

#### G. Stratigraphic Column

A generalized biostratigraphic/lithostratigraphic column from the seafloor to the total depth of the proposed wells is included as *Attachment C-5*.

#### H. Time Vs. Depth Tables

Kerr-McGee has determined that there is existing sufficient well control data for the target areas proposed in this plan; therefore, tables providing seismic time versus depth for the proposed well locations are not required.

#### I. Hydrogen Sulfide Classification

In accordance with Title 30 CFR 250.417, Kerr-McGee requests that Garden Banks Blocks 518/561 be classified by the Minerals Management Service as areas where the absence of hydrogen sulfide has been confirmed as addressed in *Attachment C-6*.

Structure Maps

Attachment C-1  
(Proprietary Information)

Deep Seismic Lines

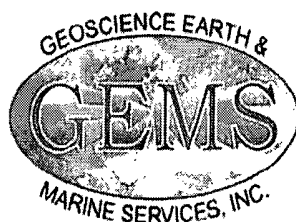
Attachment C-2  
(Proprietary Information)

Cross Section Maps

Attachment C-3  
(Proprietary Information)

**Shallow Hazards Assessment**

**Attachment C-4  
(Public Information)**



10615 SHADOW WOOD DRIVE  
SUITE 200  
HOUSTON, TEXAS 77043  
Phone: (713) 468-1410  
Fax: (713) 468-1438  
E-mail: [gems@gemsinc.com](mailto:gems@gemsinc.com)

September 19, 2005

Project No. 0805-1044

Kerr-McGee Oil and Gas Corporation  
16666 Northchase Drive  
Houston, Texas 77060

Attention: Mr. Steve Judy

**Proposed Exploration Wellsite 518-A  
Block 518 (OCS-G-15906)  
Garden Banks Area  
Gulf of Mexico**

**Introduction**

This letter addresses specific seafloor and subsurface geologic conditions to a depth of approximately 3,458 ft below the mudline (bml) at the proposed Exploration Wellsite 518-A in Block 518 (OCS-G-15906), Garden Banks area (GB), Gulf of Mexico. The following discussion is based on the findings provided within the main body of the geohazard report for Block 518 (OCS-G-15906), Block 519 (OCS-G-15907), Block 560 (OCS-G-15913), and Block 561 (OCS-G-15914), GEMS Report No. 1104-913 dated February 18, 2005. This letter is intended to supplement that report with details pertaining directly to the proposed wellsite.

The proposed Exploration Wellsite 518-A is in the southwest portion of Block 518, Garden Banks area, Gulf of Mexico. Kerr-McGee provided the following coordinates:

Proposed Exploration Wellsite 518-A			
Spheroid & Datum: Clarke 1866, NAD27 Projection: UTM Zone 15 North, U.S. ft		Line Reference	Block Calls
X: 1,870,842	Latitude: 27° 28' 06.67" N	Inline: 3425	1,722 ft FWL
Y: 9,968,357	Longitude: -92° 17' 20.98" W	Crossline: 3842	4,997 ft FSL

**Attachments**

The page-size maps and figures accompanying this letter have been extracted from the main report's original maps and 3-D data volume and centered on the proposed well location.

- Map 1-518-A: Bathymetry Map
- Map 2-518-A: Seafloor Rendering
- Map 3-518-A: Amplitude Seafloor Rendering
- Map 4-518-A: Geologic Features Map
- Figure 1-518-A: Portions of Inline 3425 and Crossline 3842 Showing Conditions Beneath Proposed Wellsite 518-A
- Figure 2-518-A: Tophole Prognosis Chart, Proposed Wellsite 518-A, Garden Banks Block 518

### **Water Depth and Seafloor Conditions**

The water depth at the proposed location is -2,198 ft (Map 1-518-A). The seafloor at the wellsite is smooth and slopes to the north-northeast at approximately 8.4° (14.7%), Maps 1-518-A and 2-518-A; Figures 1-518-A and 2-518-A.

### **Chemosynthetic Communities**

There are no features or areas that could support high-density chemosynthetic communities within 1,500 ft of the proposed location (Map 3-518-A).

An area of higher amplitude 900 ft to the west-southwest of the proposed wellsite represents older, harder strata that have been exposed at the seafloor. No evidence of seafloor venting exists in association with this event; therefore the potential for chemosynthetic communities is negligible.

### **Man-Made Features**

There are no man-made features within 6,500 ft of the proposed location.

### **Sediments**

Stratigraphic details are provided with the Tophole Prognosis Chart (Figure 2-518-A). The shallow sediments from the seafloor to approximately 2,073 ft bml are probably clay-dominated deposits. The sediments below 2,073 ft bml to about 3,458 ft bml may contain a mixture of silts, clays, and interbedded coarser-grained sands (Figure 2-518-A).

### **Faults**

There are no seafloor faults at the wellsite location (Maps 1-518-A and 2-518-A). The closest seafloor fault is 269 ft to the northwest of the proposed location (Map 1-518-A and Figure 1-518-A).

A vertical wellbore will probably intersect several small faults, but fault patterns are complex, often too small to be mapped. The wellbore will intersect a mapped fault at 935 ft bml (Figures 1-518-A and 2-518-A).

**Shallow Gas.** There are no subsurface high-amplitude anomalies directly beneath the proposed wellsite (Map 4-518-A).

The relatively bright amplitudes between 2,073 ft bml and 2,658 ft bml (Figure 2-518-A) are associated with possible sand-prone strata; however, these slightly anomalous amplitudes are below the amplitude cut-off value established for this search interval. We believe that is a moderate potential for encountering minor gas in these sand-prone strata. However, there are no other direct hydrocarbon indicators, e.g., phase reversals, flat spots, and velocity changes that would suggest the presence of overpressured free gas at this location. If present, the gas is probably in solution, in low concentrations, and not overpressured.

There are two small high-amplitude anomalies approximately 870 ft and 1,040 ft to the east of the proposed wellsite at 1,559 ft bml and 1,797 ft bml respectively (Map 4-518-A). These anomalies may represent pockets of gas.

**Water Flow.** We have graded the potential for shallow water flow as negligible to low for the shallow stratigraphy (upper 3,458 ft of sediment) at the wellsite (Figure 2-518-A).

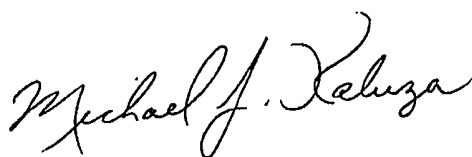
### **Conclusion and Recommendations**

The steep seafloor at this location may be problematic for standard exploration drilling operations. Our intention is to make Kerr-McGee aware of these conditions.

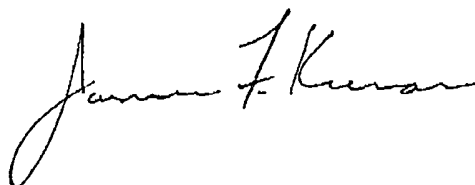
We recommend that your geologists, geophysicists, and drilling engineers consult on the best approach to managing the steep slopes in this area and drilling through coarse-grained sediments that may contain small amounts of gas. In addition, if anchored drillship is to be used, these data should be re-evaluated to identify any potential hazards or constraints to anchoring.

Sincerely,

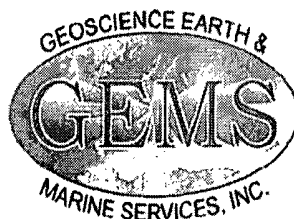
**GEOSCIENCE EARTH & MARINE  
SERVICES, INC.**



Michael J. Kaluza  
President/Marine Geologist



For Luis Fuentes  
Associate Geoscientist



10615 SHADOW WOOD DRIVE  
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Fax: (713) 468-1438  
E-mail: [gems@gemsinc.com](mailto:gems@gemsinc.com)

March 9, 2005

Project No. 1104-913

Kerr-McGee Oil and Gas Corporation  
16666 Northchase Drive  
Houston, Texas 77060

Attention: Mr. Steve Judy

**Proposed Exploration Wellsite 518-B  
Block 518 (OCS-G-15906)  
Garden Banks Area  
Gulf of Mexico**

**Introduction**

This letter addresses specific seafloor and subsurface geologic conditions to a depth of approximately 2,124 ft below the mudline (bml) at the proposed Exploration Wellsite 518-B in Block 518 (OCS-G-15906), Garden Banks area (GB), Gulf of Mexico. The following discussion is based on the findings provided within the main body of the geohazard report for Block 518 (OCS-G-15906), Block 519 (OCS-G-15907), Block 560 (OCS-G-15913), and Block 561 (OCS-G-15914), GEMS Report No. 1104-913 dated February 18, 2005. This letter is intended to supplement that report with details pertaining directly to the proposed wellsite.

The proposed Exploration Wellsite 518-B surface location is located in the west-central portion of Block 518, Garden Banks area, Gulf of Mexico. Kerr-McGee provided the following coordinates:

Proposed Exploration Wellsite 518-B			
Spheroid & Datum: Clarke 1866, NAD27 Projection: UTM Zone 15 North, U.S. ft		Line Reference	Block Calls
X: 1,874,694	Latitude: 27° 28' 53.21" N	Inline: 3499	5,574 ft FWL
Y: 9,973,078	Longitude: -92° 16' 37.90" W	Crossline: 3858	6,122 ft FNL

**Attachments**

The page-size maps and figures accompanying this letter have been extracted from the main report's original maps and 3-D data volume and centered on the proposed well location.

- Map 1-518-B: Bathymetry Map
- Map 2-518-B: Seafloor Rendering
- Map 3-518-B: Amplitude Seafloor Rendering
- Map 4-518-B: Geologic Features Map
- Figure 1-518-B: Portions of Inline 3499 and Crossline 3858 Showing Conditions Beneath Proposed Wellsite 518-B
- Figure 2-518-B: Tophole Prognosis Chart, Proposed Wellsite 518-B, Garden Banks Block 518

### **Water Depth and Seafloor Conditions**

The water depth at the proposed location is -2,460 ft (Map 1-518-B). Soft clays are expected at the seafloor (Figures 1-518-B and 2-518-B). The seafloor is smooth and featureless. The seafloor slopes to the northwest at approximately 1.6° (2.8%), Maps 1-518-B and 2-518-B.

### **Chemosynthetic Communities**

There are no features or areas that could support high-density chemosynthetic communities within 1,500 ft of the proposed location (Map 3-518-B).

### **Man-Made Features**

There are no man-made features within 7,500 ft of the proposed location.

### **Sediments**

Stratigraphic details are provided with the Tophole Prognosis Chart (Figure 2-518-B). The shallow sediments from the seafloor to approximately 1,832 ft bml are probably clay-dominated deposits. The clay-rich deposits below 1,832 ft bml to about 2,124 ft bml may contain interbedded coarser-grained sands (Figure 2-518-B).

### **Faults**

There are no seafloor faults at or near the wellsite location (Maps 1-518-B and Figures 1-518-B and 2-518-B). A vertical borehole will not penetrate any buried faults in the upper 2,124 ft of sediment (Figures 1-518-B and 2-518-B).

**Shallow Gas.** There are no subsurface high-amplitude anomalies directly beneath the proposed wellsite (Map 4-518-B).

There is a high-amplitude anomaly approximately 1,850 ft to the southwest of the proposed wellsite at about 1,412 ft bml. This anomaly may represent a pocket of gas.

There is a moderate potential for encountering shallow gas between 1,832 ft bml to 2,124 ft bml (Figure 2-518-B). Coarse-grained sediments containing small amounts of gas may exist between these depths.

**Water Flow.** We have graded the potential for shallow water flow as negligible for the shallow (upper 2,124 ft of sediment) stratigraphy at the wellsite (Figure 2-518-B). Most of the stratigraphy below this proposed location is clay-rich.

### **Conclusion and Recommendations**

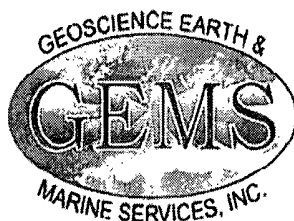
The proposed Exploration Wellsite 518-B in Garden Banks Block 518 appears suitable for exploration drilling operations. We recommend that your geologists, geophysicists, and drilling engineers consult on the best approach to drilling through coarse-grained sediments that may contain small amounts of gas.

Sincerely,

**GEOSCIENCE EARTH & MARINE  
SERVICES, INC.**

Michael J. Kaluza  
President/Marine Geologist

Luis Fuentes  
Associate Geoscientist



10615 SHADOW WOOD DRIVE  
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E-mail: [gems@gemsinc.com](mailto:gems@gemsinc.com)

March 9, 2005

Project No. 1104-913

Kerr-McGee Oil and Gas Corporation  
16666 Northchase Drive  
Houston, Texas 77060

Attention: Mr. Steve Judy

**Proposed Exploration Wellsite 518-C  
Block 518 (OCS-G-15906)  
Garden Banks Area  
Gulf of Mexico**

**Introduction**

This letter addresses specific seafloor and subsurface geologic conditions to a depth of approximately 3,304 ft below the mudline (bml) at the proposed Exploration Wellsite 518-C in Block 518 (OCS-G-15906), Garden Banks area (GB), Gulf of Mexico. The following discussion is based on the findings provided within the main body of the geohazard report for Block 518 (OCS-G-15906), Block 519 (OCS-G-15907), Block 560 (OCS-G-15913), and Block 561 (OCS-G-15914), GEMS Report No. 1104-913 dated February 18, 2005. This letter is intended to supplement that report with details pertaining directly to the proposed wellsite.

The proposed Exploration Wellsite 518-C surface location is located in the southwest portion of Block 518, Garden Banks area, Gulf of Mexico. Kerr-McGee provided the following coordinates:

Proposed Exploration Wellsite 518-C			
Spheroid & Datum: Clarke 1866, NAD27 Projection: UTM Zone 15 North, U.S. ft		Line Reference	Block Calls
X: 1,871,810	Latitude: 27° 28' 18.23" N	Inline: 3444	2,690 ft FWL
Y: 9,969,530	Longitude: -92° 17' 10.15" W	Crossline: 3846	6,170 ft FSL

**Attachments**

The page-size maps and figures accompanying this letter have been extracted from the main report's original maps and 3-D data volume and centered on the proposed well location.

- Map 1-518-C: Bathymetry Map
- Map 2-518-C: Seafloor Rendering
- Map 3-518-C: Amplitude Seafloor Rendering
- Map 4-518-C: Geologic Features Map
- Figure 1-518-C: Portions of Inline 3444 and Crossline 3846 Showing Conditions  
Beneath Proposed Wellsite 518-C
- Figure 2-518-C: Tophole Prognosis Chart, Proposed Wellsite 518-C, Garden Banks Block 518

### **Water Depth and Seafloor Conditions**

The water depth at the proposed location is -2,260 ft (Map 1-518-C). Soft clays are expected at the seafloor (Figures 1-518-C and 2-518-C). The seafloor is smooth and featureless. The seafloor slopes to the south at approximately 4.9° (8.6%), Maps 1-518-C and 2-518-C.

### **Chemosynthetic Communities**

There are no features or areas that could support high-density chemosynthetic communities within 1,500 ft of the proposed location (Map 3-518-C).

### **Man-Made Features**

There are no man-made features within 7,500 ft of the proposed location.

### **Sediments**

Stratigraphic details are provided with the Tophole Prognosis Chart (Figure 2-518-C). The sediments from the seafloor to 882 ft bml and from 2,512 ft bml to 3,304 ft bml are probably clay-dominated deposits. The clay-rich deposits between 882 ft bml to about 2,512 ft bml may contain interbedded coarser-grained sands (Figure 2-518-C).

### **Faults**

There are no seafloor faults at or near the wellsite location. The closest seafloor fault is 620 ft to the southwest of the proposed location (Maps 1-518-C).

A vertical borehole will penetrate four buried faults in the upper 3,304 ft of sediment (Figures 1-518-C and 2-518-C). The buried faults are 823 ft bml, 970 ft bml, 1,164 ft bml, and 1,931 ft bml (Figure 2-518-C).

**Shallow Gas.** There are no subsurface high-amplitude anomalies directly beneath the proposed wellsite (Map 4-518-C).

There is a high-amplitude anomaly approximately 1,170 ft to the northeast of the proposed wellsite at about 884 ft bml. This anomaly may represent a pocket of gas.

There is a low potential for encountering shallow gas exists between 882 ft bml to 2,512 ft bml (Figure 2-518-C). Coarse-grained sediments containing small amounts of gas may exist between these depths.

**Water Flow.** We have graded the potential for shallow water flow as negligible for the shallow (upper 3,304 ft of sediment) stratigraphy at the wellsite (Figure 2-518-C). Most of the stratigraphy below this proposed location is clay-rich.

### **Conclusion and Recommendations**

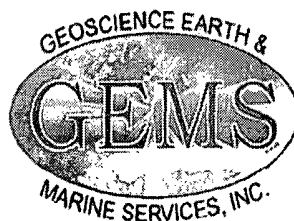
The proposed Exploration Wellsite 518-C in Garden Banks Block 518 appears suitable for exploration drilling operations. We recommend that your geologists, geophysicists, and drilling engineers consult on the best approach to drilling through coarse-grained sediments that may contain small amounts of gas.

Sincerely,

**GEOSCIENCE EARTH & MARINE  
SERVICES, INC.**

Michael J. Kaluza  
President/Marine Geologist

Luis Fuentes  
Associate Geoscientist



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September 19, 2005

Project No. 0805-1044

Kerr-McGee Oil and Gas Corporation  
16666 Northchase Drive  
Houston, Texas 77060

Attention: Mr. Steve Judy

**Proposed Exploration Wellsite 518-D  
Block 518 (OCS-G-15906)  
Garden Banks Area  
Gulf of Mexico**

**Introduction**

This letter addresses specific seafloor and subsurface geologic conditions to a depth of approximately 2,823 ft below the mudline (bml) at the proposed Exploration Wellsite 518-D in Block 518 (OCS-G-15906), Garden Banks area (GB), Gulf of Mexico. The following discussion is based on the findings provided within the main body of the geohazard report for Block 518 (OCS-G-15906), Block 519 (OCS-G-15907), Block 560 (OCS-G-15913), and Block 561 (OCS-G-15914), GEMS Report No. 1104-913 dated February 18, 2005. This letter is intended to supplement that report with details pertaining directly to the proposed wellsite.

The proposed Exploration Wellsite 518-D is in the west-central portion of Block 518, Garden Banks area, Gulf of Mexico. Kerr-McGee provided the following coordinates:

Proposed Exploration Wellsite 518-D			
Spheroid & Datum: Clarke 1866, NAD27 Projection: UTM Zone 15 North, U.S. ft		Line Reference	Block Calls
X: 1,874,504	Latitude: 27° 28' 21.79" N	Inline: 3470	5,384 ft FWL
Y: 9,969,905	Longitude: -92° 16' 40.21" W	Crossline: 3806	6,545 ft FSL

**Attachments**

The page-size maps and figures accompanying this letter have been extracted from the main report's original maps and 3-D data volume and centered on the proposed well location.

- Map 1-518-D: Bathymetry Map
- Map 2-518-D: Seafloor Rendering
- Map 3-518-D: Amplitude Seafloor Rendering
- Map 4-518-D: Geologic Features Map
- Figure 1-518-D: Portions of Inline 3470 and Crossline 3806 Showing Conditions  
Beneath Proposed Wellsite 518-D
- Figure 2-518-D: Tophole Prognosis Chart, Proposed Wellsite 518-D, Garden Banks Block 518

### **Water Depth and Seafloor Conditions**

The water depth at the proposed location is -2,336 ft (Map 1-518-D). The seafloor is irregular and slopes to the north-northeast at approximately 5.0° (8.8%), Maps 1-518-D and 2-518-D; Figures 1-518-D and 2-518-D.

### **Chemosynthetic Communities**

There are no features or areas that could support high-density chemosynthetic communities within 1,500 ft of the proposed location (Map 3-518-D).

An area of higher amplitude 1,166 ft to the south of the proposed wellsite represents older, harder strata that have been exposed at the seafloor. No evidence of seafloor venting exists in association with this event; therefore the potential for chemosynthetic communities is negligible.

### **Man-Made Features**

There are no man-made features within 6,500 ft of the proposed location.

### **Sediments**

Stratigraphic details are provided with the Tophole Prognosis Chart (Figure 2-518-D). The shallow sediments from the seafloor to approximately 1,212 ft bml and between 1,950 ft bml to 2,823 ft bml are probably clay-dominated deposits. The sediments between 1,630 ft bml to about 1,950 ft bml may contain a mixture of silts, clays, and interbedded coarser-grained sands (Figure 2-518-D).

### **Faults**

There are no seafloor faults at the wellsite location (Maps 1-518-D and 2-518-D). The closest seafloor fault is 300 ft to the north of the proposed location (Map 1-518-D and Figure 1-518-D).

A vertical wellbore will probably intersect several small faults, but fault patterns are complex, often too small to be mapped. The wellbore will intersect mapped faults at 642 ft bml and 1,212 ft bml (Figures 1-518-D and 2-518-D).

**Shallow Gas.** There are no subsurface high-amplitude anomalies directly beneath the proposed wellsite (Map 4-518-D).

The relatively bright amplitudes between 1,212 ft bml and 1,950 ft bml (Figure 2-518-C) are associated with possible sand-prone strata; however, these slightly anomalous amplitudes are below the amplitude cut-off value established for this search interval. We believe that is a moderate potential for encountering minor gas in these sand-prone strata. However, there are no other direct hydrocarbon indicators, e.g., phase reversals, flat spots, and velocity changes that would suggest the presence of overpressured free gas at this location. If present, the gas is probably in solution, in low concentrations, and not overpressured.

There are two high-amplitude anomalies within 1,500 ft of the proposed wellsite at depths of 1,412 ft bml and 1,492 ft bml (Map 4-518-D). These anomalies may represent pockets of gas.

**Water Flow.** We have graded the potential for shallow water flow as negligible to low for the shallow stratigraphy (upper 2,023 ft of sediment) at the wellsite (Figure 2-518-D).

### **Conclusion and Recommendations**

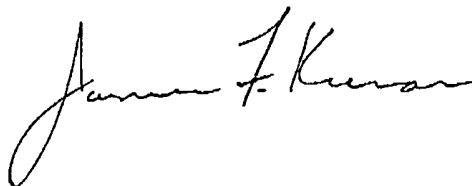
The proposed Exploration Wellsite 518-D in Garden Banks Block 518 appears suitable for exploration drilling operations. We recommend that your geologists, geophysicists, and drilling engineers consult on the best approach to drilling through coarse-grained sediments that may contain small amounts of gas. If an anchored drillship is to be used, these data should be re-evaluated to identify any potential hazards or constraints to anchoring.

Sincerely,

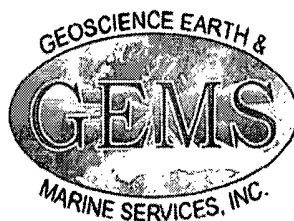
**GEOSCIENCE EARTH & MARINE  
SERVICES, INC.**



Michael J. Kaluza  
President/Marine Geologist



For Luis Fuentes  
Associate Geoscientist



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September 19, 2005

Project No. 0805-1044

Kerr-McGee Oil and Gas Corporation  
16666 Northchase Drive  
Houston, Texas 77060

Attention: Mr. Steve Judy

**Proposed Exploration Wellsite 518-E  
Block 518 (OCS-G-15906)  
Garden Banks Area  
Gulf of Mexico**

**Introduction**

This letter addresses specific seafloor and subsurface geologic conditions to a depth of approximately 3,039 ft below the mudline (bml) at the proposed Exploration Wellsite 518-E in Block 518 (OCS-G-15906), Garden Banks area (GB), Gulf of Mexico. The following discussion is based on the findings provided within the main body of the geohazard report for Block 518 (OCS-G-15906), Block 519 (OCS-G-15907), Block 560 (OCS-G-15913), and Block 561 (OCS-G-15914), GEMS Report No. 1104-913 dated February 18, 2005. This letter is intended to supplement that report with details pertaining directly to the proposed wellsite.

The proposed Exploration Wellsite 518-E surface is in the southwest portion of Block 518, Garden Banks area, Gulf of Mexico. Kerr-McGee provided the following coordinates:

Proposed Exploration Wellsite 518-E			
Spheroid & Datum: Clarke 1866, NAD27 Projection: UTM Zone 15 North, U.S. ft		Line Reference	Block Calls
X: 1,871,499	Latitude: 27° 27' 23.40" N	Inline: 3393	2,379 ft FWL
Y: 9,963,993	Longitude: -92° 17' 13.96" W	Crossline: 3756	633 ft FSL

**Attachments**

The page-size maps and figures accompanying this letter have been extracted from the main report's original maps and 3-D data volume and centered on the proposed well location.

- Map 1-518-E: Bathymetry Map
- Map 2-518-E: Seafloor Rendering
- Map 3-518-E: Amplitude Seafloor Rendering
- Map 4-518-E: Geologic Features Map
- Figure 1-518-E: Portions of Inline 3393 and Crossline 3756 Showing Conditions Beneath Proposed Wellsite 518-E
- Figure 2-518-E: Tophole Prognosis Chart, Proposed Wellsite 518-E, Garden Banks Block 518

### **Water Depth and Seafloor Conditions**

The water depth at the proposed location is -2,217 ft (Map 1-518-E). The seafloor at the wellsite is irregular and slopes to the south at approximately 7.2° (12.6%), Maps 1-518-E and 2-518-E; Figures 1-518-E and 2-518-E.

### **Chemosynthetic Communities**

There are no features or areas that could support high-density chemosynthetic communities within 1,500 ft of the proposed location (Map 3-518-E).

### **Man-Made Features**

There are no man-made features within 6,500 ft of the proposed location.

### **Sediments**

Stratigraphic details are provided with the Tophole Prognosis Chart (Figure 2-518-E). The shallow sediments from the seafloor to approximately 1,230 ft bml are probably clay-dominated deposits. The sediments between 1,330 ft bml to about 3,039 ft bml may contain a mixture of silts, clays, and interbedded coarser-grained sands (Figure 2-518-E).

### **Faults**

There are no seafloor faults at the wellsite location. The closest seafloor fault is 100 ft to the southwest of the proposed location (Map 1-518-E and Figure 1-518-E).

A vertical wellbore will probably intersect several small faults, but fault patterns are complex, often too small to be mapped. The wellbore will intersect mapped faults at 385 ft bml, 861 ft bml, and 1,276 ft bml (Figure 2-518-E).

**Shallow Gas.** There are no subsurface high-amplitude anomalies directly beneath the proposed wellsite (Map 4-518-E and Figure 2-518-E).

The relatively bright amplitudes below 1,230 ft bml (Figure 2-518-E) are associated with possible sand-prone strata; however, these slightly anomalous amplitudes are below the amplitude cut-off value established for this search interval. We believe that is a low potential for encountering minor gas in these sand-prone strata. However, there are no other direct hydrocarbon indicators, e.g., phase reversals, flat spots, and velocity changes that would suggest the presence of overpressured free gas at this location. If present, the gas is probably in solution, in low concentrations, and not overpressured.

**Water Flow.** We have graded the potential for shallow water flow as negligible to low for the shallow stratigraphy (upper 3,039 ft of sediment) at the proposed wellsite (Figure 2-518-E).

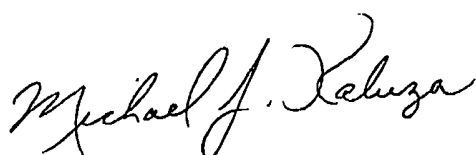
### **Conclusion and Recommendations**

The steep seafloor at this location may be problematic for standard exploration drilling operations. Our intention is to make Kerr-McGee aware of these conditions.

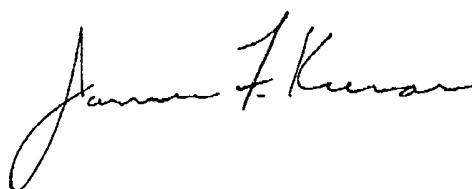
We recommend that your geologists, geophysicists, and drilling engineers consult on the best approach to managing the steep slopes in this area and drilling through coarse-grained sediments that may contain small amounts of gas. In addition, if an anchored drillship is to be used, these data should be re-evaluated to identify any potential hazards or constraints to anchoring.

Sincerely,

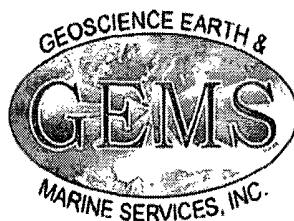
**GEOSCIENCE EARTH & MARINE  
SERVICES, INC.**



Michael J. Kaluza  
President/Marine Geologist



For Luis Fuentes  
Associate Geoscientist



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March 9, 2005

Project No. 1104-913

Kerr-McGee Oil and Gas Corporation  
16666 Northchase Drive  
Houston, Texas 77060

Attention: Mr. Steve Judy

**Proposed Exploration Wellsite 561-A  
Block 561 (OCS-G-15914)  
Garden Banks Area  
Gulf of Mexico**

**Introduction**

This letter addresses specific seafloor and subsurface geologic conditions to a depth of approximately 3,960 ft below the mudline (bml) at the proposed Exploration Wellsite 561-A in Block 561 (OCS-G-15914), Garden Banks area (GB), Gulf of Mexico. The following discussion is based on the findings provided within the main body of the geohazard report for Block 518 (OCS-G-15906), Block 519 (OCS-G-15907), Block 560 (OCS-G-15913), and Block 561 (OCS-G-15914), GEMS Report No. 1104-913 dated February 18, 2005. This letter is intended to supplement that report with details pertaining directly to the proposed wellsite.

The proposed Exploration Wellsite 561-A surface location is located in the northeast portion of Block 561, Garden Banks area, Gulf of Mexico. Kerr-McGee provided the following coordinates:

Proposed Exploration Wellsite 561-A			
Spheroid & Datum: Clarke 1866, NAD27 Projection: UTM Zone 15 North, U.S. ft		Line Reference	Block Calls
X: 1,864,863	Latitude: 27° 26' 48.76" N	Inline: 3305	4,257 ft FEL
Y: 9,960,459	Longitude: -92° 18' 27.86" W	Crossline: 3808	2,901 ft FNL

**Attachments**

The page-size maps and figures accompanying this letter have been extracted from the main report's original maps and 3-D data volume and centered on the proposed well location.

- Map 1-561-A: Bathymetry Map
- Map 2-561-A: Seafloor Rendering
- Map 3-561-A: Amplitude Seafloor Rendering
- Map 4-561-A: Geologic Features Map
- Figure 1-561-A: Portions of Inline 3305 and Crossline 3808 Showing Conditions Beneath Proposed Wellsite 561-A
- Figure 2-561-A: Tophole Prognosis Chart, Proposed Wellsite 561-A, Garden Banks Block 561

### **Water Depth and Seafloor Conditions**

The water depth at the proposed location is -2,439 ft (Map 1-561-A). Soft clays are expected at the seafloor (Figures 1-561-A and 2-561-A). The seafloor is irregular and slopes to the south at approximately 5.1° (8.9%), Maps 1-561-A and 2-561-A.

### **Chemosynthetic Communities**

There are no features or areas that could support high-density chemosynthetic communities within 1,500 ft of the proposed location (Map 3-561-A).

### **Man-Made Features**

There are no man-made features within 7,500 ft of the proposed location.

### **Sediments**

Stratigraphic details are provided with the Tophole Prognosis Chart (Figure 2-561-A). The shallow sediments from the seafloor to approximately 1,009 ft bml are probably clay-dominated deposits. The clay-rich deposits below 1,009 ft bml to about 3,960 ft bml may contain interbedded coarser-grained sands (Horizon 3 to the Top of Salt), Figure 2-561-A.

### **Faults**

There are no seafloor faults at or near the wellsite location. The closest seafloor fault is 680 ft to the west of the proposed location (Maps 1-561-A).

A vertical borehole will penetrate seven buried faults in the upper 3,960 ft of sediment (Figures 1-561-A and 2-561-A). The buried faults are 529 ft bml, 888 ft bml, 1,596 ft bml, 1,906 ft bml, 2,293 ft bml, 2,839 ft bml, and 3,719 ft bml (Figure 2-561-A).

**Shallow Gas.** There are no subsurface high-amplitude anomalies directly beneath the proposed wellsite (Map 4-561-A). There is a high-amplitude anomaly approximately 820 ft to the north of the proposed wellsite.

There is a low potential for encountering shallow gas exists between 1,009 ft bml to 1,766 ft bml and between 2,175 ft bml to 3,960 ft bml (Figure 2-561-A). A moderate potential for shallow gas exists between 1,766 ft bml to 2,175 ft bml. Coarse-grained sediments containing small amounts of gas may exist between these depths.

**Water Flow.** We have graded the potential for shallow water flow as negligible for the shallow (upper 3,960 ft of sediment) stratigraphy at the wellsite (Figure 2-518-A). Most of the stratigraphy below this proposed location is clay-rich.

### **Conclusion and Recommendations**

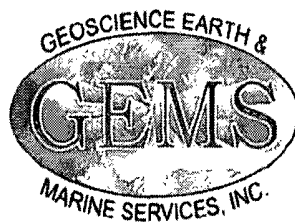
The proposed Exploration Wellsite 561-A in Garden Banks Block 561 appears suitable for exploration drilling operations. We recommend that your geologists, geophysicists, and drilling engineers consult on the best approach to drilling through coarse-grained sediments that may contain small amounts of gas.

Sincerely,

**GEOSCIENCE EARTH & MARINE  
SERVICES, INC.**

Michael J. Kaluza  
President/Marine Geologist

Luis Fuentes  
Associate Geoscientist



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March 9, 2005

Project No. 1104-913

Kerr-McGee Oil and Gas Corporation  
16666 Northchase Drive  
Houston, Texas 77060

Attention: Mr. Steve Judy

**Proposed Exploration Wellsite 561-B  
Block 561 (OCS-G-15914)  
Garden Banks Area  
Gulf of Mexico**

**Introduction**

This letter addresses specific seafloor and subsurface geologic conditions to a depth of approximately 3,852 ft below the mudline (bml) at the proposed Exploration Wellsite 561-B in Block 561 (OCS-G-15914), Garden Banks area (GB); Gulf of Mexico. The following discussion is based on the findings provided within the main body of the geohazard report for Block 518 (OCS-G-15906), Block 519 (OCS-G-15907), Block 560 (OCS-G-15913), and Block 561 (OCS-G-15914), GEMS Report No. 1104-913 dated February 18, 2005. This letter is intended to supplement that report with details pertaining directly to the proposed wellsite.

The proposed Exploration Wellsite 561-B surface location is located in the northwest portion of Block 561, Garden Banks area, Gulf of Mexico. Kerr-McGee provided the following coordinates:

Proposed Exploration Wellsite 561-B			
Spheroid & Datum: Clarke 1866, NAD27 Projection: UTM Zone 15 North, U.S. ft		Line Reference	Block Calls
X: 1,854,771	Latitude: 27° 26' 48.65" N	Inline: 3217	1,491 ft FWL
Y: 9,960,393	Longitude: -92° 20' 19.92" W	Crossline: 3980	2,967 ft FNL

**Attachments**

The page-size maps and figures accompanying this letter have been extracted from the main report's original maps and 3-D data volume and centered on the proposed well location.

- Map 1-561-B: Bathymetry Map
- Map 2-561-B: Seafloor Rendering
- Map 3-561-B: Amplitude Seafloor Rendering
- Map 4-561-B: Geologic Features Map
- Figure 1-561-B: Portions of Inline 3217 and Crossline 3980 Showing Conditions Beneath Proposed Wellsite 561-B
- Figure 2-561-B: Tophole Prognosis Chart, Proposed Wellsite 561-B, Garden Banks Block 561

### **Water Depth and Seafloor Conditions**

The water depth at the proposed location is -2,239 ft (Map 1-561-B). Soft clays are expected at the seafloor (Figures 1-561-B and 2-561-B). The seafloor is irregular and slopes to the southwest at approximately 3.7° (6.5%), Maps 1-561-B and 2-561-B.

### **Chemosynthetic Communities**

There are no features or areas that could support high-density chemosynthetic communities within 1,500 ft of the proposed location (Map 3-561-B).

There are two small seafloor high-amplitude anomalies 1,240 and 1,385 ft west of the proposed wellsite. These anomalies are not associated with any fluid expulsion features; therefore, we do not expect high-density chemosynthetic communities to be associated with these features (Map 3-561-B).

### **Man-Made Features**

There are no man-made features within 7,500 ft of the proposed location.

### **Sediments**

Stratigraphic details are provided with the Tophole Prognosis Chart (Figure 2-561-B). The shallow sediments from the seafloor to approximately 1,559 ft bml are probably clay-dominated deposits. The clay-rich deposits below 1,559 ft bml to about 3,852 ft bml may contain interbedded coarser-grained sands (Horizon 3 to the Top of Salt), Figure 2-561-B.

### **Faults**

There are no seafloor faults at or near the wellsite location (Maps 1-561-B). A vertical borehole will penetrate six buried faults in the upper 3,852 ft of sediment (Figures 1-561-B and 2-561-B). The buried faults are 941 ft bml, 1,194 ft bml, 1,994 ft bml, 2,441 ft bml, 2,932 ft bml, and 3,335 ft bml (Figure 2-561-B).

**Shallow Gas.** There are no subsurface high-amplitude anomalies directly beneath the proposed wellsite (Map 4-561-B).

There is a low potential for encountering shallow gas exists between 1,559 ft bml to 3,852 ft bml (Figure 2-561-B). Coarse-grained sediments containing small amounts of gas may exist between these depths.

**Water Flow.** We have graded the potential for shallow water flow as negligible for the shallow (upper 3,852 ft of sediment) stratigraphy at the wellsite (Figure 2-561-B). Most of the stratigraphy below this proposed location is clay-rich.

### **Conclusion and Recommendations**

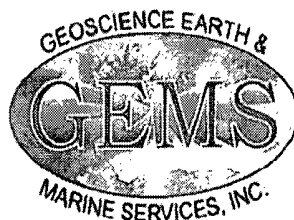
The proposed Exploration Wellsite 561-B in Garden Banks Block 561 appears suitable for exploration drilling operations. We recommend that your geologists, geophysicists, and drilling engineers consult on the best approach to drilling through coarse-grained sediments that may contain small amounts of gas.

Sincerely,

**GEOSCIENCE EARTH & MARINE  
SERVICES, INC.**

Michael J. Kaluza  
President/Marine Geologist

Luis Fuentes  
Associate Geoscientist



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September 19, 2005

Project No. 0805-1044

Kerr-McGee Oil and Gas Corporation  
16666 Northchase Drive  
Houston, Texas 77060

Attention: Mr. Steve Judy

**Proposed Exploration Wellsite 561-C  
Block 561 (OCS-G-15914)  
Garden Banks Area  
Gulf of Mexico**

**Introduction**

This letter addresses specific seafloor and subsurface geologic conditions to a depth of approximately 3,744 ft below the mudline (bml) at the proposed Exploration Wellsite 561-C in Block 561 (OCS-G-15914), Garden Banks area (GB), Gulf of Mexico. The following discussion is based on the findings provided within the main body of the geohazard report for Block 518 (OCS-G-15906), Block 519 (OCS-G-15907), Block 560 (OCS-G-15913), and Block 561 (OCS-G-15914), GEMS Report No. 1104-913 dated February 18, 2005. This letter is intended to supplement that report with details pertaining directly to the proposed wellsite.

The proposed Exploration Wellsite 561-C is in the northeast portion of Block 561, Garden Banks area, Gulf of Mexico. Kerr-McGee provided the following coordinates:

Proposed Exploration Wellsite 561-C			
Spheroid & Datum: Clarke 1866, NAD27 Projection: UTM Zone 15 North, U.S. ft		Line Reference	Block Calls
X: 1,866,399	Latitude: 27° 26' 57.05" N	Inline: 3326	2,721 ft FEL
Y: 9,961,304	Longitude: -92° 18' 10.76" W	Crossline: 3796	2,056 ft FNL

**Attachments**

The page-size maps and figures accompanying this letter have been extracted from the main report's original maps and 3-D data volume and centered on the proposed well location.

- Map 1-561-C: Bathymetry Map
- Map 2-561-C: Seafloor Rendering
- Map 3-561-C: Amplitude Seafloor Rendering
- Map 4-561-C: Geologic Features Map
- Figure 1-561-C: Portions of Inline 3326 and Crossline 3796 Showing Conditions Beneath Proposed Wellsite 561-C
- Figure 2-561-C: Tophole Prognosis Chart, Proposed Wellsite 561-C, Garden Banks Block 561

### **Water Depth and Seafloor Conditions**

The water depth at the proposed location is -2,452 ft (Map 1-561-C). The seafloor is smooth and slopes to the south-southeast at approximately 6.4° (11.2%), Maps 1-561-C and 2-561-C; Figures 1-561-C and 2-561-C.

### **Chemosynthetic Communities**

There are no features or areas that could support high-density chemosynthetic communities within 1,500 ft of the proposed location (Map 3-561-C).

### **Man-Made Features**

There are no man-made features within 6,500 ft of the proposed location.

### **Sediments**

Stratigraphic details are provided with the Tophole Prognosis Chart (Figure 2-561-C). The shallow sediments from the seafloor to approximately 1,593 ft bml and between 1,900 ft bml to 3,744 ft bml are probably clay-dominated deposits. The sediments between 1,593 ft bml to 1,900 ft bml may contain a mixture of silts, clays, and interbedded coarser-grained sands (Figure 2-561-C).

### **Faults**

There are no seafloor faults at or near the wellsite location. The closest seafloor fault is 2,130 ft to the southwest of the proposed location (Map 1-561-C and Figure 1-561-C).

A vertical wellbore will probably intersect several small faults, but fault patterns are complex, often too small to be mapped. The wellbore will intersect mapped faults at 662 ft bml, 1,333 ft bml, and 2,415 ft bml (Figure 2-561-C).

**Shallow Gas.** There are no subsurface high-amplitude anomalies directly beneath the proposed wellsite (Map 4-561-C).

There are no subsurface high-amplitude anomalies within 1,500 ft of the proposed wellsite 561-C (Map 4-561-C). However, there is a moderate potential for encountering minor solution gas between 1,593 ft bml to 1,900 ft bml (Figure 2-561-C).

**Water Flow.** We have graded the potential for shallow water flow as negligible to low for the shallow stratigraphy (upper 3,744 ft of sediment) at the wellsite (Figure 2-561-C).

### **Conclusion and Recommendations**

The proposed Exploration Wellsite 561-C will be drilled on a steep-sloped region. The steep seafloor at this location may be problematic for standard exploration drilling operations. Our intention is to make Kerr-McGee aware of these conditions.

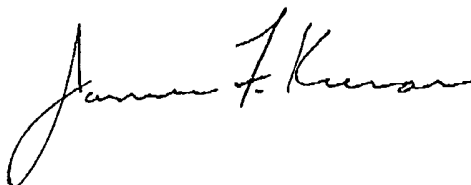
We recommend that your geologists, geophysicists, and drilling engineers consult on the best approach to managing the steep slopes in this area and drilling through coarse-grained sediments that may contain small amounts of gas. In, addition, if an anchored drillship is to be used, these data should be re-evaluated to identify any potential hazards or constraints to anchoring.

Sincerely,

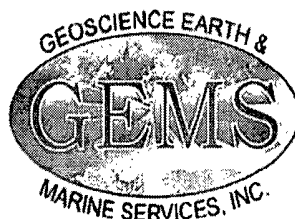
**GEOSCIENCE EARTH & MARINE  
SERVICES, INC.**



Michael J. Kaluza  
President/Marine Geologist



For Luis Fuentes  
Associate Geoscientist



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September 19, 2005

Project No. 0805-1044

Kerr-McGee Oil and Gas Corporation  
16666 Northchase Drive  
Houston, Texas 77060

Attention: Mr. Steve Judy

**Proposed Exploration Wellsite 561-D  
Block 561 (OCS-G-15914)  
Garden Banks Area  
Gulf of Mexico**

**Introduction**

This letter addresses specific seafloor and subsurface geologic conditions to a depth of approximately 3,475 ft below the mudline (bml) at the proposed Exploration Wellsite 561-D in Block 561 (OCS-G-15914), Garden Banks area (GB), Gulf of Mexico. The following discussion is based on the findings provided within the main body of the geohazard report for Block 518 (OCS-G-15906), Block 519 (OCS-G-15907), Block 560 (OCS-G-15913), and Block 561 (OCS-G-15914), GEMS Report No. 1104-913 dated February 18, 2005. This letter is intended to supplement that report with details pertaining directly to the proposed wellsite.

The proposed Exploration Wellsite 561-D is in the northeast portion of Block 561, Garden Banks area, Gulf of Mexico. Kerr-McGee provided the following coordinates:

Proposed Exploration Wellsite 561-D			
Spheroid & Datum: Clarke 1866, NAD27 Projection: UTM Zone 15 North, U.S. ft		Line Reference	Block Calls
X: 1,868,495	Latitude: 27° 27' 11.76" N	Inline: 3357	625 ft FEL
Y: 9,962,801	Longitude: -92° 17' 47.39" W	Crossline: 3786	559 ft FNL

**Attachments**

The page-size maps and figures accompanying this letter have been extracted from the main report's original maps and 3-D data volume and centered on the proposed well location.

- Map 1-561-D: Bathymetry Map
- Map 2-561-D: Seafloor Rendering
- Map 3-561-D: Amplitude Seafloor Rendering
- Map 4-561-D: Geologic Features Map
- Figure 1-561-D: Portions of Inline 3357 and Crossline 3786 Showing Conditions Beneath Proposed Wellsite 561-D
- Figure 2-561-D: Tophole Prognosis Chart, Proposed Wellsite 561-D, Garden Banks Block 561

### **Water Depth and Seafloor Conditions**

The water depth at the proposed location is -2,404 ft (Map 1-561-D). The seafloor is smooth and slopes to the south-southeast at approximately 6.6° (11.6%), Maps 1-561-D and Map 2-561-D; Figures 1-561-D and 2-561-D. The proposed wellsite 561-D is located within a narrow valley at the edge of a small ridge (Map 2-561-D).

### **Chemosynthetic Communities**

There are no features or areas that could support high-density chemosynthetic communities within 1,500 ft of the proposed location (Map 3-561-D).

### **Man-Made Features**

There are no man-made features within 6,500 ft of the proposed location.

### **Sediments**

Stratigraphic details are provided with the Tophole Prognosis Chart (Figure 2-561-D). The shallow sediments from the seafloor to approximately 979 ft bml and between 1,264 ft bml to 3,475 ft bml are probably clay-dominated deposits. The sediments between 979 ft bml to about 1,264 ft bml may contain a mixture of silts, clays, and interbedded coarser-grained sands (Figure 2-561-D).

### **Faults**

There are no seafloor faults at the wellsite location. The closest seafloor fault is 159 ft to the west of the proposed location (Map 1-561-D and Figure 1-561-D).

A vertical wellbore will probably intersect several small faults, but fault patterns are complex, often too small to be mapped. The wellbore will intersect mapped faults at 468 ft bml, 735 ft bml, and 1,176 ft bml (Figure 2-561-D).

**Shallow Gas.** There are no subsurface high-amplitude anomalies directly beneath the proposed wellsite (Map 4-561-D and Figure 2-561-D).

The relatively bright amplitudes below 735 ft bml (Figure 2-561-D) are associated with possible sand-prone strata; however, these slightly anomalous amplitudes are below the amplitude cut-off value established for this search interval. We believe that is a moderate to low potential for encountering minor gas in these sand-prone strata. However, there are no other direct hydrocarbon indicators, e.g., phase reversals, flat spots, and velocity changes that would suggest the presence of overpressured free gas at this location. If present, the gas is probably in solution, in low concentrations, and not overpressured.

**Water Flow.** We have graded the potential for shallow water flow as negligible to low for the shallow stratigraphy (upper 3,475 ft of sediment) at the wellsite (Figure 2-561-D).

### **Conclusion and Recommendations**

The proposed Exploration Wellsite 561-D will be drilled on a steep-sloped region near a small ridge. The steep seafloor at this location may be problematic for standard exploration drilling operations. Our intention is to make Kerr-McGee aware of these conditions.

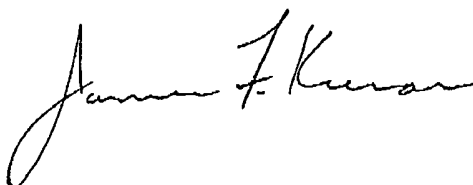
We recommend that your geologists, geophysicists, and drilling engineers consult on the best approach to managing the steep slopes in this area and drilling through coarse-grained sediments that may contain small amounts of gas. If an anchored drillship is to be used, these data should be re-evaluated to identify any potential hazards or constraints to anchoring.

Sincerely,

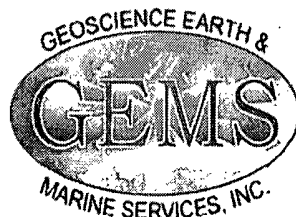
**GEOSCIENCE EARTH & MARINE  
SERVICES, INC.**



Michael J. Kaluza  
President/Marine Geologist



For Luis Fuentes  
Associate Geoscientist



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September 19, 2005

Project No. 0805-1044

Kerr-McGee Oil and Gas Corporation  
16666 Northchase Drive  
Houston, Texas 77060

Attention: Mr. Steve Judy

**Proposed Exploration Wellsite 561-E  
Block 561 (OCS-G-15914)  
Garden Banks Area  
Gulf of Mexico**

**Introduction**

This letter addresses specific seafloor and subsurface geologic conditions to a depth of approximately 3,291 ft below the mudline (bml) at the proposed Exploration Wellsite 561-E in Block 561 (OCS-G-15914), Garden Banks area (GB), Gulf of Mexico. The following discussion is based on the findings provided within the main body of the geohazard report for Block 518 (OCS-G-15906), Block 519 (OCS-G-15907), Block 560 (OCS-G-15913), and Block 561 (OCS-G-15914), GEMS Report No. 1104-913 dated February 18, 2005. This letter is intended to supplement that report with details pertaining directly to the proposed wellsite.

The proposed Exploration Wellsite 561-E is in the northeast portion of Block 561, Garden Banks area, Gulf of Mexico. Kerr-McGee provided the following coordinates:

Proposed Exploration Wellsite 561-E			
Spheroid & Datum: Clarke 1866, NAD27 Projection: UTM Zone 15 North, U.S. ft		Line Reference	Block Calls
X: 1,868,433	Latitude: 27° 27' 4.30" N	Inline: 3350	687 ft FEL
Y: 9,962,048	Longitude: -92° 17' 48.13" W	Crossline: 3774	1,312 ft FNL

**Attachments**

The page-size maps and figures accompanying this letter have been extracted from the main report's original maps and 3-D data volume and centered on the proposed well location.

- Map 1-561-E: Bathymetry Map
- Map 2-561-E: Seafloor Rendering
- Map 3-561-E: Amplitude Seafloor Rendering
- Map 4-561-E: Geologic Features Map
- Figure 1-561-E: Portions of Inline 3350 and Crossline 3774 Showing Conditions Beneath Proposed Wellsite 561-E
- Figure 2-561-E: Tophole Prognosis Chart, Proposed Wellsite 561-E, Garden Banks Block 561

## **Water Depth and Seafloor Conditions**

The water depth at the proposed location is -2,459 ft and the seafloor slopes to the south-southeast at approximately 6.5° (11.4%), Map 1-561-E. The proposed location sets atop a seafloor ridge, produced by salt uplift, and resulting in a slightly irregular seafloor. Within a 3,000 ft radius of the proposed location slope orientations vary and slope angles range from nearly flat up to about 12° (21%), Maps 1-561-E and 2-561-E; Figures 1-561-E and 2-561-E.

## **Chemosynthetic Communities**

There are no features or areas that could support high-density chemosynthetic communities within 1,500 ft of the proposed location (Map 3-561-E).

## **Man-Made Features**

There are no man-made features within 6,500 ft of the proposed location.

## **Sediments**

Stratigraphic details are provided with the Tophole Prognosis Chart (Figure 2-561-E). The shallow sediments from the seafloor to approximately 700 ft bml and between 1,385 ft bml to 3,291 ft bml are probably clay-dominated deposits. The sediments between 700 ft bml to about 1,385 ft bml may contain a mixture of silts, clays, and interbedded coarser-grained sands (Figure 2-561-E).

## **Faults**

There are no seafloor faults at the wellsite location. The closest seafloor fault is 480 ft to the north of the proposed location (Map 1-561-E and Figure 1-561-E). The fault is a north-south trending normal fault, downthrown to the west. A vertical borehole at the proposed location will not penetrate this fault. A fault with seafloor expression will be penetrated at approximately 1,608 ft bml. The surface expression of this fault is 3,585 ft to the northeast of the proposed wellsite.

The relatively bright amplitudes below 700 ft bml (Figure 2-561-E) are associated with possible sand-prone strata; however, these slightly anomalous amplitudes are below the amplitude cut-off value established for this search interval. We believe that is a moderate potential for encountering minor gas in these sand-prone strata. However, there are no other direct hydrocarbon indicators, e.g., phase reversals, flat spots, and velocity changes that would suggest the presence of overpressured free gas at this location. If present, the gas is probably in solution, in low concentrations, and not overpressured.

**Shallow Gas.** There are no subsurface high-amplitude anomalies directly beneath the proposed wellsite. However, there is a moderate potential for encountering shallow gas between 700 ft bml to 1,385 ft bml (Figure 2-561-E). Coarse-grained, gas-charged sediments may exist between these depths.

**Water Flow.** We have graded the potential for shallow water flow as negligible to low for the shallow stratigraphy (upper 3,291 ft of sediment) at the wellsite (Figure 2-561-E);

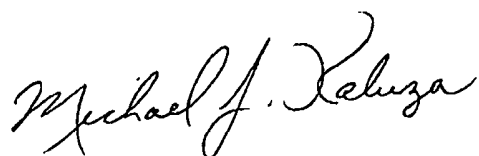
### **Conclusion and Recommendations**

The slightly irregular seafloor at this location may be problematic for standard exploration drilling operations. Our intention is to make Kerr-McGee aware of these conditions.

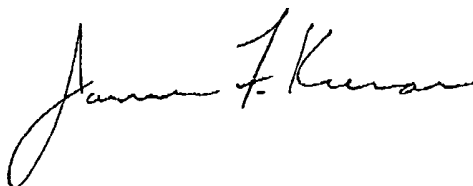
We recommend that your geologists, geophysicists, and drilling engineers consult on the best approach to managing the varying slopes in this area and drilling through coarse-grained sediments that may contain be gas-charged. If an anchored drillship is to be used, these data should be re-evaluated to identify any potential hazards or constraints to anchoring.

Sincerely,

**GEOSCIENCE EARTH & MARINE  
SERVICES, INC.**



Michael J. Kaluza  
President/Marine Geologist



For Luis Fuentes  
Associate Geoscientist



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September 19, 2005

Project No. 0805-1044

Kerr-McGee Oil and Gas Corporation  
16666 Northchase Drive  
Houston, Texas 77060

Attention: Mr. Steve Judy

**Proposed Exploration Wellsite 561-F  
Block 561 (OCS-G-15914)  
Garden Banks Area  
Gulf of Mexico**

**Introduction**

This letter addresses specific seafloor and subsurface geologic conditions to a depth of approximately 3,950 ft below the mudline (bml) at the proposed Exploration Wellsite 561-F in Block 561 (OCS-G-15914), Garden Banks area (GB), Gulf of Mexico. The following discussion is based on the findings provided within the main body of the geohazard report for Block 518 (OCS-G-15906), Block 519 (OCS-G-15907), Block 560 (OCS-G-15913), and Block 561 (OCS-G-15914), GEMS Report No. 1104-913 dated February 18, 2005. This letter is intended to supplement that report with details pertaining directly to the proposed wellsite.

The proposed Exploration Wellsite 561-F is in the northeast portion of Block 561, Garden Banks area, Gulf of Mexico. Kerr-McGee provided the following coordinates:

Proposed Exploration Wellsite 561-F			
Spheroid & Datum: Clarke 1866, NAD27		Line Reference	Block Calls
Projection: UTM Zone 15 North, U.S. ft			
X: 1,866,974	Latitude: 27° 27' 11.85" N	Inline: 3344	2,146 ft FEL
Y: 9,962,801	Longitude: -92° 18' 4.28" W	Crossline: 3812	559 ft FNL

**Attachments**

The page-size maps and figures accompanying this letter have been extracted from the main report's original maps and 3-D data volume and centered on the proposed well location.

- Map 1-561-F: Bathymetry Map
- Map 2-561-F: Seafloor Rendering
- Map 3-561-F: Amplitude Seafloor Rendering
- Map 4-561-F: Geologic Features Map
- Figure 1-561-F: Portions of Inline 3344 and Crossline 3812 Showing Conditions Beneath Proposed Wellsite 561-F
- Figure 2-561-F: Tophole Prognosis Chart, Proposed Wellsite 561-F, Garden Banks Block 561

### **Water Depth and Seafloor Conditions**

The water depth at the proposed location is -2,386 ft and the seafloor slopes to the south-southeast at approximately 5.8° (10.2%), Map 1-561-F. The proposed location sets atop a seafloor ridge, produced by salt uplift, and resulting in a slightly irregular seafloor. Within a 3,000 ft radius of the proposed location slope orientations vary and slope angles range from nearly flat up to about 15° (27%), Maps 1-561-F and 2-561-F; Figures 1-561-F and 2-561-F.

### **Chemosynthetic Communities**

There are no features or areas that could support high-density chemosynthetic communities within 1,500 ft of the proposed location (Map 3-561-F).

### **Man-Made Features**

There are no man-made features within 6,500 ft of the proposed location.

### **Sediments**

Stratigraphic details are provided with the Tophole Prognosis Chart (Figure 2-561-F). The shallow sediments from the seafloor to approximately 520 ft bml and between 1,694 ft bml to 3,950 ft bml are probably clay-dominated deposits. The sediments between 520 ft bml to about 1,694 ft bml may contain a mixture of silts, clays, and interbedded coarser-grained sands (Figure 2-561-F).

### **Faults**

There is a seafloor fault 1,330 ft to the east of the proposed location (Map 1-561-F and Figure 1-561-F). The fault is a north-south trending normal fault, downthrown to the west. A vertical borehole at the proposed location will penetrate this fault at approximately 1,224 ft bml. An additional buried fault will be penetrated at approximately 520 ft bml.

**Shallow Gas.** There are no subsurface high-amplitude anomalies directly beneath the proposed wellsite.

The relatively bright amplitudes between 520 ft bml and 1,694 ft bml (Figure 2-561-F) are associated with possible sand-prone strata; however, these slightly anomalous amplitudes are below the amplitude cut-off value established for this search interval. We believe that is a moderate potential for encountering minor gas in these sand-prone strata. However, there are no other direct hydrocarbon indicators, e.g., phase reversals, flat spots, and velocity changes that would suggest the presence of overpressured free gas at this location. If present, the gas is probably in solution, in low concentrations, and not overpressured.

**Water Flow.** We have graded the potential for shallow water flow as negligible to low for the shallow stratigraphy (upper 3,950 ft of sediment) at the wellsite (Figure 2-561-F).

### **Conclusion and Recommendations**

The slightly irregular seafloor at this location may be problematic for standard exploration drilling operations. Our intention is to make Kerr-McGee aware of these conditions.

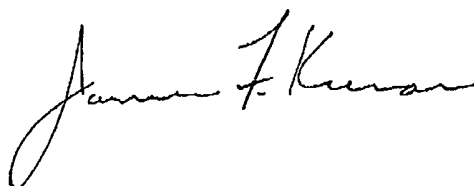
We recommend that your geologists, geophysicists, and drilling engineers consult on the best approach to managing the varying slopes in this area and drilling through coarse-grained sediments that may contain be gas-charged. If an anchored drillship is to be used, these data should be re-evaluated to identify any potential hazards or constraints to anchoring.

Sincerely,

**GEOSCIENCE EARTH & MARINE  
SERVICES, INC.**



Michael J. Kaluza  
President/Marine Geologist



For Luis Fuentes  
Associate Geoscientist


Stratigraphic Column

Attachment C-5  
(Proprietary Information)

H2S Classification

Attachment C-6  
(Proprietary Information)

## INTERNAL CORRESPONDENCE

	<b>TO</b>	Mr. Cary Bradford	<b>DATE</b>	October 5, 2005
<b>Gulf of Mexico Deepwater Exploration</b>	<b>FROM</b>	Fanchen Kong Barbara Barnes GOM Exploration	<b>SUBJECT</b>	Plan of Exploration H <sub>2</sub> S Statement Garden Banks 518, 561 Grand Cayman Prospect

### REQUEST FOR CLASSIFICATION OF PROBABILITY OF ENCOUNTERING H<sub>2</sub>S DURING OPERATIONS

The proposed Garden Banks 518 "A", "B", "C", "D", "E" and Garden Banks 561 "A", "B", "C", "D", "E", "F" locations submitted in the Plan of Exploration for Garden Banks 518, 561 will test similar stratigraphic sections penetrated in the (Kerr-McGee) Garden Banks 244 #2 well and the (Kerr-McGee) Green Canyon 320 #1. Since no (H<sub>2</sub>S) was encountered in either well we request the area be classified as a "zone where the absence of H<sub>2</sub>S has been confirmed."

Fanchen Kong & Barbara Barnes  
KMG GOM Deep Water Exploration

## **SECTION D**

### **Biological and Physical Information**

#### **A. Chemosynthetic Information**

The proposed seafloor disturbing activities vary in water depths from approximately 2500 feet to 2700 feet.

##### ***MAPS***

Submitted under separate cover are the maps prepared using high resolution seismic information and/or 3-D seismic data to depict bathymetry, seafloor and shallow geological features, surface location of each proposed well and platform, positions of anchors and chains relative to the proposed operations, and a radius circle of 1500 feet around each such location.

##### ***ANALYSIS***

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

Features or areas that could support high-density chemosynthetic communities are not located within 500 feet of each proposed muds and cuttings discharge location.

Features or areas that could support high-density chemosynthetic communities are not located within 500 feet of any seafloor disturbances resulting from our use of anchors (including those caused by anchors, anchor chains, and wire ropes).

#### **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.

## **SECTION D**

### **Biological and Physical Information-Continued**

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.

Garden Banks Blocks 518/561 are not located within the vicinity of a proposed live bottom area.

#### **D. Remotely Operated Vehicle (ROV Surveys)**

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

Kerr-McGee is familiar with the ROV survey and reporting provisions of this NTL; and if required, will conduct surveys immediately prior to commencing drilling operations on Well Location A with an anticipated spud date of January 1, 2006, and following the completion of drilling operations approximately 60 days later.

Kerr-McGee will utilize a semi-submersible rig based ROV equipped with video imaging capabilities. The survey pattern will consist of six transects centered on the well location with tracks extending approximately 100 meters away from the well on bearing of 30 degrees, 90 degrees, 150 degrees, 210 degrees, 270 degrees and 330 degrees. The seafloor will be videotaped continuously along each track.

Kerr-McGee will make biological and physical observations as described in the subject NTL and Form MMS-141 prior to commencing drilling operations and also following the completion of drilling operations, but prior to moving the rig off location. The observations will be documented using Form MMS-141 or a facsimile and submitted to the MMS within 60 days after the second survey is completed.

#### **E. Archaeological Reports**

MMS has issued NTL 2005-G07, 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.

Garden Banks Blocks 518/561 are classified by MMS as low probability areas for archaeological resources; therefore, an archaeological survey is not required.

## 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. Kerr-McGee has requested coverage under the Region VI NPDES General Permit GMG290000 for discharges associated with exploration and development activities in Garden Banks Blocks 518/561 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*

In accordance with NTL 2003-G17, overboard discharges generated by the activities are not required for submittal in this Plan.

#### *Disposed Wastes*

The wastes detailed in **Attachment E-1** 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.

Kerr-McGee 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, Kerr-McGee will comply with any approvals or reporting and recordkeeping requirements imposed by the State where ultimate disposal will occur.

**Waste & Discharge Tables**

**Attachment E-1  
(Public Information)**

**Kerr-McGee Oil & Gas Corporation**  
**Garden Banks Blocks 518/561**  
**Examples of Wastes and Discharges Information**

**Table 1. Disposal Table (Wastes to be disposed of, not discharged)**

<b>Type of Waste Approximate Composition</b>	<b>Amount*</b>	<b>Rate per day</b>	<b>Name/Location of Disposal Facility</b>	<b>Treatment and/or Storage, Transport and Disposal Method</b>
Spent oil-based drilling fluids and cuttings	1,000 bbl/well	200 bbl/day	Newpark Environmental Fourchon, LA	Transport to shore in barge tanks to a land farm
Spent synthetic- based drilling fluids and cuttings	1,000 bbl/well	200 bbl/day	Newpark Environmental Fourchon, LA	Transport to shore base in cuttings boxes on crew boat then inject down hole at offshore waste disposal facility
Norm – contaminated wastes	1 ton	Not applicable	Newpark Environmental Fourchon, LA	Transport to a transfer station via dedicated barge
Trash and debris	1,000 ft <sup>3</sup>	3 ft <sup>3</sup> /day	Newpark Environmental Fourchon, LA	Transport in storage bins on crew boat to disposal facility
Chemical product wastes	50 bbl/yr	2 bbl/day	Newpark Environmental Fourchon, LA	Transport in containers to shore location
Chemical product wastes	100 bbl	2 bbl/day	Newpark Environmental Fourchon, 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 May 4, 2004, Minerals Management Service approved Kerr-McGee Oil & Gas Corporation (Kerr-McGee's) Regional Oil Spill Response Plan (OSRP). A modification to the Regional Oil Spill Response Plan was submitted on November 2, 2004. Kerr-McGee Oil & Gas Corporation and Westport Resources Corporation are the entities covered under this OSRP. Activities proposed in this Joint Initial Exploration Plan will be covered by the Regional OSRP.

#### B. Oil Spill Removal Organizations (OSRO)

Kerr-McGee 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)

<i>Category</i>	<i>Current Regional OSRP WCD</i>	<i>Proposed Exploration Plan WCD</i>
Type of Activity	Drilling/Completion/Testing	Drilling/Completion/Testing
Facility Surface Location	Grand Isle Block 106	Garden Banks Blocks 518/561
Facility Description	MODU	MODU
Distance to Nearest Shoreline (Miles)	50 miles	137 miles
Volume: Storage Tanks (total) Facility Piping (total) Lease Term Pipeline Uncontrolled Blowout (day) <b>Potential 24 Hour Volume (Bbls.)</b>	10,000	3,500
Type of Liquid Hydrocarbon	Oil	Condensate
API Gravity	43°	27.9°

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

## **SECTION F**

### **Oil Spill Response and Chemical Information-Continued**

Since Kerr-McGee has the capability to respond to the worst-case discharge (WCD) spill scenario included in its Regional OSRP approved on November 2, 2004, and since the worst-case scenario determined for our EP does not replace the worst-case scenario in our Regional OSRP, I hereby certify that Kerr-McGee 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.

#### **D. Facility Tanks, Production Vessels**

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

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

#### **E. Spill Response Sites**

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

#### **F. Diesel Oil Supply Vessels**

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

#### **G. Support Vessel Fuel Tanks**

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

#### **H. Produced Liquid Hydrocarbon Transportation Vessels**

Kerr-McGee is proposing to conduct well testing operations on the proposed well locations. This process will include flaring the produced gas hydrocarbons and burning the liquid hydrocarbons.

#### **I. Oil and Synthetic-Based Drilling Fluids**

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

#### **J. Oil Characteristics**

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

## **SECTION F**

### **Oil Spill Response and Chemical Information (Continued)**

#### **I. Blowout Scenario**

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

#### **L. Spill Discussion for NEPA Analysis**

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

#### **M. Pollution Prevention Measures**

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

#### **N. FGBNMS Monitoring Plans**

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

## SECTION G

### Air Emissions Information

The primary air pollutants associated with OCS 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, completion and testing operations utilizing a typical semi-submersible 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 flaring and burning operations.

#### C. Emission Reduction Measures

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

#### D. Verification of Non-Default Emissions Factors

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

#### E. Non-Exempt Activities

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

## SECTION G

### Air Emissions Information-Continued

#### **F. Review of Activities with Emissions Below the Exemption Level**

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

#### **G. Modeling Report**

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

**Air Quality Emissions Report**

**Attachment G-1  
(Public Information)**

**EXPLORATION PLAN (EP)**

OMB Control No. 1010-0049

**AIR QUALITY SCREENING CHECKLIST**

OMB Approval Expires: August 31, 2006

<b>COMPANY</b>	Kerr-McGee Oil & Gas Corporation
<b>AREA</b>	Garden Banks
<b>BLOCK</b>	518
<b>LEASE</b>	OCS-G 15906
<b>PLATFORM</b>	NA
<b>WELL</b>	5 well locations
<b>COMPANY CONTACT</b>	Christine Groth / R.E.M. Solutions, Inc.
<b>TELEPHONE NO.</b>	281.492.8562
<b>REMARKS</b>	Drill, complete and test 5 well locations.

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 <sub>2</sub> S at concentrations greater than 20 parts per million (ppm)?		X
Do you propose to flare or vent natural gas for more than 48 continuous hours from any proposed well?		X
Do you propose to burn produced hydrocarbon liquids?	X	

Air Pollutant	Plan Emission Amounts <sup>1</sup> (tons)	Calculated Exemption Amounts <sup>2</sup> (tons)	Calculated Complex Total Emission Amounts <sup>3</sup> (tons)
Carbon monoxide (CO)	787.41	90356.48	NA
Particulate matter (PM)	104.18	4562.10	NA
Sulphur dioxide (SO <sub>2</sub> )	484.08	4562.10	NA
Nitrogen oxides (NOx)	0.00	4562.10	NA
Volatile organic compounds (VOC)	108.41	4562.10	NA

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

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

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

## EMISSIONS CALCULATIONS 1ST YEAR

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL		CONTACT		PHONE	REMARKS						
Kerr-McGee Oil & Gas Corporation	Garden Banks	518	OCS-G 15906	NA	5 well bclations		Christine Groth / R.E.M. Solution		281.492.8562							
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	39555	1910.5065	45852.16	24	300	27.88	127.90	958.38	28.75	209.10	100.37	460.44	3450.17	103.51	752.76
	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	129	1.46	6.68	50.03	1.50	10.92	0.75	3.45	25.82	0.77	5.63
	VESSELS>600hp diesel(supply)	2065	99.7395	2393.75	10	300	1.46	6.68	50.03	1.50	10.92	2.18	10.02	75.05	2.25	16.37
	VESSELS>600hp diesel(tugs)	4200	202.86	4868.64	12	20	2.96	13.58	101.76	3.05	22.20	0.36	1.63	12.21	0.37	2.66
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	OIL BURN	250			24	10	4.38	71.15	20.83	0.10	2.19	0.53	8.54	2.50	0.00	0.26
WELL TEST	GAS FLARE		208333.33		24	10		0.12	14.87	12.56	80.94		0.01	1.78	1.51	9.71
2006 YEAR TOTAL							38.13	226.10	1195.92	47.47	336.26	104.18	484.08	3567.53	108.41	787.41
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES											4562.10	4562.10	4562.10	4562.10	90356.48
	137.0															

# SUMMARY

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL
Kerr-McGee Oil & Gas Corporation	Garden Banks	518	OCS-G 15906	NA	5 well locations
Year	Emitted		Substance		
	PM	SOx	NOx	VOC	CO
2006	104.18	484.08	3567.53	108.41	787.41
Allowable	4562.10	4562.10	4562.10	4562.10	90356.48

**EXPLORATION PLAN (EP)**

OMB Control No. 1010-0049

**AIR QUALITY SCREENING CHECKLIST**

OMB Approval Expires: August 31, 2006

<b>COMPANY</b>	Kerr-McGee Oil & Gas Corporation
<b>AREA</b>	Garden Banks
<b>BLOCK</b>	561
<b>LEASE</b>	OCS-G 15914
<b>PLATFORM</b>	NA
<b>WELL</b>	6 well locations
<b>COMPANY CONTACT</b>	Christine Groth / R.E.M. Solutions, Inc.
<b>TELEPHONE NO.</b>	281.492.8562
<b>REMARKS</b>	Drill, complete and test 6 well locations.

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 <sub>2</sub> S at concentrations greater than 20 parts per million (ppm)?		X
Do you propose to flare or vent natural gas for more than 48 continuous hours from any proposed well?		X
Do you propose to burn produced hydrocarbon liquids?	X	

Air Pollutant	Plan Emission Amounts <sup>1</sup> (tons)	Calculated Exemption Amounts <sup>2</sup> (tons)	Calculated Complex Total Emission Amounts <sup>3</sup> (tons)
Carbon monoxide (CO)	774.19	90356.48	NA
Particulate matter (PM)	102.42	4562.10	NA
Sulphur dioxide (SO <sub>2</sub> )	476.00	4562.10	NA
Nitrogen oxides (NOx)	3506.96	4562.10	NA
Volatile organic compounds (VOC)	106.59	4562.10	NA

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

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

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

## EMISSIONS CALCULATIONS 1ST YEAR

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL		CONTACT		PHONE	REMARKS						
Kerr-McGee Oil & Gas Corporation	Garden Banks	561	OCS-G 15914	NA	6 well locations			Christine Groth / R.E.M. Solution	281.492.8562							
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	39555	1910.5065	45852.16	24	65	27.88	127.90	958.38	28.75	209.10	21.75	99.76	747.54	22.43	163.10
	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	29	1.46	6.68	50.03	1.50	10.92	0.17	0.77	5.80	0.17	1.27
	VESSELS>600hp diesel(supply)	2065	99.7395	2393.75	10	65	1.46	6.68	50.03	1.50	10.92	0.47	2.17	16.26	0.49	3.55
	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. TANK-	BPD	SCF/HR	COUNT						0.00					0.00	
		0			0	0										
DRILLING WELL TEST	OIL BURN	250			24	2	4.38	71.15	20.83	0.10	2.19	0.11	1.71	0.50	0.00	0.05
	GAS FLARE		208333.33		24	2		0.12	14.87	12.56	80.94		0.00	0.36	0.30	1.94
2006 YEAR TOTAL							38.13	226.10	1195.92	47.47	336.26	22.60	104.91	774.12	23.50	170.71
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES											4562.10	4562.10	4562.10	4562.10	90356.48
	137.0															

## SUMMARY

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL
Kerr-McGee Oil & Gas Corporation	Garden Banks	561	OCS-G 15914	NA	6 well locations
Year	Emitted		Substance		
	PM	SOx	NOx	VOC	CO
2006	22.60	104.91	774.12	23.50	170.71
2007	102.42	476.00	3506.96	106.59	774.19
Allowable	4562.10	4562.10	4562.10	4562.10	90356.48

## 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 Kerr-McGee 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
<b>Site Specific at Offshore Location</b>						
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						
<b>Vicinity of Offshore Location</b>						
Essential fish habitat					X	
Marine and pelagic birds					X	
Public health and safety						
<b>Coastal and Onshore</b>						
Beaches						
Wetlands						
Shorebirds and coastal nesting birds						
Coastal wildlife refuges						
Wilderness areas						
<b>Other Resources</b>						

## **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 Garden Banks Blocks 518/561 are located approximately 32 miles away from the closest designated topographic feature (Sinder 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 Garden Banks Blocks 518/561 are located a significant distance (> 100 miles) from the closest pinnacle trend live bottom stipulated block. The crests of the pinnacle trend area are much deeper than 20 m. In the event of an accidental oil spill from the proposed activities, the gravity of such oil (high gravity condensate and/or diesel fuel) would rise to the surface, quickly dissipate, and/or be swept clear by currents moving around the bank; and thus not impacting the pinnacles.

##### **3. Eastern Gulf Live Bottoms**

There are no anticipated effluents, physical disturbances to the seafloor, and accidents from the proposed activities that could cause impacts to Eastern Gulf live bottoms. The proposed surface disturbances within Garden Banks Blocks 518/561 are located a significant distance (>100 miles) from the closest pinnacle Eastern Gulf live bottom stipulated block. In the event of an accidental oil spill from the proposed activities, the gravity of such oil (high gravity condensate and/or diesel fuel) would rise to the surface, quickly dissipate, and/or be swept clear by currents moving around the bank; and would not be expected to cause adverse impacts to Eastern Gulf live bottoms because of the depth of the features and dilutions of spills.

##### **4. Chemosynthetic Communities**

Water depths in Garden Banks Blocks 518/561 ranges from approximately 2500 feet to 2700 feet. The proposed activities are not located by any known chemosynthetic communities.

## **SECTION H**

### **Environmental Impact Analysis-Continued**

#### **5. Water Quality**

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

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

#### **6. Fisheries**

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

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

#### **7. Marine Mammals**

As a result of the proposed activities, marine mammals may be adversely impacted by traffic, noise, accidental oil spills, cumulative similar discharge activity, and loss of trash and debris. Chronic and sporadic sublethal effects could occur that may stress and/or weaken individuals of a local group or population and make them more susceptible to infection from natural or anthropogenic sources. Few lethal effects are expected from accidental oil spill, chance collisions with service vessels and ingestion of plastic material.

## SECTION H

### Environmental Impact Analysis-Continued

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

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

#### 8. Sea Turtles

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

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 Kerr-McGee's Regional Oil Spill Response Plan which address available equipment and personnel, techniques for containment and recovery, and removal of the oil spill. Kerr-McGee will conduct the proposed activities under EPA's Region VI NPDES General Permit GMG290000 which authorizes the discharge of certain effluents, subject to certain limitations, prohibitions and recordkeeping requirements.

## **SECTION H**

### **Environmental Impact Analysis-Continued**

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

#### **9. Air Quality**

The proposed activities are located approximately 137 miles to the nearest shoreline. There would be a limited degree of air quality degradation in the immediate vicinity of the proposed activities. Air quality analyses of the proposed activities are below the MMS exemption level.

#### **10. Shipwreck Site (Known or Potential)**

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

#### **11. Prehistoric Archaeological Sites**

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

### **Site Specific Offshore Location Analyses**

#### **1. Essential Fish Habitat**

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

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

## **SECTION H**

### **Environmental Impact Analysis-Continued**

#### **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 Kerr-McGee'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. Kerr-McGee 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 137 miles), and the response capabilities that would be implemented, no significant adverse impacts are expected. Both historical spill data and the combined trajectory/risk calculations referenced in the publication of OCS EIA /EA MMS 2002-052 indicate there is little risk of contact or impact to the coastline and associated environmental resources.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of Kerr-McGee'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 137 miles) and the response capabilities that would be implemented, no significant adverse impacts are expected. Both historical spill data and the combined trajectory/risk calculations referenced in the publication of OCS EIA /EA MMS 2002-052 indicate there is little risk of contact or impact to the coastline and associated environmental resources.

## **SECTION H**

### **Environmental Impact Analysis-Continued**

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of Kerr-McGee'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 137 miles) and the response capabilities that would be implemented, no significant adverse impacts are expected. Both historical spill data and the combined trajectory/risk calculations referenced in the publication of OCS EIA /EA MMS 2002-052 indicate there is little risk of contact or impact to the coastline and associated environmental resources.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of Kerr-McGee'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 137 miles) and the response capabilities that would be implemented, no significant adverse impacts are expected. Both historical spill data and the combined trajectory/risk calculations referenced in the publication of OCS EIA /EA MMS 2002-052 indicate there is little risk of contact or impact to the coastline and associated environmental resources.

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of Kerr-McGee'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 137 miles) and the response capabilities that would be implemented, no significant adverse impacts are expected. Both historical spill data and the combined trajectory/risk calculations referenced in the publication of OCS EIA /EA MMS 2002-052 indicate there is little risk of contact or impact to the coastline and associated environmental resources.

## **SECTION H**

### **Environmental Impact Analysis-Continued**

In the event of an unanticipated blowout resulting in an oil spill, it is unlikely to have an impact based on the industry wide standards for using proven equipment and technology for such responses, implementation of Kerr-McGee'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**

Kerr-McGee 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 2005-G07 and NTL 98-20.

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

#### **Alternatives**

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

#### **Mitigation Measures**

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

#### **Consultation**

Kerr-McGee 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:

<i>Document</i>	<i>Author</i>	<i>Dated</i>
Shallow Hazards Survey	GEMS	2005
MMS Environmental Impact Statement Report No. 2002-15	Minerals Management Service	2002
NITL 2003-N06 "Supplemental Bond Procedures"	Minerals Management Service	2003
NITL 2004-G01 "Implementation of Seismic Survey Mitigation Measures and Protected Species Observer Program"	Minerals Management Service	2004
NITL 2003-G10 "Vessel Strike Avoidance and Injured/Dead Protective Species"	Minerals Management Service	2003
NITL 2003-G11 "Marine Trash & Debris Awareness & Elimination"	Minerals Management Service	2003
NITL 2002-G09 "Regional and Subregional Oil Spill Response Plans"	Minerals Management Service	2002
NITL 2003-G17 "Guidance for Submitting Exploration Plans and Development Operations Coordination Documents"	Minerals Management Service	2003
NITL 2005-G07 "Archaeological Resource Surveys and Reports"	Minerals Management Service	2005
NITL 2000-G16 "Guidelines for General Lease Surety Bonds"	Minerals Management Service	2000
NITL 98-20 "Shallow Hazards Survey Requirements"	Minerals Management Service	1998
NITL 98-16 "Hydrogen Sulfide Requirements"	Minerals Management Service	1998
NPDPS General Permit GMG290000	EPA - Region VI	2004
Regional Oil Spill Response Plan	Kerr-McGee Oil & Gas Corporation	2004

## SECTION I

### CZM Consistency

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

A certificate of Coastal Zone Management Consistency for the State of Louisiana is enclosed as ***Attachment I-1***.

Kerr-McGee Energy, Inc. has considered all of Louisiana's enforceable policies and certifies the consistency for the proposed operations.

**Louisiana Coastal Zone Consistency Statement**

**Attachment I-1  
(Public Information)**

COASTAL ZONE MANAGEMENT CONSISTENCY CERTIFICATION

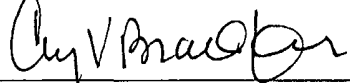
JOINT INITIAL EXPLORATION PLAN

GARDEN BANKS BLOCKS 518/561

LEASES OCS-G 15906/15914

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

By: Kerr-McGee Oil & Gas Corporation

Signed By: 

Dated: \_\_\_\_\_