

UNITED STATES GOVERNMENT  
MEMORANDUM

February 4, 2005


To: Public Information (MS 5034)  
From: Plan Coordinator, FO, Plans Section (MS  
5231)

Subject: ~~Public Information copy of plan~~

Control # - S-06615  
Type - Supplemental Development Operations Coordinations Document  
Lease(s) - OCS-G17406 Block - 667 Garden Banks Area  
OCS-G17407 Block - 668 Garden Banks Area  
Operator - Kerr-McGee Oil & Gas Corporation  
Description - Lease OCS-G 17406 Subsea No. 10 and OCS-G 17407 Subsea No.  
11  
Rig Type - Not Found

Attached is a copy of the subject plan.

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

  
Elmo Cooper  
Plan Coordinator

Site Type/Name	Botm Lse/Area/Blk	Surface Location	Surf Lse/Area/Blk
WELL/SS010	G17407/GB/668	5471 FNL, 1682 FEL	G17406/GB/667
WELL/SS011	G17407/GB/668	9652 FNL, 1757 FEL	G17407/GB/668

ISS FEB 7\*05AM11:49



January 28, 2005

Regional Supervisor, Field Operations  
Attn: Mr. Nick Wetzel (MS 5230)  
Minerals Management Service  
1201 Elmwood Park Blvd  
New Orleans, LA 70123

Re: Supplemental DOCD  
Garden Banks Block 668; OCS-G 17407

Gentlemen:

Please find enclosed a Supplemental Development Operations Coordination Document that has been prepared in accordance with NTL 2003-G17 for the Gunnison Expansion Project located in Garden Banks Block 668. The following copies are enclosed:

<u>Proprietary</u>	<u>Public Information</u>
1 Paper Copy	3 CDs
4 CDs	

If you have any questions or need additional information, please contact me at 972-516-1177 or by e-mail at [wanda.parker@wjpenterprises.com](mailto:wanda.parker@wjpenterprises.com).

Very truly yours,

A handwritten signature in black ink that reads 'Wanda June Parker'.

Wanda June Parker, P. E.  
Deepwater Regulatory Manager  
Worldwide Facilities Engineering

Supplemental  
Development Operations  
Coordination Document

Garden Banks  
Block 668  
OCS-G 17407



**Public Information**

	<p>GB 668 SS010 &amp; SS011 Subsea Tieback to Gunnison Spar  Garden Banks Block 668; OCS-G 17407  Garden Banks Block 667; OCS-G 17406  Unit Number 754304002  SDOCD  January, 2004</p>
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**Appendix A  
Contents of Plan**

**(A) Description, objectives and schedule**

The Garden Banks (GB) 668 #10 and #11 will be drilled, completed and shut-in by Kerr-McGee under the Exploration Plans (Plan Control Numbers N-6427, S-5334, S-5496, S-5770, S-6518) approved by MMS. Kerr-McGee now proposes to produce the reserves by tying both wells back to the existing Kerr-McGee operated Gunnison spar (GB 668, Platform A) located in Garden Banks 668 through lease term pipeline jumpers to the existing subsea flowlines. The GB 668 SS010 will be tied back to the existing West Gunnison subsea development with a surface location in GB 667. In addition, a subsea manifold will be added with additional lease term pipelines to connect it to the subsea pipeline system. The GB 668 SS011 will be tied back to the existing East Gunnison subsea development with a surface location in GB 668. See Attachment A-1 for a listing of the lease term pipeline segments to be added or relocated.

The reserves to be produced by each of the wells are located in the middle to lower Pliocene. The reservoirs to be produced were discussed in the previously approved Conservation Information Document (CID) for Garden Banks 667 and 668; therefore, a supplemental CID will not be filed.

The following is a tentative schedule for the development and production activities proposes as a part of this plan.

<b>Activity</b>	<b>Start Date</b>	<b>End Date</b>	<b>Number of Days</b>
Install West Gunnison Lease term pipelines and manifold	June 1, 2005	July 1, 2005	7
Commence Production from GB 668 SS010	July 1, 2005		
Install East Gunnison Lease term pipeline	August 1, 2005	September 1, 2005	7
Commence Production from GM 668 SS011	September 1, 2005		

**(B) Location**

All drilling and completion activities will be conducted under the Exploration Plans referenced above.

The surface location for GB 668 SS0011 was approved as “Well B” in the EP Control Number N-6427 and as “GB 669 #1 ST1” under the DOCD Control Number N-7625. Plats for these

	<p>GB 668 SS010 &amp; SS011 Subsea Tieback to Gunnison Spar  Garden Banks Block 668; OCS-G 17407  Garden Banks Block 667; OCS-G 17406  Unit Number 754304002  SDOCD  January, 2004</p>
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wells were included in the referenced EP and DOCD. The GB SS011 will be tied back to the existing East Gunnison subsea flowline system via a short lease term well jumper. The lease term pipeline installation will be conducted by DP vessel; therefore, no anchors will be required.

The surface location for GB SS010 was approved as Well D in EP S-5957 and DOCD N-7625 as Well GB 668 #9. A plat was submitted with the referenced EP and DOCD. The GB SS010 will be tied back to the existing West Gunnison subsea flowline system via a short lease term well jumper. In addition, the West Gunnison subsea flowline system will be modified with the addition of a subsea manifold.

The host facility, the Gunnison spar (GB 668, Platform A), is an existing facility and a plat showing its location was included in the DOCD (Control Number N-7625).

Please see Attachment A-1 for a table showing the location of the wells and host facility.

**(C) Drilling Unit**

No drilling or completion activities are proposed as a part of this plan.

**(D) Production Facilities**

The host platform will be the existing Kerr-McGee operated Gunnison spar, GB 668, Platform A.

Please see Attachment A-2 for a schematic of the development scheme.

## Attachment A-1

U.S. Department of the Interior  
Minerals Management Service

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

## OCS PLAN INFORMATION FORM

General Information												
Type of OCS Plan:	Exploration Plan (EP)				<input checked="" type="checkbox"/> Development Operations Coordination Document (DOCD)							
Company Name: Kerr-McGee Oil and Gas Corporation						MMS Operator Number: 02219						
Address: 16666 Northchase						Contact Person: Wanda Parker						
Houston, TX 77060						Phone Number: 972-516-1177						
						E-Mail Address: wanda.parker@wjpennerprises.com						
Lease(s): OCS-G 17407			Area: GB			Block(s): 668			Project Name Gunnison Expansion			
Objective(s):	<input checked="" type="checkbox"/>	Oil	<input type="checkbox"/>	Gas	<input type="checkbox"/>	Sulphur	<input type="checkbox"/>	Salt	Onshore Base: Cameron LA Galveston, TX			Distance to Closest Land (Miles): 155
Description of Proposed Activities (Mark all that apply)												
<input type="checkbox"/>	Exploration drilling				<input type="checkbox"/>	Development drilling						
<input type="checkbox"/>	Well completion				<input type="checkbox"/>	Installation of production platform						
<input 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 type="checkbox"/>	Installation of subsea wellheads and/or manifolds				<input checked="" type="checkbox"/>	Commence production						
<input checked="" 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 checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	
Tentative Schedule of Proposed Activities												
Proposed Activity						Start Date		End Date		No. of Days		
Install West Gunnison Lease Term Pipelines						June 1, 2005		July 1, 2005		7		
Commence Production						July 1, 2005						
Install East Gunnison Lease Term Pipelines						August 1, 2005		Sept 1, 2005		7		
Commence Production						Sept 1, 2005						
Description of Drilling Rig						Description of Production Platform--Existing						
<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 type="checkbox"/>	Semisubmersible		<input type="checkbox"/>	Submersible		<input type="checkbox"/>	Fixed platform		<input type="checkbox"/>	Guyed tower		
<input type="checkbox"/>	DP Semisubmersible		<input type="checkbox"/>	Other (Attach Description)		<input type="checkbox"/>	Subsea manifold		<input type="checkbox"/>	Floating production system		
Drilling Rig Name (If Known):						<input checked="" type="checkbox"/>	Spar		<input type="checkbox"/>	Other (Attach Description)		
Description of Lease Term Pipelines												
From (Facility/Area/Block)				To (Facility/Area/Block)				Diameter (Inches)		Length (Feet)		
GB 668 SS010 in GB 667				PLEM D1 (Segment 14110) in GB 667				6		50		
GB 668 SS011 in GB 668				Plem C1 (Segment 14115)				6		50		
GB 668 SS009 in GB 668				Manifold in GB 668				6		50		
Manifold in GB 668				Plem D1 (Segment 14110) in GB 667				6		10		
Relocate Existing SN 14111 from PLEM D2 in GB 667				Manifold				8.2" OD		65		

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

Existing Proposed Well/Structure Location							
Well or Structure Name/Number (If renaming well or structure, reference previous name): GB 668 S010 (Surface Location approved in EP S-5957 and DOCD N-7625 as GB 668 #9)					Subsea Completion		
Anchor Radius (if applicable) in feet: NA					X	Yes	No
	Surface Location			Bottom-Hole Location (For Wells)			
<b>Lease No.</b>	OCS-G 17406						
<b>Area Name</b>	Garden Banks						
<b>Block No.</b>	667						
<b>Blockline Departures (in feet)</b>	N/S Departure: 5471 FNL						
	E/W Departure: 1682 FEL						
<b>Lambert X-Y coordinates</b>	X: 1,455,598						
	Y: 9,910,369						
<b>Latitude/ Longitude</b>	Latitude 27° 18' 34.35" N						
	Longitude 93° 34' 09.64" W						
	TVD (Feet):		MD (Feet):		Water Depth (Feet): 3180		
Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)-NA							
Anchor Name or No.	Area	Block	X Coordinate	Y Coordinate	Length of Anchor Chain on Seafloor		
			X =	Y =			
<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**

Existing Proposed Well/Structure Location							
Well or Structure Name/Number (If renaming well or structure, reference previous name): GB 668 SS011 (Surface Location Approved EP N-6427 as Well B and DOCD N-7625 as well GB 669 #1 ST1)					Subsea Completion		
Anchor Radius (if applicable) in feet:NA					X	Yes	No
	Surface Location			Bottom-Hole Location (For Wells)			
Lease No.	OCS-G 17407						
Area Name	Garden Banks						
Block No.	668						
Blockline Departures (in feet)	N/S Departure: 9652 FNL						
	E/W Departure: 1757 FEL						
Lambert X-Y coordinates	X: 1,471,363						
	Y: 9,906,188						
Latitude/ Longitude	Latitude 27° 17' 53.81" N						
	Longitude 93° 31' 14.59" W						
	TVD (Feet):		MD (Feet):		Water Depth (Feet): 3150		
Anchor Locations for Drilling Rig or Construction Barge (If anchor radius supplied above, not necessary)-NA							
Anchor Name or No.	Area	Block	X Coordinate	Y Coordinate	Length of Anchor Chain on Seafloor		
			X =	Y =			
<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**

Existing Proposed Well/Structure Location				
Well or Structure Name/Number (If renaming well or structure, reference previous name): GB 668, Platform A, Gunnison Spar (DOCD N-7625)				Subsea Completion
Anchor Radius (if applicable) in feet:NA				Yes No
	<b>Surface Location</b>		<b>Bottom-Hole Location (For Wells)</b>	
<b>Lease No.</b>	OCS-G 17407		OCS	
<b>Area Name</b>	Garden Banks			
<b>Block No.</b>	668			
<b>Blockline Departures (in feet)</b>	N/S Departure: 7608' FNL		N/S Departure: F ___ L	
	E/W Departure: 7458' FWL		E/W Departure: F ___ L	
<b>Lambert X-Y coordinates</b>	X: 1,465,662.00		X:	
	Y: 9,908,232		Y:	
<b>Latitude/ Longitude</b>	Latitude 27° 18' 13.825" N		Latitude	
	Longitude 93° 32' 17.9" W		Longitude	
	TVD (Feet):	MD (Feet):	Water Depth (Feet): 3150	

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

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

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



GB 668 SS010 & SS011 Subsea Tieback to Gunnison Spar  
 Garden Banks Block 668; OCS-G 17407  
 Garden Banks Block 667; OCS-G 17406  
 SDOCD  
 January, 2004

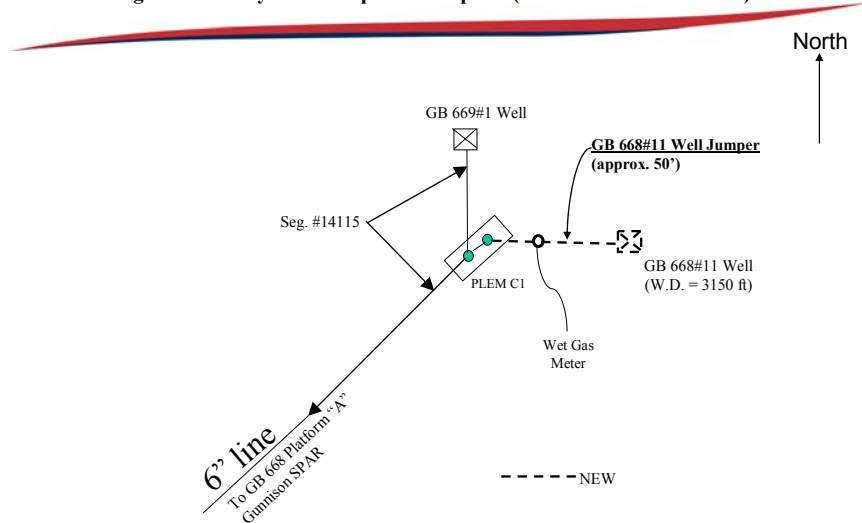
## Attachment A-2 Overview of Development Layout



### EAST GUNNISON EXPANSION



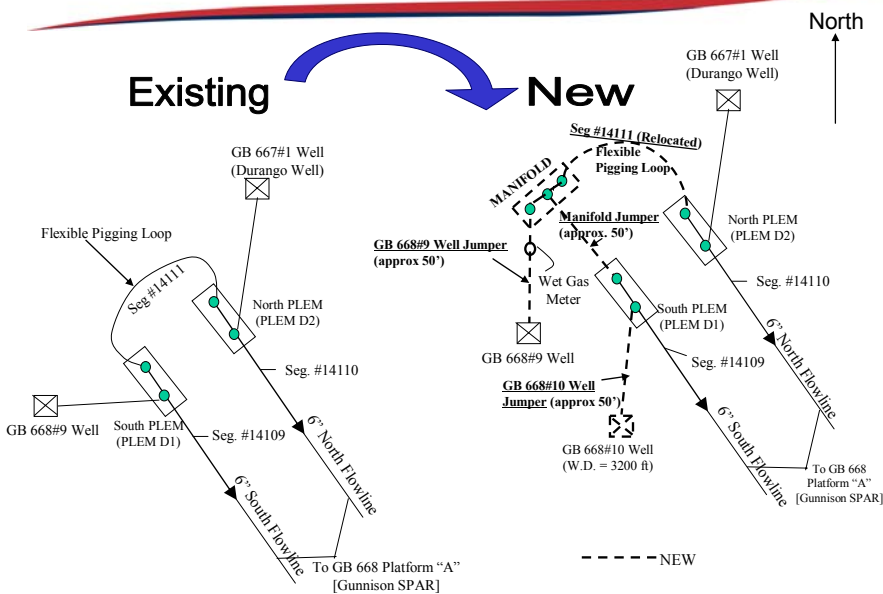
Fig 1.2 Field Layout For Pipeline Jumpers- (Schematic – Not to Scale)



### WEST GUNNISON EXPANSION



Fig 1.1- Field Layout For Pipeline Jumpers- (Schematic – Not to Scale)





GB 668 SS010 & SS011 Subsea Tieback to Gunnison Spar  
 Garden Banks Block 668; OCS-G 17407  
 Garden Banks Block 667; OCS-G 17406  
 SDOCD  
 January, 2004

## Appendix B General Information

**(A) Contact**

Wanda June Parker  
 WJP Enterprises  
 Plano, Texas 75075  
 972-516-1177 (office)  
 972-516-1188 (fax)  
[wanda.parker@wjpenterprises.com](mailto:wanda.parker@wjpenterprises.com)

**(B) Project Name:**  
 Gunnison Expansion

**(C) Production Rates and Life of Reserves**  
*Proprietary Information*

**(D) New or unusual technology**  
 No new or unusual technology is proposed to be utilized as a part of this project.

**(E) Bonding Information**  
 Kerr-McGee Oil & Gas Corp. has complied with the \$3,000,000 bond option as required by the Minerals Management Service in 30 CFR 256, Subpart I.

**(F) Onshore base and support vessels**  
 Existing onshore base locations in Galveston, Texas and Cameron, Louisiana will be utilized to support installation and production activities. Travel routes used by vessels normally will be from the base location directly to the Garden Banks 667/668; however, from time to time this route may vary. Figure B-1 is a vicinity map showing the relation between the shoreline and the block. During production operations, no increase in vessel trips to the Gunnison spar are anticipated due to the proposed subsea tie back over that given in the GB 668 DOCD (Control Number N-7625). Please see the table below for installation vessel trips.

Support Vessel	Installation of Lease Term Pipelines
Supply Boat	1 per day
Helicopters	1 per day



GB 668 SS010 & SS011 Subsea Tieback to Gunnison Spar  
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Garden Banks Block 667; OCS-G 17406  
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January, 2004

**(G) Lease Stipulations**

GB 667 and 668 are located within MWA 602; therefore, the leases contain the military warning stipulation. However, since the time that the leases were issued, this area has been withdrawn from the military warning area.

**(H) Related OCS facilities and operations**

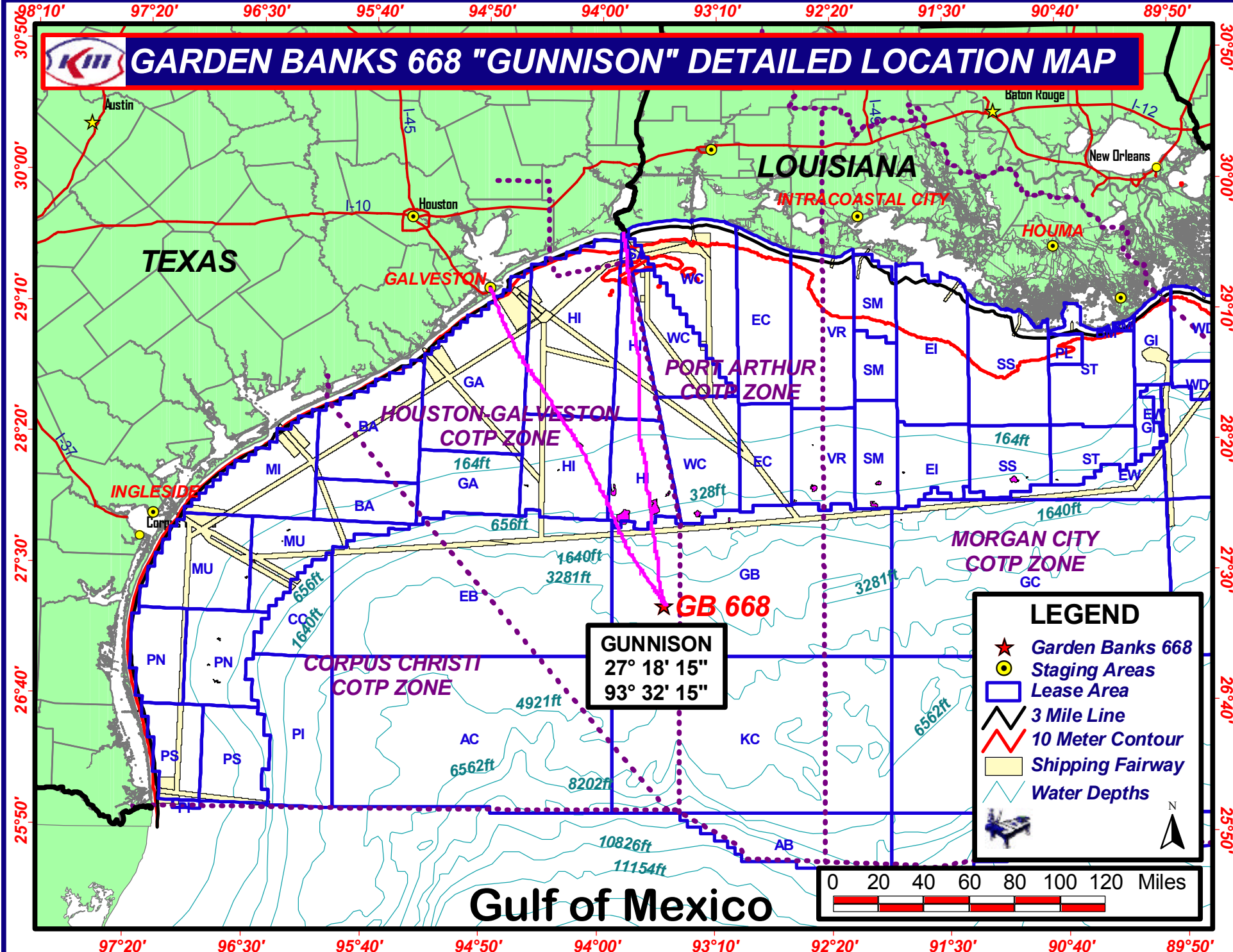
As shown in Figure A-2, the proposed subsea wells will be tied back to the existing Gunnison spar located in GB 668 (host platform) operated by Kerr-McGee.

**(I) Transportation Information**

No new export pipelines, or onshore terminals are proposed as a part of this project. From the host platform, the production stream will then enter into existing infrastructure to shore.



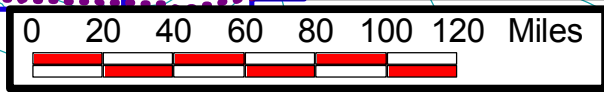
# GARDEN BANKS 668 "GUNNISON" DETAILED LOCATION MAP



**GUNNISON**  
27° 18' 15"  
93° 32' 15"

**LEGEND**

- ★ Garden Banks 668
- Staging Areas
- Lease Area
- 3 Mile Line
- 10 Meter Contour
- Shipping Fairway
- Water Depths



## Gulf of Mexico



GB 668 SS010 & SS011 Subsea Tieback to Gunnison Spar  
Garden Banks Block 668; OCS-G 17407  
Garden Banks Block 667; OCS-G 17406  
SDOCD  
January, 2004

## **Appendix C Geological, Geophysical and H<sub>2</sub>S Information**

No new wells are planned to be drilled or completed as a part of this plan; therefore, no structure contour maps, seismic lines, geological structure cross sections, shallow hazards report, shallow hazards assessment or high-resolution seismic lines have been submitted with this plan. The surface locations were previously approved in EPs or DOCDs.

A shallow hazards assessment will be submitted with the lease term pipeline applications.

### **H<sub>2</sub>S Information**

#### **(A) Classification**

No indication of H<sub>2</sub>S has been found in any of the GB 667/668 wells drilled to date. In the previously approved EPs and DOCD, MMS has classified the area as "H<sub>2</sub>S absent". Therefore, it is requested that for this plan, MMS classify the area as "H<sub>2</sub>S absent".



GB 668 SS010 & SS011 Subsea Tieback to Gunnison Spar  
Garden Banks Block 668; OCS-G 17407  
Garden Banks Block 667; OCS-G 17406  
SDOCD  
January, 2004

## **Appendix D Biological and Physical Information**

### **(A) Chemosynthetic Information**

No new wells are planned to be drilled or completed as a part of this plan. Chemosynthetic information was submitted with the EPs and/or DOCD for the wells which will be produced as a part of this plan.

Chemosynthetic information for the proposed lease term pipelines will be submitted with the pipeline applications.

### **(B) Topographic Features Information**


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

### **(C) Live Bottom (Pinnacle Trend) Information**

The activities proposed in this plan are not located within the pinnacle trend area.

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

Kerr-McGee is familiar with the requirements of NTL 2001-G04. Since no drilling is proposed as a part of this plan, no ROV surveys as required in NTL 2003-G03 are proposed to be conducted.

	<p>GB 668 SS010 &amp; SS011 Subsea Tieback to Gunnison Spar Garden Banks Block 668; OCS-G 17407 Garden Banks Block 667; OCS-G 17406 SDOCD January, 2004</p>
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## **Appendix E Wastes and Discharges Information**

### **(A) Discharges**

No new discharges associated with the activities proposed in this plan are anticipated other than those previously described in the GB 667/668 DOCD (Control Number N-7625).

### **(B) Disposed Waste**

No new waste disposals associated with the activities proposed in this plan are anticipated other than those previously described in the GB 667/668 DOCD (Control Number N-7625).





GB 668 SS010 & SS011 Subsea Tieback to Gunnison Spar  
 Garden Banks Block 668; OCS-G 17407  
 Garden Banks Block 667; OCS-G 17406  
 SDOCD  
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## Appendix F Oil Spill Response and Chemical Information

### (A). Statement

Activities proposed in this DOCD will be covered by Kerr-McGee's approved Regional OSRP.

### (B). OSRO information

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

### (C). Worst-case scenario comparison

Category	Regional OSRP	SDOCD
Type of Activity	Production	Production-subsea completion
Facility Location (area/block)	Green Canyon 680	GB 668
Facility Designation	Platform A	GB SS010, GB SS011
Distance to Nearest Shoreline	120 miles	155 miles
Volume (bbls)		
-Storage tanks and flowlines	3458	0
-Lease Term Pipelines	1700	5
-Uncontrolled blowout (BPD)	15,000	2,500
<b>Total Volume</b>	<b>20,128</b>	<b>2505</b>
Type of Oil	Crude	Condensate
API Gravity	28°	45°

Since Kerr-McGee Oil and Gas Corporation has the capability to respond to the worst-case spill scenario included in its regional OSRP approved in May, 2004 (subsequently updated) and since the worst-case scenario determined for our DOCD 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 DOCD.

### (A). Facility tanks, production vessels.

Not required-subsea production only.

### (B). Spill response sites

Not required since no new multiwell structures are proposed.

### (C). Diesel oil supply vessels



GB 668 SS010 & SS011 Subsea Tieback to Gunnison Spar  
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Garden Banks Block 667; OCS-G 17406  
SDOCD  
January, 2004

Not required in DOCDs in which Texas is an affected State and not required since no new multiwell structures are proposed where Louisiana is an affected State.

**(D). Support vessels fuel tanks**

Not required in DOCDs in which Texas is an affected State and not required since no new multiwell structures are proposed where Louisiana is an affected State.

**(E). Produced liquid hydrocarbons transportation vessels**

No liquid hydrocarbons are proposed to be transported by means other than pipeline.

**(F). Oil and synthetic based drilling fluids**

No drilling is proposed as a part of this plan.

**(G). Oils characteristics**

Not required.

**(H). Blowout scenario**

Not required in DOCDs in which Texas is an affected State and not required since no new multiwell structures are proposed where Louisiana is an affected State.

**(I). Spill response discussion**

Not required since no new surface facilities are proposed.

**(J). Pollution prevention measures.**

Not required since no new surface facilities are proposed.

**(K). FGBNMS Monitoring Plans**

Not applicable



GB 668 SS010 & SS011 Subsea Tieback to Gunnison Spar  
 Garden Banks Block 668; OCS-G 17407  
 Garden Banks Block 667; OCS-G 17406  
 SDOCD  
 January, 2004

### Appendix G Air Emissions Information

Screening Questions for DOCD's	Yes	No
Is any calculated Complex Total (CT) Emission amount (in tons) associated with your proposed exploration activities more than 90% of the amounts calculated using the following formulas: $CT = 3400D^{2/3}$ for CO, and $CT = 33.3D$ for the other air pollutants (where D=distance to shore in miles)?		X
Do your emission calculations include any emission reduction measures or modified emission factors?		X
Does or will the facility complex associated with your proposed development and production activities process production from eight or more wells? (See note 1)		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 in excess of the criteria set forth under 150.1105(a)(2 and (3)?		X
Do you propose to burn produced hydrocarbon liquids?		X
Are your proposed development and production activities located within 25 miles from shore?		X
Are your proposed development and production activities located within 200 kilometers of the Breton Wilderness Area?		X

Note 1: The Gunnison Spar processes production from eight or more wells. No new emissions on Gunnison are anticipated due to the activities associated with this DOCD. Please see the GB 668 DOCD (Control Number N-7625) for information regarding Gunnison.

### Summary Information

Air Pollutant	Plan Emission Amount (tons)	Calculated Exemption Amounts (tons)	Calculated Complex Total Emission Amounts (tons)
<b>Carbon Monoxide (CO)</b>	11.55	98107.01	11.55
<b>Particulate matter (PM)</b>	1.54	5161.5	1.54
<b>Sulphur dioxide (SO<sub>2</sub>)</b>	7.06	5161.5	7.06
<b>Nitrogen oxide (NO<sub>x</sub>)</b>	52.92	5161.5	52.92
<b>Volatile organic compounds (VOC)</b>	1.59	5161.5	1.59



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## Appendix H Environmental Impact Analysis (EIA)

### (A) Impact-producing factors (IPF's)

The worksheet provided by MMS below was utilized to identify the environmental resources that could be impacted by these IPFs. An "X" has been placed in the space under each IPF category associated with the proposed activities the may impact a particular environmental resource. For those cells which are footnoted, a statement has been provided below the table as to the applicability to the proposed operations, and where there may be any effect, provide an analysis of the effect.

### ENVIRONMENTAL IMPACT ANALYSIS Worksheet

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

The numbers in parentheses refer to the footnotes on page 2 of this form.

### Footnotes for Environmental Impact Analysis Matrix



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

**(b) Analysis:**

**Site-Specific at Offshore Location**

**(1) Designated topographic features:** There are no IPF's (including effluents, physical disturbances to the seafloor and accidents) from the proposed activities that could cause impacts to topographical features. The site-specific offshore location of the proposed activities is approximately 40 miles away from the closest designated topographic feature (Flower Garden Banks).



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It is unlikely that an accidental surface or subsurface oil spill will occur from the proposed activities. Since the crests of designated topographic features in the northern Gulf are found below 10 m, concentrated oil from a surface spill is not expected to reach their sessile biota. Even if a subsurface spill were to occur very near a designated topographic feature, subsurface oil should rise to the surface, and any oil remaining at depth would probably be swept clear of the banks by currents moving around the banks. The activities proposed in this plan will be covered by our regional OSRP as discussed in Appendix F of this plan.

**(2) Pinnacle Trend area live bottoms:** There are no IPF's (including effluents, physical disturbances to the seafloor and accidents) from the proposed activities that could cause impacts to the pinnacle trend area live bottoms. The site-specific offshore location is located in the Western planning area of the Gulf of Mexico, hundreds of miles away from the closest pinnacle trend live bottom stipulated block.

It is unlikely that an accidental surface or subsurface oil spill will occur from the proposed activities. Any surface oil spill resulting from the proposed action would likely have no impact on the biota of the pinnacle trend because the crests of these features are much deeper than 20 m. Even if a subsurface spill were to occur very near pinnacle trend live bottom areas, subsurface oil should rise in the water column, surfacing almost directly over the source location and thus not impact pinnacles. The activities proposed in this plan will be covered by our regional OSRP as discussed in Appendix F of this plan.

**(3) Eastern Gulf live bottoms:** There are no IPF's (including effluents, physical disturbances to the seafloor, or potential accidents) from the proposed activities that could cause impact to Eastern Gulf live bottoms. The site-specific offshore location of the proposed activities is located in the Western planning area of the Gulf of Mexico, hundreds of miles away from the closest eastern gulf live bottom stipulated block.

It is unlikely that an accidental surface or subsurface oil spill will occur from the proposed activities. Any surface or subsurface oil spill resulting from the proposed action would not be expected to cause adverse impacts to eastern gulf live bottoms because of the depth of the features and dilution of spills (by currents and/or quickly rising oil). The activities proposed in this plan will be covered by our regional OSRP as discussed in Appendix F of this plan.

**(4) Chemosynthetic communities:** The proposed activities will occur in deepwater (water depths 400 meters or greater). Therefore, IPF's (e.g. physical disturbances to the seafloor, effluents) from the proposed activities have the potential to cause impacts to chemosynthetic communities. However, the proposed activities will be conducted in accordance with Appendix D of this plan. Accordingly, we have provided MMS with the



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required maps, analysis and statement(s) prepared using the guidance in Attachment B of NTL No. 2000-G20, "Deepwater Chemosynthetic Communities." Compliance with NTL No. 2000-G20 will ensure that features or areas that could support high-density chemosynthetic communities will not be impacted.

**(5) Water Quality:** Effluents and accidents from the proposed activities could potentially cause impacts to water quality. However, since all discharges will be made in accordance with a general National Pollutant Discharge Elimination System (NPDES) permit issued by the U. S. Environmental Protection Agency (USEPA), operational discharges are not expected to cause significant adverse impacts to water quality.

It is unlikely that an accidental oil spill will occur from the proposed activities. If a spill were to occur, the water quality of marine waters would be temporarily affected by the dissolved components and small oil droplets. Dispersion by currents and microbial degradation would remove the oil from the water column or dilute the constituents to background levels. The activities proposed in this plan will be covered by our regional OSRP as discussed in Appendix F of this plan.

**(6) Fisheries:** An accidental oil spill that may occur as a result of the proposed action has the potential to cause some detrimental effects to fisheries. However, it is unlikely that an accidental surface or subsurface oil spill will occur from the proposed activities. If a spill were to occur in open waters of the OCS proximate to mobile adult 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. The activities proposed in this plan will be covered by our regional OSRP as discussed in Appendix F of this plan.

**(7) Marine mammals:** Marine mammals may be adversely impacted by several IPF's (including vessel traffic, noise, accidental oil spills, and loss of trash and debris), all of which could occur due to the proposed action. 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 oil spills, chance collisions with service vessels and ingestion of plastic material. Oil spills of any size are estimated to be aperiodic events that may contact cetaceans. Disturbance (e.g. noise) may stress animals, weaken their immune systems, and make them more vulnerable to parasites and diseases that normally would not be fatal.

The net result 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





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the accommodation time in response to prolonged disturbance (Geraci and St. Aubin, 1980). Collisions between cetaceans and ships 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.

**(8) Sea turtles:** IPF's that could impact sea turtles include vessel traffic, noise, trash and debris, and accidental oil spills. 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 drill rigs, production facilities, and service vessels. Drilling rigs and project vessels produce noise that could disrupt normal behavior patterns and create some stress potentially making sea turtles more susceptible to disease. Oil spills and oil-spill-response activities are potential threats that could have lethal effects on turtles. Contact with oil, consumption of oil particles, and oil-contaminated prey could seriously affect individual sea turtles. Oil spill response planning and the habitat protection requirements of the Oil Pollution Act of 1990 should mitigate these threats.

Most OCS related impacts on sea turtles are expected to be sublethal. Chronic sublethal effects (e.g., stress) resulting in persistent physiological or behavioral changes and/or avoidance of effected areas could cause declines in survival or productivity, resulting in gradual population declines.

**(9) Air quality:** Installation of lease term pipelines and the production subsea well is the only planned activity under this DOCD. There are no planned air emissions associated with this activity with the exception of short term air emissions associated with laying the lease term pipelines.

**(10) Shipwreck sites (known or potential):** There are no IPF's (including physical disturbances to the seafloor) from the proposed activities that could cause impacts to known or potential shipwreck sites. The proposed activities are not located in or adjacent to an OCS block designated by MMS as having high-probability for the occurrence of shipwrecks and review of the Shallow Hazards Report (submitted in accordance with NTL 2002-G08, Appendix C, and NTL 98-20) indicates that there are no known or potential shipwreck sites located within the survey area.

**(11) Prehistoric archaeological sites:** There are no IPF's (including physical disturbances to the seafloor) from the proposed activities that could cause impacts to prehistoric archaeological sites. This is because the proposed activities are not located in or adjacent to an OCS block designated by MMS as having high-probability for the occurrence of prehistoric archaeological sites.

### **Vicinity of Offshore Location**



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**(1) Essential fish habitat:** An accidental oil spill that may occur as a result of the proposed action has the potential to cause some detrimental effects on essential fish habitat. However, it is unlikely that an accidental surface or subsurface oil spill would occur from the proposed activities. If a spill were to occur in open waters of the OCS proximate to mobile adult 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. The activities proposed in this plan will be covered by our regional OSRP as discussed in Appendix F of this plan.

**(2) Marine and pelagic birds:** An accidental oil spill that may occur as a result of the proposed action has the potential to impact marine and pelagic birds—birds could become oiled. However, it is unlikely that an accidental oil spill will occur from the proposed activities. The activities proposed in this plan will be covered by our regional OSRP as discussed in Appendix F of this plan.

**(3) Public health and safety due to accidents:** There are no IPF's (including an accidental H<sub>2</sub>S release) from the proposed activities that could cause impacts to public health and safety.

In accordance with 20 CFR 150.417(c) and Appendix C of this plan, sufficient information has been submitted to justify our request that the area of our proposed activities be classified by MMS as H<sub>2</sub>S absent.

### **Coastal and Onshore**

**(1) Beaches:** An accidental oil spill from the proposed activities could cause impacts to beaches. However, due to the distance from shore (155 miles) and the response capabilities implemented, no significant adverse impacts are expected. Both the historical spill data and the combined trajectory/risk calculations referenced in the publication OCS EIS/EA MMS 2002-052 indicate there is little risk of contact or impact to the coastline and associated environmental resources. The activities proposed in this plan will be covered by our regional OSRP as discussed in Appendix F of this plan.

**(2) Wetlands:** An accidental oil spill from the proposed activities could cause impacts to wetlands. However, due to the distance from shore (155 miles) and the response capabilities implemented, no significant adverse impacts are expected. Both the historical spill data and the combined trajectory/risk calculations referenced in the publication OCS EIS/EA MMS 2002-052 indicate there is little risk of contact or impact to the coastline and associated environmental resources. The activities proposed in this plan will be covered by our regional OSRP as discussed in Appendix F of this plan.



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**(3) Shore birds and coastal nesting birds:** An accidental oil spill from the proposed activities could cause impacts to shore birds and coastal nesting birds. However, due to the distance from shore (155 miles) and the response capabilities implemented, no significant adverse impacts are expected. Both the historical spill data and the combined trajectory/risk calculations referenced in the publication OCS EIS/EA MMS 2002-052 indicate there is little risk of contact or impact to the coastline and associated environmental resources. The activities proposed in this plan will be covered by our regional OSRP as discussed in Appendix F of this plan.

**(4) Coastal wildlife refuges:** An accidental oil spill from the proposed activities could cause impacts to coastal wildlife refuges. However, due to the distance from shore (155 miles) and the response capabilities implemented, no significant adverse impacts are expected. Both the historical spill data and the combined trajectory/risk calculations referenced in the publication OCS EIS/EA MMS 2002-052 indicate there is little risk of contact or impact to the coastline and associated environmental resources. The activities proposed in this plan will be covered by our regional OSRP as discussed in Appendix F of this plan.

**(5) Wilderness areas:** An accidental oil spill from the proposed activities could cause impacts to wilderness areas. However, due to the distance from shore (155 miles) and the response capabilities implemented, no significant adverse impacts are expected. Both the historical spill data and the combined trajectory/risk calculations referenced in the publication OCS EIS/EA MMS 2002-052 indicate there is little risk of contact or impact to the coastline and associated environmental resources. The activities proposed in this plan will be covered by our regional OSRP as discussed in Appendix F of this plan.

#### **Other Environmental Resources Identified**

None

**(C) Impacts on your proposed activities:** The site specific environmental conditions have been taken into account for the proposed activities. No impacts are expected on the proposed activities from site-specific environmental conditions.

Shallow Hazards reports were submitted in accordance with Appendix C of this plan and NTL 98-20. A Shallow Hazards Assessment of the any seafloor and subsurface geological and manmade features and conditions that may adversely affect operations was submitted in accordance with Appendix C of this plan and NTL 98-20.

**(D) Alternatives:** No alternatives to the proposed activities were considered to reduce the potential environmental impacts of the proposed activity.



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

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

**(G) References:**

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


Geraci, J.R. and D.J. St. Aubin. 1980. Offshore petroleum resource development and marine mammals: a review and research recommendations. *Marine Fisheries Review* 42:1-12.

Laist, D.W., A.R. Knowlton, J.G. Mead, A.S. Collet, and M. Podesta. 2001. Collisions between ships and whales. *Mar. Mamm. Sci.* 17:35-75.

U.S. Dept. of the Interior. Minerals Management Service. 2001, Grid 7 Environmental Assessment.

U. S. Dept of the Interior. Minerals Management Service 2001, Grid 10 Environmental Assessment.

U. S. Dept of the Interior. Minerals Management Service 2002, OCS EIS/EA MMS 2002-052, Gulf of Mexico OCS Oil and Gas Lease Sales: 2003-2007, Central Planning Area Sales 185, 190, 194, 198, and 201; Western Planning Area Sales 187, 192, 196, and 200; Final Environmental Impact Statement, Volume I: Chapters 1-10; Volume II: Figures and Tables.

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## Appendix I

### Coastal Zone Management Consistency Information

#### (A) Consistency Certification

Not required since no new multi well structures are proposed where Texas and Louisiana are affected states.