

In Reply Refer To MS 5231

April 22, 1991

Elf Aquitaine Operating, Inc.
Attention: Ms. B. Dougherty
1000 Louisiana, Suite 3800
Houston, Texas 77002

Gentlemen:

NOTED -- KRAMER

Reference is made to the following plan received April 8, 1991:

Type Plan - Supplemental Development Operations Coordination Document
Lease - OC3-G 3176
Block - 146
Area - South Timbalier
Activities Proposed - Platform A and Well No. 6

In accordance with 30 CFR 250.34, this plan is hereby deemed submitted
and is now being considered for approval.

Your control number is S-2633 and should be referenced in your
communication and correspondence concerning this plan.

Sincerely,

(Orig. Sgd.) A. Donald Giroir

D. J. Bourgeois
Regional Supervisor
Field Operations

bcc: Lease OCS-G 3176 POD File (MS 5032)
MS 5034 w/public info. copy of the plan
and accomp. info.

DTrocquet:cic:04/15/91:DOCDOM

Apr 23 / 1991 PM
RECEIVED

5-2633

elf aquitaine operating, inc.

1000 Louisiana, Suite 3800 Houston, Texas 77002 (713) 658-9811

March 28, 1991

AIRBORNE EXPRESS
A/B#:

Mr. Daniel J. Bourgeois
Regional Supervisor
Office of Field Operations
U.S. Department of the Interior
Minerals Management Service
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123-2394



RE: SOUTH TIMBALIER BLOCK 146
LEASES OCS-G-3176
INITIAL DEVELOPMENT OPERATIONS COORDINATION DOCUMENT

Gentlemen:

In accordance with the provisions of Title 30 CFR 250.34, Elf Aquitaine Operating, Inc. hereby submits for your review and approval nine (9) copies of an Initial Development Operations Coordination Document (DOCD) for South Timbalier Block 146, Lease OCS-G-3176, Offshore, Louisiana. Five (5) copies are "Proprietary Information" and four (4) are "Public Information". All copies are marked accordingly.

In accordance with the associated Activity Schedule, Elf Aquitaine Operating, Inc. anticipates installation of the Tripod Well Protector Platform in July 1991.

Should additional information be required, please contact this office at 713/655-6410.

Sincerely,

Douglas Davis for
Barbara J. Dougherty
Regulatory Manager

OCSG3176.DOC
Enclosure:

cc: Dept. of Natural Resources
Coastal Management Division



ELF AQUITAINE OPERATING INC.

OCS-G 3176
SOUTH TIMBALIER BLOCK 146

INITIAL DEVELOPMENT OPERATIONS COORDINATION DOCUMENT

“Public Information”

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H₂S Classification
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- 7 Oil Spill Contingency Plan and Oil Spill
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- 11 - Coastal Zone Management Certification
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ELF AQUITAINE OPERATING, INC.
INITIAL DEVELOPMENT OPERATIONS COORDINATION DOCUMENT
SOUTH TIMBALIER BLOCK 146
OCS-G 3176

BRIEF HISTORY TO DATE

SECTION 1

Conoco, Inc. and Texaco Producing, Inc. acquired South Timbalier Block 146 in Lease Sale 38 in July, 1985. Conoco drilled a total of five wells, two which were placed on production; however, the wells are now depleted.

EAOI farmed in this Block and drilled and completed the No. 6 well. This well was tested and on May 15, 1990, was determined to be qualified under 30 CFR 250.11(a) as a well capable of producing gas in paying quantities; consequently, this lease was placed in a Minimum Royalty status. This represents a re-qualification of this lease which was originally qualified on the basis of Well No. A-1 on May 28, 1980.

DEVELOPMENT ACTIVITIES AND TIMETABLE
DESCRIPTION OF DEVELOPMENT ACTIVITIES

SECTION 2

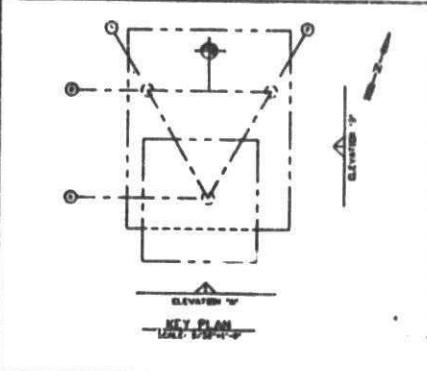
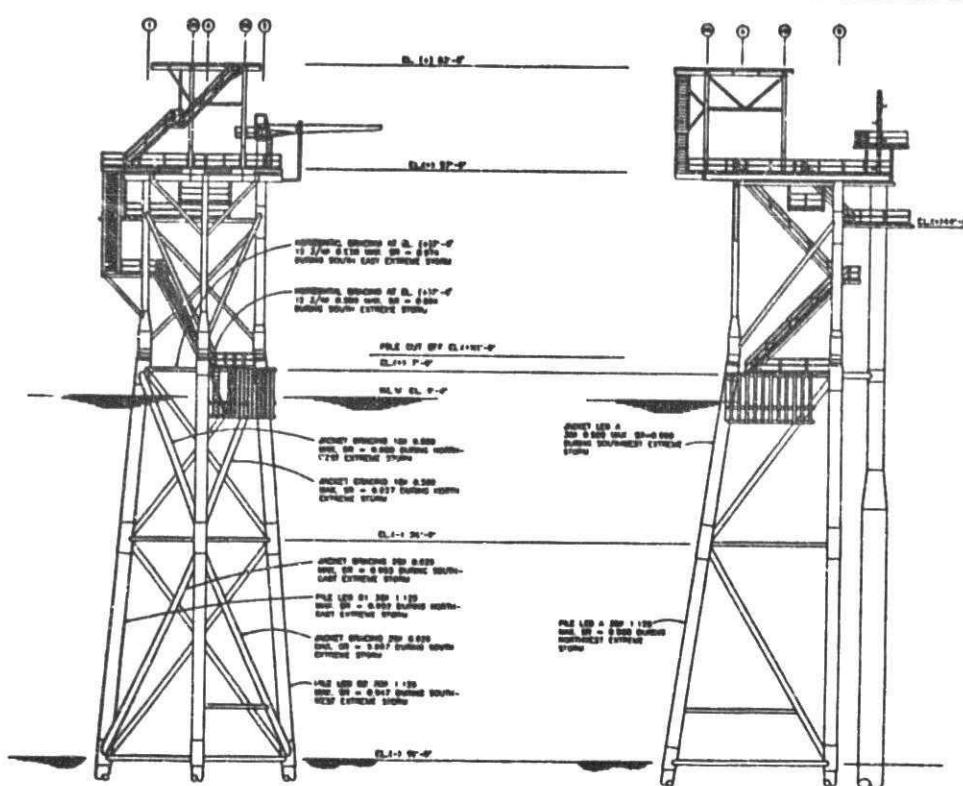
Under this Initial DOCD, Elf Aquitaine Operating, Inc. proposes to install a 3-pile, single-slot well protector platform with testing facilities and a heliport over the existing surface of the No. 6 well located at 1866' from the west line and 3761' from the south line of South Timbalier Block 146. A pipeline will be installed and the lease will be placed on production according to the following activity schedule.

<u>Activity</u>	<u>Approximate Start-Up Date</u>
Completion Platform & Facilities Fabrication	June 1991
Commence Platform Installation	July 1991
Hook up and Commence Production	August 1991
All hydrocarbon handling equipment for testing and production such as separators, tanks, and treaters, has been designed and will be operated to prevent pollution.	

Maintenance or repairs which are necessary to prevent pollution of offshore waters shall be undertaken immediately.

Curbs, gutters, drip pans, and drains have been installed in deck areas in a manner necessary to collect all contaminants not authorized for discharge. Oil drainage shall be piped to a properly designed, operated, and maintain sump system which will automatically maintain the oil at a level sufficient to prevent discharge of oil into offshore waters. All gravity drains shall be equipped with a water trap or other means to prevent gas in the sump system from escaping through the drains.

Sump piles shall not be used as processing devices to treat or skim liquids, but may be used to collect treated-produced water, treated-produced sand, or liquids from drip pans and deck drains and as a final trap for hydrocarbon liquids in the event of equipment upsets. Improperly designed, operated, or maintained sump piles which do not prevent the discharge of oil into offshore waters shall be replaced or repaired.



BEST AVAILABLE COPY

ANSWER:

1. **ANSWER:** *It is important to remember that the first step in the process of problem solving is to identify the problem. This involves defining the problem, identifying the relevant information, and determining the goal or outcome. Once the problem is identified, it can be approached using various problem-solving strategies, such as trial and error, deductive reasoning, or inductive reasoning. The final step is to evaluate the solution and make any necessary adjustments.*
2. **ANSWER:** *It is important to remember that the first step in the process of problem solving is to identify the problem. This involves defining the problem, identifying the relevant information, and determining the goal or outcome. Once the problem is identified, it can be approached using various problem-solving strategies, such as trial and error, deductive reasoning, or inductive reasoning. The final step is to evaluate the solution and make any necessary adjustments.*
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- 4. **RECOMMENDED** **MEASURES** **FOR** **REDUCING** **TO** **SAFE** **EXPOSURE**
 - a. **RELOCATE** **WORKERS** **AND** **PEOPLE** **IN** **THE** **AREA**
 - b. **USE** **THE** **LEAST** **AMOUNT** **OF** **THE** **PRODUCT**
 - c. **USE** **THE** **LEAST** **AMOUNT** **OF** **THE** **PRODUCT**
 - d. **USE** **THE** **LEAST** **AMOUNT** **OF** **THE** **PRODUCT**
 - c. **RELOCATE** **WORKERS** **AND** **PEOPLE** **IN** **THE** **AREA**
 - d. **RELOCATE** **WORKERS** **AND** **PEOPLE** **IN** **THE** **AREA**

1. **WHAT IS THE NAME OF THE PERSON YOU ARE GOING TO CALL?**
2. **WHAT IS THE NUMBER OF THE PERSON YOU ARE GOING TO CALL?**
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10. **WHAT IS THE NUMBER OF THE PERSON YOU ARE GOING TO CALL?**



ELF AQUITAINE OPERATING, INC.	
TEPOG WELL PROTECTOR PLATFORM	
DEATH REGISTRY	DEATH 145
BURNETT & CARBONAR, INC.	
SEARCHED	SEARCHED
SERIALIZED	SERIALIZED
INDEXED	INDEXED
FILED	FILED
APRIL 1 1981	
MURKIN	
ABOVE ELEVATION AND BURROW INDEX	
SEARCHED	INDEXED
SERIALIZED	FILED
INDEXED	INDEXED
FILED	FILED
APR 1 1981	
MURKIN	

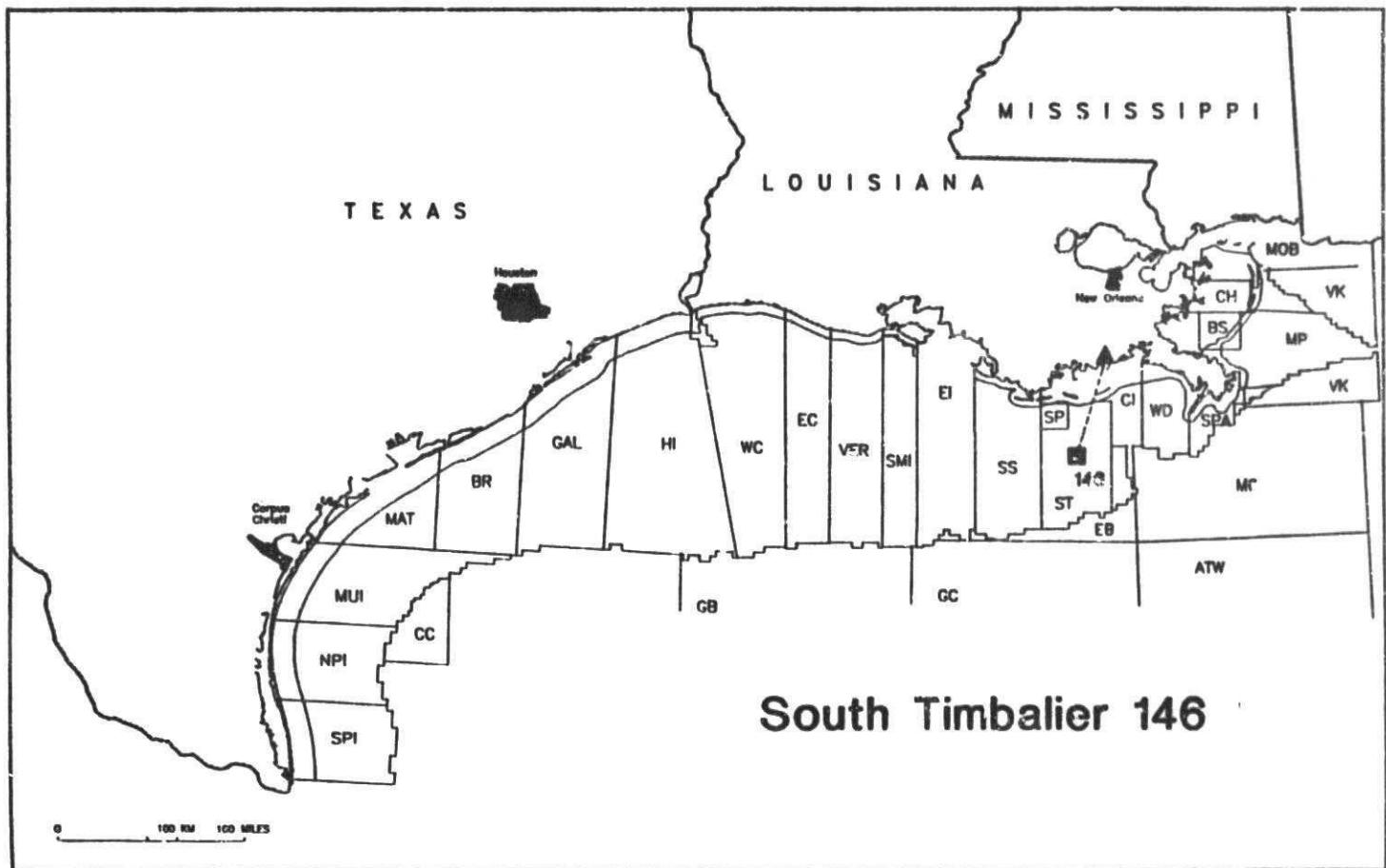
ONSHORE SUPPORT BASE FACILITIES

SECTION 3

Elf Aquitaine Operating, Inc. (EAOI) will use existing onshore base facilities located at Fourchon, Louisiana. This base will serve as port of debarkation for supplies and crews. Transportation vessels will use the most direct route to the lease site, which is located approximately 50 miles from the Fourchon Base. No onshore expansion or construction is anticipated with respect to this activity.

This base is capable of providing the services necessary for the proposed activities. It has 24-hour service, a radio tower with phone patch, dock space equipment and supply storage base, drinking and drill water, etc. The proposed production activities will help to maintain this base at its present level of activity. No expansion of the physical facilities or the creation of new jobs is expected to result from the work planned in conjunction with Block 146.

A vicinity map is included in this section showing the shore base in relation to the area of proposed activities.



**LOCATION OF PROPOSED PLATFORM
INCLUDING PLAT AND BATHYMETRY MAP**

SECTION 4

South Timbalier Block 146 is located approximately 50 miles
South of Grand Isle, Louisiana in approximately 96' of water.

A Bathymetry Map and plat showing the location of proposed
platform "A" is included in this section.

BLK. 140

BLK. 146

BLK. 145

BLK. 147

Elf Aquitaine Operating, Inc.
O.C.S.-G-3176

65.76

1965

■ PLATFORM 'A'
X = 2,266,311.78
Y = -24,247.27
LAT.: 28°35'50.435"
LONG.: 90°30'13.203"

BLK. 164

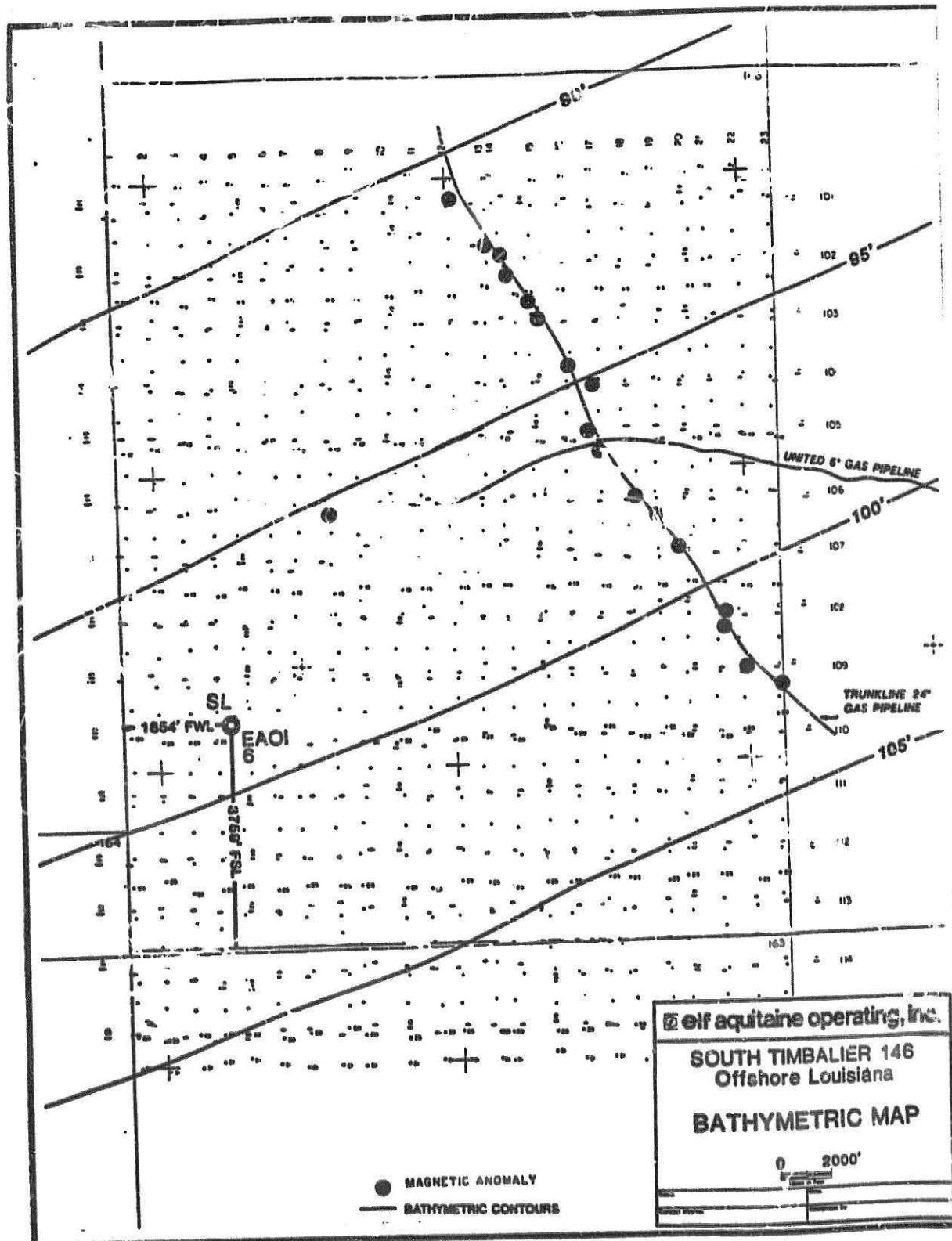
BLK. 163

NORTH

SCALE: 1" = 2,000'

Elf Aquitaine Operating, Inc.
O.C.S.-G- 3176 NO.1

PERMIT PLAT
SOUTH TIMBALIER AREA



elf aquitaine operating, inc.

SOUTH TIMBALIER 146
Offshore Louisiana

BATHYMETRIC MAP

0 2000'

SHALLOW HAZARDS REPORT AND H₂S CLASSIFICATION

SECTION 5

SHALLOW HAZARDS

An analysis of any seafloor and subsurface geologic and man-made features and conditions which may have an adverse effect on the proposed operations was included in the Plan of Exploration.

H₂S CLASSIFICATION

EAOI requests in accordance with 30 CFR 250.67(c) that the Minerals Management Service classify South Timbalier 1/6 as a zone where the absence of H₂S is confirmed. This is based on the fact that in the drilling of wells 1 through 5 on this block, Conoco did not encounter H₂S. Also no H₂S was encountered in the drilling of Well No. 3 operated by EAOI.

LEASE STIPULATION AND NEW OR UNUSUAL TECHNOLOGY

SECTION 6

LEASE STIPULATIONS

As stated in the lease stipulations for this lease, if during the proposed operations any cultural resources are discovered, EAOI will report the discovery immediately to the Regional Manager. EAOI will also make every reasonable effort to preserve the cultural resource until the Regional Manager has told EAOI how to protect it.

NEW OR UNUSUAL TECHNOLOGY

No new technique or unusual technology will be required for these proposed operations.

OIL SPILL CONTINGENCY PLAN AND OIL SPILL TRAJECTORY ANALYSIS

SECTION 7

All construction and production operations shall be performed in accordance with industry standards to prevent pollution of the environment. Elf Aquitaine Operating, Inc.'s Oil Spill Contingency Plan has been approved by the MMS. This plan designates an Oil Spill Team consisting of Elf's personnel and contract personnel. This team's duties are to eliminate the source of any spill, remove all sources of possible ignition, deploy the most reliable means of available transportation to monitor the movement of a slick, and contain and remove the slick if possible.

Elf Aquitaine Operating, Inc. is a member of Clean Gulf Associates (CGA). The CGA has two permanent equipment bases in Texas, at Port Aransas and Galveston, and four bases in Louisiana, at Venice, Grand Isle, Intracoastal City and Cameron. Each base is equipped with fast response skimmers and there is a barge mounted high volume open sea skimmer based at Grand Isle, Louisiana. In addition to providing equipment, the CGA also supplies advisors for clean-up operations. Equipment available from CGA and the base it is located at is listed in the CGA Manual, Volume I, Section III.

Estimated response time for the spill in South Timbalier Block 146 would be approximately 11 hours. The primary CGA base of operations would be Grand Isle, Louisiana. South Timbalier Block 146 is located approximately 30 miles off the Louisiana coastline and approximately 50 miles from the Grand Isle base.

Deployment time is as follows:

1. Procurement of Vessel	4 hours
2. Load-out Time	2 hours
3. Travel Time	5 hours
Estimated Total Deployment Time	11 hours

As the possibility of an oil spill always exists, Elf Aquitaine Operating, Inc. has projected the trajectory of a spill from the South Timbalier 146 location using the information in the Draft Environmental Impact Statement (EIS) for Lease Sales 131, 135 and 137 dated March, 1990.

The EIS contains oil spill trajectory simulations using seasonal surface currents coupled with wind data, adjusted every 3 hours for 30 days or until a target is contacted.

Hypothetical spill trajectories were simulated for each of the potential launch sites across the entire Gulf. These simulations presume 500 spills occurring in each of the four seasons of the year. The results in the EIS were presented as probabilities that an oil spill beginning from a particular launch site would contact a certain land segment within 3, 10, or 30 days. Utilizing the summary of the trajectory analysis (for 10 days) as presented on pages IV-84 through IV-87, the probable projected land fall of an oil spill is as follows. Also listed is the CGA Map Number corresponding to the land segment which will be utilized to determine environmentally and biologically sensitive areas that may be affected by a spill.

<u>Area</u>	<u>Land Segment Contact</u>	<u>#</u>	<u>CGA Map #</u>
South Timbalier Block 146 (C-39)	Terrebonne Ph., LA (16) Lafourche Ph., LA (17) Jefferson Ph., LA (18) Plaquemines Ph., LA (19)	22 15 2 3	6 6 6,7 6,7

If a spill should occur from the proposed location, Elf Aquitaine Operating, Inc. would immediately activate its Oil Spill Response Operating Team, determining from current conditions the probable location and time of landfall by contacting the National Oceanic and Atmospheric Administration's (NOAA) Gulf of Mexico Scientific Support Coordinator (SSC) for assistance in predicting spill movement.

Section V, Volume II of the CGA Operations Manual which contains the maps as shown above also includes equipment to be used for protecting and clean-up should it be necessary. It includes those pieces of equipment that are stockpiled by CGA and available for use.

Section VI, Volume II of the CGA Operations Manual depicts the protection response modes that are applicable for oil spill clean-up operations. Each response mode is schematically represented to show optimum deployment and operation of the equipment. Implementation of the suggested procedures assures the most effective use of the equipment and will result in reduced adverse impact of oil spills on the environment. Supervisory personnel have the option to modify the development and operation of equipment to more effectively respond to site-specific circumstances.

DISCHARGES

SECTION 8

All discharges from South Timbalier Block 146 will comply with the Environmental Protection Agency NPDES General Permit for the Gulf of Mexico.

The permittee is authorized by the General Permit to discharge the effluents listed in the following table. Such discharges will be limited and monitored by the permittee as specified below:

<u>Discharge and Effluent Characteristic</u>	<u>Discharge Limitation</u>	<u>Monitoring Requirements</u>	<u>Recorded Value(s)</u>
		<u>Measurement Frequency</u>	<u>Sample Type/Method</u>
<u>DECK DRAINAGE</u> Free Oil	No Free Oil	Once/day <u>1/</u>	Visual/Sheen on receiving water Number of Sheen Observed
Volume (bbls)	- -	Once/month	Estimate Month Total <u>2/</u>
<u>PRODUCED WATER</u> Oil and Grease	72 mg/l daily max.	Once/month	Grab <u>3/</u> Daily Maximum & Monthly Avg
	48 mg/l monthly avg		
Flow (MGD)	- -	Once/month	Estimate Monthly Avg
<u>PRODUCED SAND</u> Free Oil	No Free Oil	Once/day <u>4/</u>	Visual/Sheen on receiving water Number of Days Sheen observed

<u>Discharge and Effluent Characteristic</u>	<u>Discharge Limitation</u>	<u>Monitoring Requirements</u>	<u>Recorded Value(s)</u>
		<u>Measurement Frequency</u>	<u>Sample Type/Method</u>
Weight (lbs)	--	Once/month	Estimate
<u>WELL TREATMENT FLUIDS 5/</u>			<u>Monthly Total 2/</u>
<u>COMPLETION FLUIDS 5/</u>			
<u>WORKOVER FLUIDS 5/</u>			
Free Oil	No Free Oil	Once/day	Visual/Sheen on receiving water
			Number of Days Sheen observed
Volume (bbls)	--	Once/month	Estimate
<u>SANITARY WASTE 6/ (continuously manned by 10 or more persons)</u>			<u>Monthly Total 2/</u>
Residual Chlorine 7/	1 mg/l	Once/month	Grab
			Concen- tration
Flow (MGD)	--	Once/month	Estimate
			Monthly Average 2/
<u>SANITARY WASTE (continuously manned by 9 or fewer persons or intermittently by any number)</u>			
Solids	No Floating Solids	Once/day	Observation 8/
			Number of Days Solids Observed
<u>DOMESTIC WASTE</u>			
Solids	No Floating Solids	Once/day	Observation 8/
			Number of Days Solids Observed
<u>DESALINIZATION UNIT DISCHARGE; BLOWOUT PREVENTER FLUID; UNCONTAMINATED BALLAST WATER; UNCONTAMINATED BILGE WATER; MUD, CUTTINGS AND CEMENT AT THE SEAFLOOR; UNCONTAMINATED SEAWATER; BOILER BLOWDOWN; SOURCE WATER AND SAND</u>			
Free Oil	No Free Oil	Once/day 4/	Visual/Sheen on receiving water surface
			Number of Sheen Observed

- 1/ When discharging and facility is manned. Monitoring shall be accomplished during daylight by visual observation of the receiving water surface in the vicinity of the discharge.
- 2/ This information shall be recorded, but not reported unless otherwise requested by EPA.
- 3/ May be based on the arithmetic average of four grab sample results in the twenty-four hour period. The Regional Administrator may approve an alternative test method on a case-by-case basis.
- 4/ When discharging, monitoring shall be accomplished during daylight by visual observation of the receiving water surface in the vicinity of the discharge.
- 5/ There will be no discharge of priority pollutants except in trace amounts. Information on the specific chemical composition shall be recorded, but not reported unless requested by EPA.
- 6/ Any facility which properly operates and maintains a marine sanitation device (MSD) that complies with pollution control standards and regulations under Section 312 of the Act shall be deemed to be in compliance with permit limitations for sanitary waste. The MSD shall be tested yearly for proper operation and test results maintained at the facility.
- 7/ Hatch method CN-66-DPD approved. Minimum of 1 mg/l and maintained as close to this concentration as possible.
- 8/ Monitoring shall be accomplished during daylight by visual observation of the surface of the receiving water in the vicinity of sanitary and domestic waste outfalls. Observations shall be made following either the morning or mid-day meals and at a time during daylight and maximum estimated discharge.

PROJECTED AIR EMISSION SCHEDULE FOR
SUPPLEMENTAL DEVELOPMENT OPERATIONS COORDINATION DOCUMENT

SECTION 9

GENERAL INFORMATION

Location of Facility: South Timbalier 146
OCS-G 3176

Distance Offshore: 50 miles

Operator: Elf Aquitaine Operating, Inc.
1000 Louisiana, Suite 3800
Houston, TX 77002

Contact person: Barbara J. Dougherty
Regulatory Manager

MAJOR SOURCE (OFFSHORE) - PRODUCTION

<u>Emitted Substance</u>	<u>Projected Emissions**</u> <u>Tons/Year</u>
CO	2.69
SO	.012
NOX	7.02
VOC	.540
TSP	N/A

* Emission Factors from Table 3.2-1 "Compilation of Air Pollutant Emission Factors", EPA Report AP-42, September, 1985

**Production equipment to be used on platform: Heater treater (approximately 1MM BTU/hr)

MINOR SOURCES (OFFSHORE) - PRODUCTION

Including helicopter landing and take-off (2 trips/week), crew boat (1 trip/week), and loading and unloading operations.

<u>Emitted Substances</u>	<u>Projected Emissions</u> <u>Tons/Year</u>
CO	3.12
SO ₂	.12
NOX	3.78
VOC	1.14
TSP	Unknown

* Emission Factors from Table 4.4, "Atmospheric Emissions from Offshore Oil and Gas Development and Production", EPA No. 450/3-77-016, June, 1977.

TOTAL ALL SOURCES (TONS/YEAR)

	CO	SO ₂	NOX	VOC	TSP
Major/Production	2.69	.012	7.02	.540	N/A
Minor/Production	<u>.0032</u>	<u>.0075</u>	<u>.014</u>	<u>.0011</u>	<u>.0011</u>
Total	2.6932	.0195	7.034	.5411	.0011

ONSHORE SOURCES

These should be about the same as minor sources unless new facilities are installed at the onshore base. No additional facilities are required at this time.

EMISSION EXEMPTION DETERMINATION

For CO: $E = 3400D^{2/3} = 3,400(33)^{2/3} = 34,981$ tons/year

For NOX, VOC, TSP & SO₂ : $E = 33.3D = 33.3(50) = 1,665$
tons/year

As per DOI/MMS regulations, this facility is exempt from further air quality review as it has been determined that its operations will not have significant adverse environmental impact on air quality.

ENVIRONMENTAL REPORT
FEDERAL LEASE OCS-G 3176
SOUTH TIMBALIER 146
DEVELOPMENT OPERATIONS COORDINATION DOCUMENT

SECTION 1C

I. INTRODUCTION

Elf Aquitaine Operating, Inc., Houston, Texas, plans to conduct a development program in South Timbalier 146. This report is submitted with the proposed Development Operations Coordination Document (DOCD) in accordance with the regulations of 30 CFR 250.34 and guidelines published November 20, 1980, and October 12, 1988.

II. DESCRIPTION OF PROPOSED ACTIONS

Conoco, Inc. and Texaco Producing, Inc. acquired South Timbalier Block 146 in Lease Sale 38 in July, 1985. Conoco drilled a total of five wells, two which were placed on production; however, the wells are now depleted.

EAOI farmed in this Block and drilled and completed the No. 6 well. This well was tested and on May 15, 1990, was determined to be qualified under 30 CFR 250.11(a) as a well capable of producing Minimum Royalty status. This represents a re-qualification of this lease which was originally qualified on the basis of Well No. A-1 on May 28, 1980.

Under this Initial DOCD, Elf Aquitaine Operating, Inc. proposes to install a 3-pile, single-slot well protector platform with testing facilities and a heliport over the existing surface of the No. 6 well located at 1866' from the west line and 3761' from the south line of South Timbalier Block 146. A pipeline will be installed and the lease will be placed on production.

Activities proposed under this DOCD are expected to commence in July, 1991, with production commencing in August, 1991.

A. Travel Modes and Frequency

EAOI will operate out of its onshore service base facilities at Fourchon, Louisiana. During production operations helicopters will make two trips per week and supply boats will make one trip per week. Transportation vessels will use the most direct route to the lease site which is located approximately 50 miles from Fourchon, Louisiana.

B. Support Base

The proposed activities will utilize a support base at Fourchon, Louisiana. The base provides 24-hour service, a radio tower with phone patch, dock space, office space, a parking lot, equipment and supply storage space, drinking and drill water, etc. These proposed drilling activities will help to maintain this base at its present level of activity. No expansion of the physical facilities or the creation of new jobs is expected to result from the work planned in conjunction with Block 146.

C. New Support Facilities

No new onshore support facilities such as new land bases, refineries, storage facilities, pumping station, boat docks, helicopter pads or fueling facilities are likely to be required because of the activities planned for South Timbalier 146.

D. New Techniques or Unusual Technology

No new techniques or unusual technology will be required for this operation.

E. Map of Proposed Activity

As shown by the attached vicinity plat, the leases on which the proposed activities will take place are located approximately 50 miles from the Louisiana shoreline.

F. Coastal Zone Management Consistency

This project is consistent with Louisiana's program for Coastal Zone Management as provided in 15 CFR 930 and the Louisiana State and Local Coastal Resources Management Act of 1978 (Act 361). The operations will take place on the OCS outside of Alabama and Louisiana's 3-mile limit. Coastal effects of the base are minor and are consistent with the Coastal Resources Program.

III. DESCRIPTION OF AFFECTED ENVIRONMENT AND IMPACTS

A. Physical and Environmental

- 1. Commercial Fishing

South Timbalier Block 146 is located 50 miles from the Louisiana Coast in the Central Gulf of Mexico where water ranges from 187' to 190' below main sea level.

The Gulf of Mexico yielded the nations largest regional commercial fishery by weight in 1988. The Gulf shrimp fishery is the

most valuable in the United States accounting for 80% of the total domestic production. Three species of shrimp, brown, white and pink dominate the landings. Harvest of oysters and crabs takes place in the Gulf bays and estuaries.

Menhaden is the most valuable fish landed. Other important commercial fish include red snapper, spotted sea trout, black drum, shark, black mullet and sword fish.

The proposed operations in this area can be expected to impact the commercial fishing in the following ways:

Production platforms cause underwater obstructions that result in losses of shrimp trawls, shrimp catch and vessel damage.

Oil spills pose the greatest threat to commercial fishing by direct contact with eggs, larvae, juveniles or massed spawning adult fish or shellfish by contamination of estuary habitat.

Discharges of small quantities of produced waters and domestic waste waters may occur around the platform; however, they would meet all effluent limitations and are not depicted to impact the area's marine life.

Petroleum platforms in the northern Gulf of Mexico (and in most other locations) constitute unusual environments compared to the surrounding waters and soft bottoms into which they are often embedded. Platforms act as nuclei for commercial and sport fishermen and many species of fish linger near platforms including those without trophic dependence upon them. Many species are found only around petroleum platforms and natural reefs in the northern Gulf and include several groupers and other fish of economic value. For species such as these, availability of natural habitat may be a limiting factor, with artificial reefs allowing for population expansion and a larger fishery.

Typical species caught at the platforms include resident fish as well as those pelagic forms temporarily attracted to them.

Overall, fishermen have benefited from the growth of the petroleum industry in the OCS waters of the Gulf of Mexico. While technological improvements have enabled commercial fishermen to increase the volume of landings, by-products of the development of the petroleum industry have also had a positive impact on fishing. Because OCS petroleum development is dependent on extensive marine vessel utilization, harbors and ports have been improved, port access waterways have been expanded and improved, and the availability and quality of marine vessel maintenance and repair facilities, have increased significantly. These

improvements have definitely had a positive effect on fishermen (LASSITER, 1980).

2. Shipping

South Timbalier 146 is clear of all fairways and anchorage areas. Operations in this area will be in accordance with the U. S. Coast Guard's regulations regarding navigational standards. The installation and use of navigational aids, lifesaving equipment, and other safety requirements pursuant to U. S. Coast Guard regulations are standard operating procedure for drilling rigs, platform and marine vessels utilized by EAOI. There should be little or no impact on shipping resulting from the proposed operations.

3. Recreational Resources and Activities

The northern Gulf of Mexico coastal area is one of the major recreational regions of the United States, particularly with marine fishing, scuba diving, and other water related activities. It is estimated that over 38 million people in the Gulf coastal states have a major interest in water related or water enhanced recreational activity. Approximately 70 percent of the Gulf shoreline is composed of beach and there is one motor boat for about every 21 people living in the Gulf Region. More specifically, approximately 13.5 million people, or 35 percent of the Gulf States population, live in the area most directly affected by Gulf activity, and about one-third of the registered boats are likely candidates for marine recreational activity (16' or greater).

It is reasonable to expect that production on blocks leased in the Central Gulf of Mexico will result in some ocean litter and could lead to one major oil spill, and that spill and debris could be carried by wind, wave and currents to interact with major shoreline recreational beaches throughout the Gulf of Mexico. The trash and debris, such as oil drums, large plastic containers and sheeting, computer read-write rings, seismic markers, styrofoam floats, pipe thread protectors, diesel filters, hard hats and tar balls, is clearly associated with the petroleum industry; however, the problem will cause only localized, short-term inconvenience.

4. Cultural Resources

There are no known archaeological sites identified in the area; however, EAOI agrees that if any site, structure or object of historical significance should be discovered during operations, the findings will be immediately reported to the Supervisor and every reasonable effort will be made to preserve and protect the

cultural resources from danger until the Supervisor has given directions as to its preservation.

5. Ecologically Sensitive Features

There are no ecologically sensitive features in the proposed area of operations.

6. Existing Pipelines

There are no known pipelines traversing Block 146.

7. Other Mineral Uses

The activities proposed will have no direct or indirect impact on other mineral uses.

8. Ocean Dumping

All produced waters will be treated according to OSHA regulations. Vessels will be properly designated so that output will meet all regulatory requirements and will not exceed 35 parts/million. The produced waters will be dumped overboard and monitored on a monthly basis.

9. Endangered or Threatened Species

Six federally listed endangered whale species may occur in the Gulf of Mexico: the blue fin, humpback, right, sei and great sperm whales. The right whales are the most endangered cetacean in the Gulf of Mexico.

The Fish and Wildlife Service has designated 15 untreated species that could be affected by OCS oil and gas operations in the Gulf of Mexico. All but the American crocodile inhabit the Central and Western Gulf. The list includes three mammals (the Jaguarundi, Odelot, and West Indian Manatee), seven birds (the bald eagle, arctic peregrinal, whooping crane, brown pelican, Eskimo curlew, piping plover and least tern), and six other reptiles (the American crocodile and the hawksbill, Kemp's Ridley, loggerhead, leatherback and green sea turtles).

The most likely affects of oil and gas on cetaceans are skin and eye irritations, baleen fouling, asphyxiation from inhalation of volatile fumes, food reduction or contamination, and oil ingestion. Subsurface sounds from drilling activities may induce stress and have a cumulative effect on hearing or disrupt acoustic communications; however, most of the impacts on whales and are estimated to be low as whales prefer to inhabit area beyond the continental shelf away from most noise disturbances.

Oil spills contacting a turtle nesting beach incubation or hatching area could cause significant turtle mortality (Fritts and McGhee, 1981) and offshore oil spills could have a serious impact on juvenile turtles as sea turtles can attempt to swallow any object of appropriate size, such as tar balls, which could result in significant turtle mortality. There is a 2 percent probability of one or more oil spills occurring and contacting sea turtles nesting habitat and less than a 10 percent probability of one or more oil spills occurring and contacting sea turtle foraging areas off the central Louisiana coast.

The impact on various endangered and threatened species will depend on the nature of the spill, weather conditions, proximity of spills to species, tolerance for oil of species, and the espouse time and effectiveness of the oil spill cleanup and containment services. Given these variables, the impact on the various endangered or threatened species will vary from little or no effect to very serious.

The experience of oil and gas exploration in the Gulf of Mexico indicates that there is a small probability of occurrence of an oil spill. Elf Aquitaine Operating, Inc. as a prudent operator, will take the necessary precautions to reduce the probability of oil spills. Elf Aquitaine Operating, Inc.'s proposed operations should pose no threat to any endangered or threatened species.

B. Socio-Economic

1. Related New Employment

This is not applicable at this time.

IV. UNAVOIDABLE ADVERSE IMPACTS

A large oil spill at South Timbalier Block 146 is very unlikely but could result in localized severe mortalities, selective and functional impairment of plankton communities, thereby altering the community structure for an unknown period of time.

Air emissions from combustion of diesel fuel in boat engines and helicopters can affect the air quality near the proposed operation site and near the onshore travel route. In most cases, the emissions will be local in nature and will be quickly dissipated by climatic conditions.

Catastrophic events such as oil spills and blowouts have the potential to create localized air quality problems. Degradation of onshore air quality is not likely to occur and is not expected due to the low number of expected spills, probable distance from shore (more than 3 miles and very likely farther), rapid dispersion or breakup associated with oil spills and the

turbulent variable winds offshore. Rapid dispersion of evaporative emissions from these sources is expected.

If a blowout resulted in a fire, substantial levels of THC, NO_x, SO_x, CO and TSP would be emitted. Local air would be severely degraded for the duration of the fire. The extent of degradation is indeterminate, but it is unlikely that it would be high enough to affect land resources or human health.

The proposed production activities are not expected to harmfully affect water quality, interfere with commercial fishing operations, recreational activities or shipping traffic.

SUMMARY

The proposed activities will be carried out and completed with the guarantee of the following items:

1. The best available and safest technologies will be utilized throughout the project. This includes meeting all applicable requirements for equipment types, general project layout, safety systems, and equipment monitoring systems.
2. All operations will be covered by a Minerals Management Service approved Oil Spill Contingency Plan.
3. All applicable federal, state and local requirements regarding air emissions and water quality discharge for the proposed activities, and well as any other permit conditions, will be complied with.

REFERENCES

1. U. S. Department of the Interior, Minerals Management Service, Final Regional Environmental Impact Statement, Volume 1, January, 1983.
2. U. S. Department of the Interior, Minerals Management Service, Final Regional Environmental Impact Statement, July, 1984.
3. U. S. Department of the Interior, Minerals Management Service, Final Environmental Impact Statement, Proposed Oil and Gas Lease Sales 104 and 105, November, 1985.
4. U. S. Department of the Interior, Minerals Management Service, Final Environmental Impact Statement, Proposed Oil and Gas Lease Sales 110 and 112, April, 1986.
5. U. S. Department of the Interior, Minerals Management Service, Draft Environmental Impact Statement, Gulf of Mexico Sales 123 and 125.
6. U. S. Department of the Interior, Bureau of Land Management, The Ecology of Petroleum Bent farms in the Northwestern Gulf of Mexico.
7. U. S. Department of the Interior, Bureau of Land Management, Final Environmental Impact Statement, OCS Sale 62 and 63A, 1976.

AUTHORIZED REPRESENTATIVE

SECTION 12

Inquiries may be made to the following authorized representative
of Elf Aquitaine, Inc.

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