OCS-G-8695

#S-2231

In Reply Refer To: FO-2-1

March 2, 1989

Forest Oil Corporation
Attention: Ms. Toni Benoit
Post Office Box 51125
Lafayette, Louisiana 70505

Gentlemen:

Reference is made to your Supplemental Plan of Exploration and accompanying information received February 15, 1989, amended February 17, 1989, for Lease OCS-G 8695, Block 320, Eugene Island Area. This plan includes the activities proposed for Wells A, C, and E through I.

In accordance with 30 CFR 250.33(e), this plan is hereby deemed submitted and is now being considered for approval.

Your plan control number is S-2231 and should be referenced in your communication and correspondence concerning this plan.

Sincerely yours,

(Orig. Sgd.) A. Donald Giroir

For D. J. Bourgeois
Regional Supervisor
Field Operations

bcc: Lease OCS-G 8695 (OPS-3-2) (FILE ROOM)
OPS-3-4 w/ Public Info. Copy of the plan and accomp. info. (PUBLIC RECORDS)

EHSimoneaux:cok:02/16/89:poecom

Office of
Program Services

MAR 06 1989

Information Services
Section

Forest is aware that caution should be exercised while drilling due to possible shallow gas. Forest intends to take all necessary precautions to avoid shallow gas problems, as did Tenneco Oil Exploration and Production in the drilling of OCS-G 8695 No. 1 and 2 Wells, by utilizing extra heavy drilling mud and a slow drilling rate (less than 80 feet/hr.). Forest intends to drill the OCS-G 8695 No. A, C, E, F, G, H and I Wells in the same manner.

The following information has also been added to this supplemental plan:

1. Schedule:

Forest expects to commence exploration activities on or before March 15, 1989. A description of the activity proposed, duration and commencement and completion date is as follows:

DESCRIPTION OF ACTIVITY	DURATION	COMMENCEMENT	COMPLETION
Drill & Complete OCS-G 8695 No. A Well	30 days	03/15/89	04/14/89
Drill & Complete OCS-G 8695 No. C Well	30 days	04/14/89	05/14/89
Drill & Complete OCS-G 8695 No. E Well	30 days	05/14/89	06/13/89
Drill & Complete OCS-G 8695 No. F Well	30 days	06/13/89	07/13/89*
Drill & Complete OCS-G 8695 No. G Well	30 days	07/13/89	08/12/89*
Drill & Complete OCS-G 8695 No. H Well	30 days	08/12/89	09/11/89*
Drill & Complete OCS-G 8695 No. I Well	30 days	09/11/89	10/11/89*

*The commencement date for these wells is dependent upon the evaluation of the No. A, C and E wells and the availability of equipment.

2. Description of Onshore Support Base Facility:

Onshore support for the offshore drilling operations will be provided from Forest's Intracoastal City base where transportation of supplies

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Gulf of Mexico OCS Region, New Orleans, LA

and personnel will be coordinated. Technical and operational support for the drilling operations will be provided by Forest Oil Corporation's Lafayette office. The supporting staff in Lafayette consists of approximately 55 persons covering all disciplines for conducting oil and gas operations, exploration, drilling, production, construction and administration.

3. Oil Spill Clean-Up Information:

Forest has a Disaster Contingency Plan which has been approved by the Area Supervisor of the MMS. The plan describes procedures, for action in dealing with any major disasters, such as oil spills, fires, blowouts, etc. It described in detail:

... Duties to be performed when a disaster occurs, with an indication of priority

... Assignment of duty and a designation of authority

... Communication and reporting requirements (company and outside agencies)

As a member of the Clean Gulf Associates, Forest has access to the equipment this association keeps on standby in the various areas of the Gulf of Mexico. An inventory of the available equipment along with deployment times is attached.

4. Trajectory Analyses:

Reference is made to the Final Environmental Impact Statement for Gulf of Mexico Sales 118 and 122, Section IV, Tables IV-2, IV-7 and IV-8 concerning the following trajectory analysis.

> There is a 2% probability that an oil spill starting at Eugene Island Block 320 (Grid Block C40) will contact Terrebonne Parish (Land Segment 16) within 10 days.

Reference is made to Volume II of Clean Gulf Associates Operations Manual (Third Edition, 1983). Section V of said Manual indicates that the biological sensitive area for the above land segment is located on Louisiana - Map 6.

Forest will make every effort in cleaning up oil spills by following the procedures listed in the Clean Gulf Associates Manual.

5. List of Mud Additives:

A list of commonly used mud additives utilized by Forest is attached.

Particular care is exercised by Forest to minimize disruption of the environment. These drilling mud additives are selected to prevent a lasting impact on the surroundings.

6. Description of the Drilling Rig:

Drilling operations will be conducted by a contractor under supervision of the staff of Forest Oil's Lafayette District. The contractor will supply the personnel required for the operations and a self-contained jack-up drilling unit, complete with living quarters. The drilling contract requires the contractor to perform the operations in accordance with Forest Oil's standards for safety and protection of the environment. A Forest representative will supervise all activities. The general arrangement of a jack-up drilling unit and complete inventory of equipment provided by the contractor are attached. The drilling rig will be equipped and operated in compliance with 30 CFR 250.50 (Drilling Operations).

7. New or Unusual Technology:

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

8. Hydrogen Sulfide:

This area is not known to contain H_2S.

9. Authorized Representative:

Judy W. Eldridge
Forest Oil and Gas Corporation
P. O. Box 51125
Lafayette, Louisiana 70505
Telephone: (318) 269-9400

10. Lease Stipulations:

No lease stipulations attached to this lease.

11. Waste and Pollutants:

These wells will be drilled and completed by a mobile, self-elevating drilling platform identified as Hull 120 - Penrod 63. Drip pans are installed under all equipment which could be a potential source of pollution. All waste products containing oil will be properly transported to shore and disposed of at approved disposal facilities. Domestic wastes will be treated by onboard sanitation treatment facilities and will be disposed of into the waters of the Gulf of

Mexico. All overboard discharge waters including sanitation, formation, and water based drilling waters will be discharged at the site in accordance with NPDES regulations and guidelines. All other solid and liquid wastes which cannot be disposed of on location will be transported back to shore in approved containers and disposed of according to the regulations published by EPA, Louisiana Department of Natural Resources, Department of Environmental Quality and any other regulations which may govern the proper disposal of these types of wastes.

The following table illustrates projected amounts and rates of drilling fluid and cutting discharged:

Hole Size	Casing Size	Setting Depth	Amount of Cutting	Amount Drilling Fluid	Days to Drill	Discharge Per Day Cuttings	Discharge Per Day Drilling Fluid
30"	30"	360'	Drive Pipe	N/A	N/A	0	0
24"	20"	1100'	2994 CF	533 bbls	1-1/2	0	427 B/D
17-1/2"	13-3/8"	4600'	5846 CF	1041 bbls	4	1462 CF	312 B/D
12-1/4"	9-5/8"	9300'	3768 CF	685 bbls	8	471 CF	103 B/D
8-1/2"	7"	12600'	1301 CF	232 bbls	10	130 CF	28 B/D

All other information previously submitted in the Initial Plan of Exploration remain unchanged.

Enclosed are nine (9) copies of this document. Five (5) copies are complete with geological information for Minerals Management use only. The other four copies do not contain information which Forest Oil Corporation considers confidential and exempt from disclosure under the Freedom of Information Act (5. U.S.C. 522) and Implementing Regulations (43 CFR Part 2).

Although we anticipate commencement of operations to be March 15, 1989, your earliest approval of this plan will be greatly appreciated, as always. Should you have any questions concerning this Supplemental Plan, please contact me at (318) 261-9415.

Very truly yours,

FOREST OIL CORPORATION

Toni Benoit

Toni Benoit
Land Technician

Enclosures

c: Ken Smith/Forest/Denver (w/enclosures)

The Rules and Regulations defined in the Federal Register 250.57 of April 1, 1988 require testing against the emission exemption amount as follows:

$E = 3{,}400D^{2/3}$ for CO

and

E = 33.3D for total suspended particulates

For this location a distance of 111 miles applies. This makes the exemption amounts as follows:

E = 78,541 tons/yr. for CO

and

E = 3,696 tons/yr. for SO_X, NO_X, HC and Particulates

The calculated amounts for both CO and the total suspended particulates are below the exemption amount. Therefore, further air quality review is not required for the proposed exploration activities in the lease area.

It is difficult to quantify the exact contribution to the total emissions for transportation resulting from this Exploration Plan, since transportation requirements are combined for Forest Oil's operations in the general area. Typical figures for emissions of supply boats using 1,000 gallons per day are as follows (based on EPA Emission Factors).

... NO_X	270 lbs/day
... SO_X	27 lbs/day
... CO	110 lbs/day
... HC	50 lbs/day
... Particulates	unknown

Typical fuel consumption for helicopters is as follows:

... Small Helicopter	30 gallons per hour flying
	10 gallons per landing and take-off cycle
... Large Helicopter	100 gallons per hour flying
	25 gallons per landing and take-off cycle

ENCLOSURE 7

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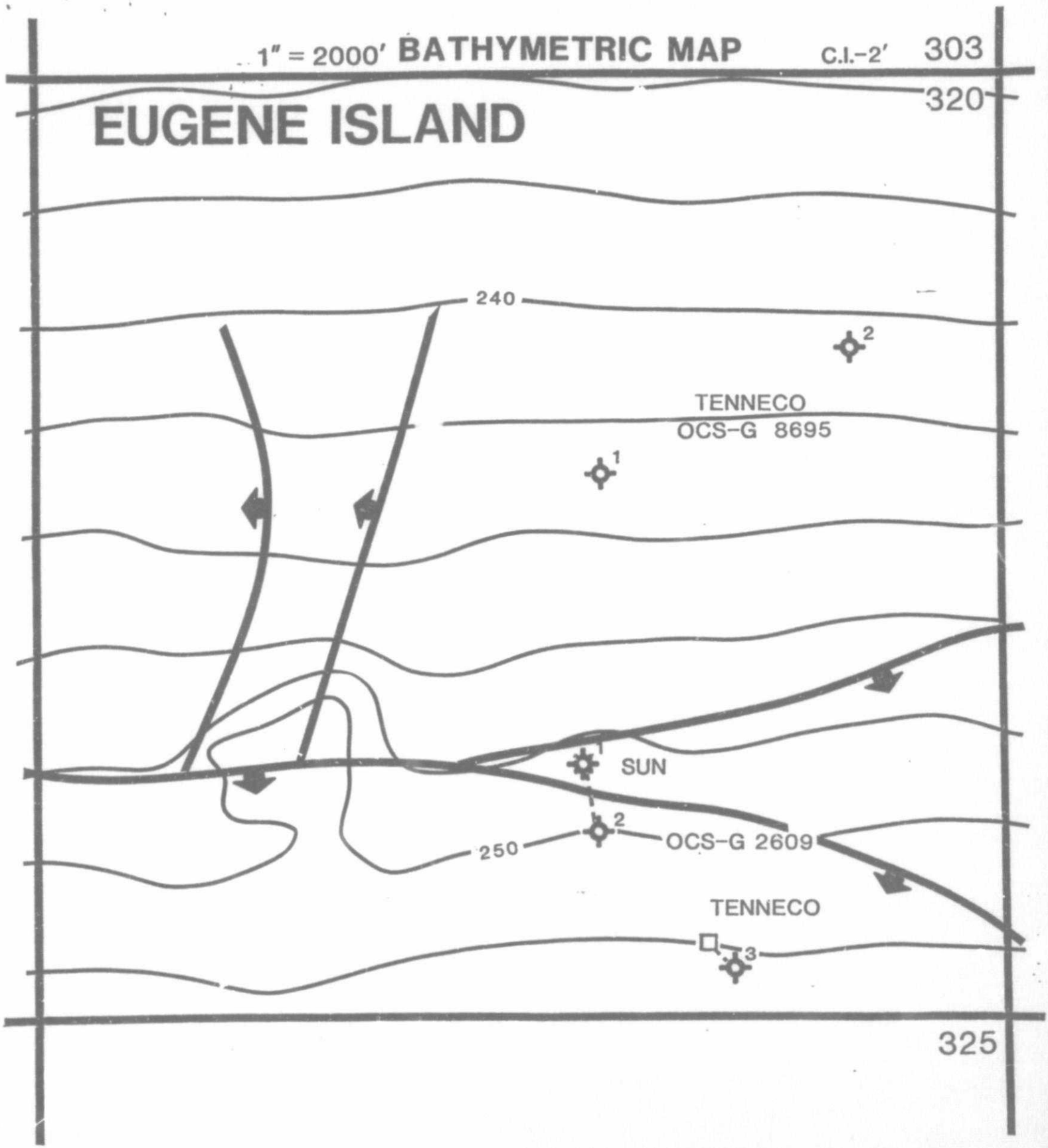

1" = 2000' BATHYMETRIC MAP
C.I.-2'
303
320
EUGENE ISLAND
240
2
TENNECO
OCS-G 8695
1
SUN
2
250
OCS-G 2609
TENNECO
3
325

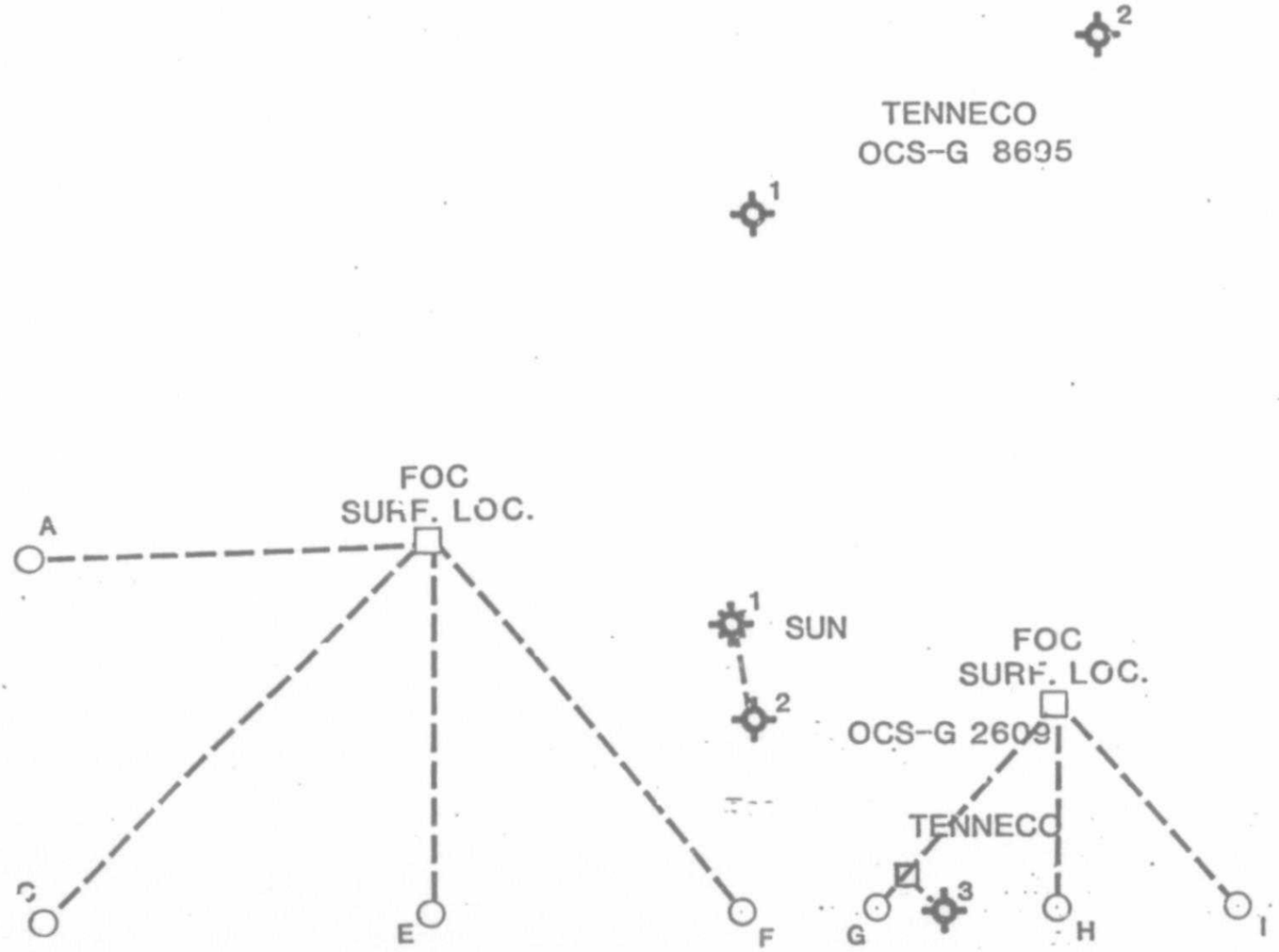
ENCLOSURE 1

1" = 2000'

303

320

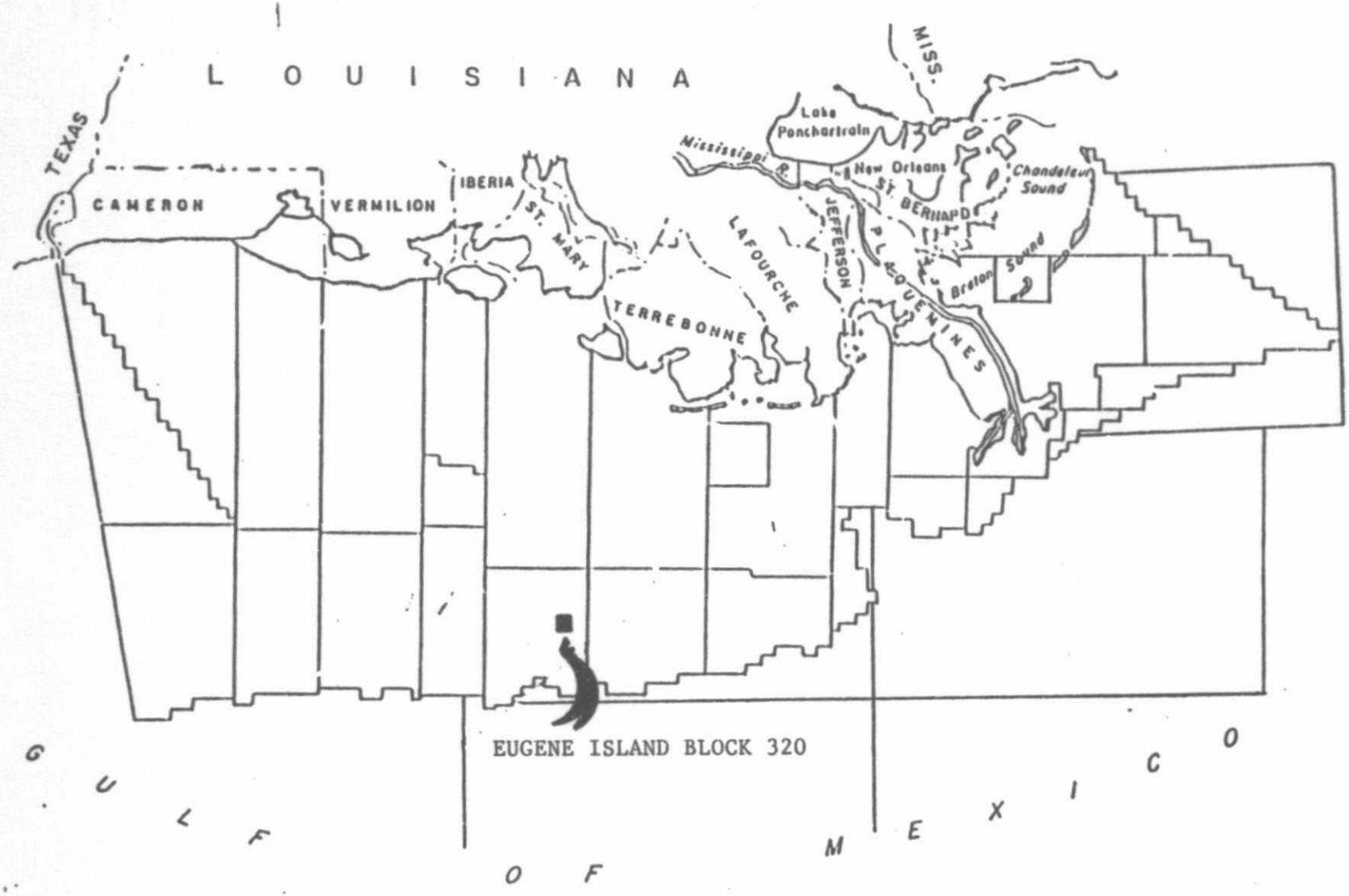
EUGENE ISLAND



325

ENCLOSURE 2

ENCLOSURE 4



REGIONAL MAP

FOREST OIL CORPORATION

EMISSIONS REPORT

EUGENE ISLAND BLOCK 320
OCS-G 8695

Forest Oil has filed an application for a "Permit to Discharge" in accordance with the requirements of the Environmental Protection Agency.

Emissions discharged into the ocean will be primarily drilling fluid, washed well cuttings, cooling water and sewage effluent. All these wastes will be treated prior to discharge into the sea to ensure a minimal impact on the environment. In cases where satisfactory treating cannot be accomplished, wastes will be collected and brought to shore for disposal. The following figures show approximate quantities for wastes in this category:

... Drill Cuttings	650 tons per well
... Drilling Fluid	7,000 barrels per well
... Sanitary/Sewage Effluent	4,000 gallons per day
... Cooling Water	1,000,000 gallons per day

Emissions discharged into the air during the exploratory drilling phase will be primarily associated with power generation. The following table lists emissions during the drilling operations (based upon Table 3.3.3-1 of EPA Publication AP-42):

Emission Factor in g/hp-hr

NO_X	SO_X	HC	CO	Particulates
14.0	0.93	1.12	3.03	1.0

Total emissions can be found utilizing the formula presented in EPA Publication PB-272-268:

"Emission Rate = Emission Factor x Total Well Footage x 60 hp-hr/ft"

For seven wells in 1989 at an approximate total depth of 52,964 feet, the following overall emissions estimate (tons/yr) applies for the drilling of the proposed exploration wells:

NO_X	SO_X	HC	CO	Particulates
49.04	3.26	3.92	10.61	3.50

ENCLOSURE 7

The Rules and Regulations defined in the Federal Register 250.57 of April 1, 1988 require testing against the emission exemption amount as follows:

$$E = 3{,}400D^{2/3} \quad \text{for CO}$$

and

$E = 33.3D$ for total suspended particulates

For this location a distance of 70 miles applies. This makes the exemption amounts as follows:

$E = 57{,}757$ tons/yr. for CO

and

$E = 2{,}331$ tons/yr. for SO_X, NO_X, HC and Particulates

The calculated amounts for both CO and the total suspended particulates are below the exemption amount. Therefore, further air quality review is not required for the proposed exploration activities in the lease area.

It is difficult to quantify the exact contribution to the total emissions for transportation resulting from this Exploration Plan, since transportation requirements are combined for Forest Oil's operations in the general area. Typical figures for emissions of supply boats using 1,000 gallons per day are as follows (based on EPA Emission Factors).

... NO_X	270 lbs/day
... SO_X	27 lbs/day
... CO	110 lbs/day
.. HC	50 lbs/day
... Particulates	unknown

Typical fuel consumption for helicopters is as follows:

... Small Helicopter	30 gallons per hour flying
	10 gallons per landing and take-off cycle
... Large Helicopter	100 gallons per hour flying
	25 gallons per landing and take-off cycle

ENCLOSURE 7

Assuming 1 landing and take-off cycle per hour of flying, the following emissions would result per hour:

	Small Helicopter	Large Helicopter
... NO_X	1 lb/hour	3 lbs/hour
... SO_X	1.5 lbs/hour	5 lbs/hour
... CO	10 lbs/hour	30 lbs/hour
... HC	1 lb/hour	3 lbs/hour
... Particulates	5 lbs/hour	15 lbs/hour

The additional level of emissions from the onshore base as a result of the exploration of this lease area will be negligible based on the level of activity at present.

23.5

ENCLOSURE 7

CLEAN GULF ASSOCIATES

Clean Gulf Associates is a non-profit organization formed by companies operating in the Outer Continental Shelf. Their purpose is to provide a stockpile of oil spill containment and clean-up equipment for use by members and non-member companies.

Clean Gulf Associates has contracted with Halliburton Services in Harvey, Louisiana to supply equipment, materials, and personnel needed to contain and clean-up spills in the Gulf of Mexico. At the present time, clean-up systems are maintained at six bases located in Grand Isle, Venice, Intracoastal City, Cameron, Houma and Gretna in Area I, which covers Offshore Louisiana. These systems include: fast response open sea/bay, high volume open sea, shallow water and auxiliary shallow water skimmer systems, beach cleanup equipment and helicopter spray system. Also available are waterfowl rehabilitation units, bird scarers and communication systems. In addition, offshore operators from the upper Texas Coast to the Mississippi Delta region, maintain a large inventory of 177 boats, 64 helicopters and 103 fixed-wing aircraft that can be put to use on short notice.

Response times range from approximately 2 hours for the helicopter spray system to approximately 16 hours for the barge mounted, high volume, open seas (HOSS) system.

A more detailed inventory of available equipment and materials, by location, follows.

STOCKPILE AT GRAND ISLE, LA.

1 - HOSS Barge CGA-100 w/CGA-66 Skimmer (ABS, USCG Approved)

1 - Shallow Water Skimmer, Self-Propelled Vessel CGA-53 (USCG Approved) with Trailer

2 - 50 Barrel Oil Storage Barges (CGA-1, CGA-2), (USCG Approved)

1 - Fast Response System, Model II - "Stacking Frame Style" (USCG Approved)

1 - 150# Dry Chemical Fire Extinguisher (USCG Approved)

1 - Boat Sprayer System for Dispersant (Pump Skid, Basket)

2 - 550 Gallon Dispersant Tanks (CG-5, CG-6) (USCG Approved) Exxon Corexit 9527

1 - Helicopter Underslung Sprayer, 150 Gallons

1 - Drum Collectant (Shell Oil Herder)

10 - Drums Dispersant, Exxon Corexit 9527

1 - Sorbent Recovery System (Wringer, 60 CFM Air Compressor, Drum Transport Basket)

7 - Bales 3M Sorbent (100 pads per bale)

1 - Hand Skimmer System (Hoses, Basket)

1 - Waterfowl Rehabilitation Center (Three Phase Current)

1 - 20 kw Generator (Three Phase)

1 - 1500 Gallon Potable Water Tank, Skid Base

2 - Drums, Bird Cleaning Compound, Polycomplex A-11

48 - 5 Gallon Pails, Bird Cleaning Compound, Lux Liquid Amber

1 - Floating Suction Skimmer, Swiss Oela (Hose, Basket)

1 - 200 GPM, 3" Centrifugal Trash Pump, Diesel, Wheel-mounted

3 - 100 GPM, 2" Air Diaphragm Pumps

2 - 200 GPM, 3" Air Diaphragm Pumps

1 - 175 CFM Air Compressor, Diesel Powered, Skid Base

20 - 50 Ft. Sections, 36" Bennett Flexiboom (with 3 Baskets)

26 - 40 Ft. Sections, 36" Uniroyal Boom (with 3 Baskets)

1 - 36" Boom Anchoring System (Box)

2 - Bird Scare-A-Way Gun Sets of 12 each with Bottle Rack Skid

1 - 180 Barrel Dispersant Tank Skid (USCG Approved) w/500 GPM Transfer Pump, Lister Diesel

1 - 180 Barrel Dispersant Tank Skid (USCG Approved)

8 - 50 Ft. Sections, 72" Oil Tech Open Seas Boom (HOSS Barge replacement)

Hoses - Assorted

Training Equipment, Classroom Building and Warehouse

Spare Parts Warehouse

1 - Radio Communications System (Handsets, Battery Chargers, Offshore Control Station, Onshore Control Station, Tone Remote, Repeater, Headsets, Antenna, 7.5 kw Single Phase Generator, 6 × 6 Radio Building). Stored at Communications Service of La, Inc. Gretna, La. 504-482-2182.

1 - Single Side Band Radio Set (at Communications Service-Gretna) - for HOSS Barge or Radio System use.

STOCKPILE AT VENICE, LA.

1 - Fast Response System, Model II - "Stacking Frame Style" (USCG Approved)
1 - Fast Response System, Model III - "Tailboard Style" (USCG Approved)
2 - 150# Dry Chemical Fire Extinguishers (USCG Approved)
1 - Shallow Water Skimmer Self-Propelled Vessel CGA-51 (extra 60 hp Outboard Motor) with Trailer
2 - 50 Barrel Oil Storage Barges (CGA-3, CGA-4) (USCG Approved)
1 - 60 CFM Air Compressor Skid
7 - Bales 3M Sorbent (100 pads per bale)
1 - Hand Skimmer System (Hoses, Basket)
1 - Floating Suction Skimmer, Swiss Oela (Hose, Basket)
1 - 200 GPM, 3" Centrifugal Trash Pump, Diesel, Wheel-mounted
1 - 100 GPM, 2" Air Diaphragm Pump
1 - Drum Collectant (Shell Oil Herder)
2 - Bird Scare-A-Way Gun Sets of 12 each with Bottle Rack Skid
20 - 50 Ft. Sections, 36" Bennett Flexiboom (with 3 Baskets)
25 - 40 Ft. Sections, 36" Uniroyal Boom (with 3 Baskets)
1 - 36" Boom Anchoring System (Box)
1 - Storage Box (Paint Locker)
Hoses, Assorted
1 - Drum Transport Basket (Helicopter Underslung)

STOCKPILE AT HOUMA, LA.

1 - Shallow Water Skimmer, Self-Propelled Vessel CGA-52 (U.S. Coast Guard Approved) with Trailer
1 - Boat Sprayer System for Dispersant (Pump Skid, Basket)
2 - 550 Gallon Dispersant Tanks (CG-7, CG-8, USCG Approved). Exxon Corexit 9527
1 - Aircraft Loading System for Dispersant
1 - Incineration System for Sorbent Disposal, (Movable by Truck)
1 - Wringer, Modified for Incineration System (For 3M Company Pads)
1 - 175 CFM Air Compressor Diesel Powered, Skid Base
1 - 180 Barrel Dispersant Tank Skid (USCG Approved) with 500 GPM Transfer Pump, Lister Diesel
1 - 180 Barrel Dispersant Tank Skid (USCG Approved)
Hoses, Assorted
615- Drums Exxon Corexit 9527 Dispersant (Stored at Exxon Chemical Americas in Houston. Contact Halliburton at Harvey, La. 504-366-1735)

STOCKPILE AT "INTRACOASTAL CITY, LA."

1 - Fast Response System, Model I (USCG Approved)
1 - Fast Response System, Model II - "Stacking Frame Style" (USCG Approved)
2 - 150# Dry Chemical Fire Extinguishers
2 - 50 Barrel Oil Storage Barges (CGA-5, CGA-6) (USCG Approved)
1 - Sorbent Recovery System (Wringer, 60 CFM Air Compressor, Drum Transport Basket)
7 - Bales, 3M Sorbent (100 Pads per Bale)
1 - Helicopter Underslung Sprayer, 150 Gallons
1 - Drum Collectant (Shell Oil Herder)
1 - Hand Skimmer System (Hoses, Basket)
1 - Floating Suction Skimmer, Swiss Oela (Hose, Basket)
1 - 200 GPM, 3" Centrifugal Trash Pump, Diesel Wheel-mounted
1 - 100 GPM, 2" Air Diaphragm Pump
2 - Bird Scare-A-Way Gun Sets of 12 each with Bottle Rack Skid
20 - 50 Ft. Sections, 36" Bennett Tanker Boom (with 5 Baskets)
1 - 36" Boom Anchoring System (Box)
1 - Storage Box (Paint Locker)
Hoses, Assorted
Warehouse

STOCKPILE AT CAMERON, LA.

1 - Fast Response System, Model II - "Stacking Frame Style" (USCG Approved)
1 - Fast Response System, Model III - "Tailboard Style" (USCG Approved)
2 - 150# Dry Chemical Fire Extinguishers (USCG Approved)
1 - Storage Box (Paint Locker)

COMMONLY USED MUD ADDITIVES

Drilling Mud Components That May Be Utilized Offshore

	Product Trade Name	Common Name	Chemical Trade Name
I.	Weight Materials and Viscosifiers		
	MIL-BAR®	barite	barium sulfate
	MILGEL®	bentonite	bentonite
	SALT WATER GEL®	attapulgite	attapulgite clay
II.	Dispersants (Thinners)		
	UNI-CAL®	lignosulfonate	sodium lignosulfonate
III.	Filtration Control Additives		
	LIGCON®	causticized lignite	NaOH treated lignite
	CHEMTROL®-X	polymer-treated lignite	polymer-treated lignite
IV.	Chemicals		
	Caustic Soda	caustic	sodium carbonate
	Soda Ash	soda ash	sodium bicarbonate
	Bicarb of Soda	bicarb	sodium bicarbonate
	MIL-LIME	lime	calcium hydroxide
V.	Specialty Additives		
	LD-8®	defoamer	non-hydrocarbon defoamer
	Aluminum Stearate	defoamer	aluminum stearate
	NOXYGEN™	oxygen scavenger	catalyzed, sodium sulfite pwd
	NOXYGEN™L	oxygen scavenger	catalyzed ammonium bisulfite solution
	LUBRI-SAL™ LUBRI-SAL	lubricant	biodegradable, non-polluting vegetable oil

Product Trade Name	Common Name	Chemical Trade Name
SUPER SHALE-TROL® 202	Shale-Trol	Aluminum organic acid complex
MILCHEM® MD	drilling detergent	drilling fluid detergent

VI. Loss of Circulation Additives

MIL-PLUG®	LCM	ground nut shells
MILMICA®	LCM	flake mica
KWIK-SEAL	LCM	combination of granules, flakes, and fibers

HULL 120
PENROD 63

OFFSHORE MOBILE DRILLING PLATFORM
DATE DELIVERED 11-22-1977
CLASS 825D-C OFFICIAL #589096

INTRODUCTION

The Marathon LeTourneau Cantilevered Substructure Jack-Up is a triangular shaped hull with three legs and cylindrical pointed spud cans. The hull is raised and lowered by electrically driven rack and pinion gears. The platform is classed by the American Bureau of Shipping as a Self-Elevating Drilling Unit. Class 825D-C. Official #589096.

PRINCIPLE VESSEL DIMENSIONS:

Hull Length	207 feet
Hull Breadth	176 feet
Depth of Hull	20 feet
Gear Rack Height	26 feet
Overall Length of Spud Legs	360 feet
Aft Spud Centers	120 feet
Centerline of Aft Spuds to Centerline of Bow Spud	122 feet
Design Water Depth (Non-Hurricane with 25' penetration)	250 feet
Rated Drilling Depth	25,000 feet

See Attached Grid for Capacities

LIQUID & DRY STORAGE CAPACITIES:

Drill Water	4,300 bbls.
Fresh Water	983 bbls.
Fuel Oil	2,287 bbls.
Bulk Mud/Cement	(4) 1,925 cu. ft. tanks
Liquid Mud	1,20 bbls.

CRANES:

Three Marathon LeTourneau Series PCM-120AS, 45 tons at 25 feet, boom length 100 feet.

QUARTERS:

Air conditioned accommodations for 72 men; two galleys and mess halls; five bed hospital.

ANCHORING SYSTEM:

Windlasses - (4) Marathon LeTourneau Series W-1500TS units with 2500' of 1 1/2" diameter wirerope.
Anchors - (4) 10,000 lb. LWT type.

HELIPORT:

Sikorsky S-61 capacity or equal.

EQUIPMENT AND DRILLING INVENTORY

DRAWWORKS:

National 1320-UE Drawworks with 20,500 feet capacity of 9/16 inch sandline, emergency rotary drive and a Baylor Model 6032 Eddy Current Brake. Drawworks driven by two D-79 electric motors rated at 2000 hoisting HP.

POWER

Three EMD MD12E8 diesel engines. Each engine is rated at 1650 continuous HP and drives a 1050 KW 600 volt AC generator.

Five Baylor basic "Thyrig II" units are used to supply DC power for drilling equipment.

MUD PUMPS:

Two National Model 12P-160 Triplex mud pumps. Each independently driven by two EMD D-79 electric motors rated at 1500 HP and supercharged by 50 HP electric driven 5" x 6" centrifugal pumps.

DERRICK, SUBSTRUCTURE AND ACCESSORIES:

Derricks Service 147' high x 30' wide derrick with a static hook load capacity of 1,044,000 lbs. with 12" lines strung. One hundred (100) MPH wind load capacity with 180 strands of 4 1/2" OD drill pipe.

National type 760-F, 538 ton capacity Crown Block with seven 60" diameter sheaves grooved for 1 3/8" wire line.

Adjustable casing stabbing platform.

Two 20 ton hoists installed below the substructure for handling the B.O.P. equipment.

TRAVELING BLOCK:

National type 660-H-500, 500 ton traveling block with 6 - 60" diameter sheaves grooved for 1 3/8" wire line.

HOOK:

National type H-500, 500 ton capacity.

SWIVEL:

National type P-650, 650 ton capacity.

ROTARY EQUIPMENT:

National type C-375 rotary with 37 1/2" table opening independently driven by an EMD D-79 electric motor through a National two speed transmission. Baash-Ross drive bushing.

Baash-Ross kelly bushing with wiper assembly.

MUD MIXING:

Two 6" x 5" centrifugal mud mixing pumps. Each pump driven by a 100 HP AC electric motor.

MUD SYSTEM:

Three 400 bbl. capacity liquid mud tanks and one 50 bbl. capacity slug tank. All active mud tanks equipped with Brandt Model MA-20 mud agitators. One S3-12 Pioneer Volumemaster Desander Unit with three 12" cones. One T16 4 Pioneer Siltmaster Desilter unit with sixteen 4" cones. Desander and Desilter pumps are 6" x 5" x 14" Mission Magnum centrifugal with 75 HP electric motors. One Brandt high speed Dual Shaker.

DRILL PIPE AND DRILL COLLARS:

9,765 ft. of 4 1/2" OD 16.60#/ft. Grade E, Range 2 Drill Pipe with 6 1/4" OD x 4 1/2" XH T.J.

5,983 ft. of 4 1/2" OD 20.00#/ft. Grade G, Range 2 Drill Pipe with 6 1/2" OD x 4 1/2" XH T.J.

24 - 7" OD drill collars 30' long.

18 - 8" OD drill collars 30' long.

1 - Kelly 5 1/4" HEX by 2 13/16" bore by 40' long with 4 1/2" I.F. pin.

1 - (pair) Baash-Ross ST 60 rotary tongs 3 1/2" to 9 3/4" range.

2 - Byron-Jackson type GG drill pipe elevators for 4 1/2" OD drill pipe.

1 - Baash-Ross 6 3/4" - 8 1/4" drill collar slip.

1 - Baash-Ross 4 1/2" - 9 5/8" safety clamp.

2 - Baash-Ross SDU rotary slips for 4 1/2" drill pipe.

BLOWOUT PREVENTERS:

One Hydril 21 1/4" MSP 2000 psi W.P.; One Hydril 13 5/8" GL 5000 psi W.P.; One Cameron 13 5/8" - 10,000 psi W.P. type "U" single; One Cameron 13 5/8" 10,000 psi W.P. type "U" double, One 5000 psi W.P. choke manifold with adjustable chokes.

Blowout preventer control unit is a Koomey Model ET25160-3BTM, 3000 psi W.P. accumulator system.

COMMUNICATIONS EQUIPMENT:

55 channel 25 watt VHF/FM Transceiver
1 - 350 watt FM Transceiver
1 - 100 watt FM Transceiver

SPECIAL EQUIPMENT:

1. Baash-Ross Power Slips with 5 1/2" slip bodies and 4 1/2" slip inserts.

2. Automatic Driller.

3. Mud-Gas Separator.

4. Drilling Recorder.

5. Dual mud lines complete with dual standpipes and 3" x 60' - 10,000 psi rotary hoses.

6. Halliburton HT-400 cement unit driven by two EMD D-79 DC electric motors.

7. Varco Model 7500 Power Sub.

8. WATCO "Barrel-O-Graf" and "Flo-Slo".

9. Two Maxim TCF - 7.5 water distillation units - 15,000 gallons per day total.

10. Two 400 amp. welding machines and oxygen-acetylene equipment.

11. Mathey Electric reel wire line unit with 25,000 reel capacity.

12. OMSCO 6 5/8" 15,000 psi test upper kelly valve.

13. TIW 10,000 psi test lower kelly valve.

14. Gray inside B.O.P.

15. Drilco E-Z torque hydraulic cathead.

16. Fork lift truck for sack mud storage room.

17. Totco straight hole instrument 0 degrees - 8".

18. Overshots and Taper taps for contractor furnished drill string.

19. One 15,000 psi test drill pipe safety valve.

20. Totco type "E" WLA-75 weight indicator, DCT 20-25 tong torque gauge, MG 50 pump pressure gauge, 379-35 Rotary RPM indicator, and 379-31 pump stroke indicators.

21. Baroid 832 Mud test kit.

22. Air tuggers for use on rig floor and cellar deck area.

23. One central air system with two 565 CFM air compressors, one cold start compressor and one water cooled after cooler.

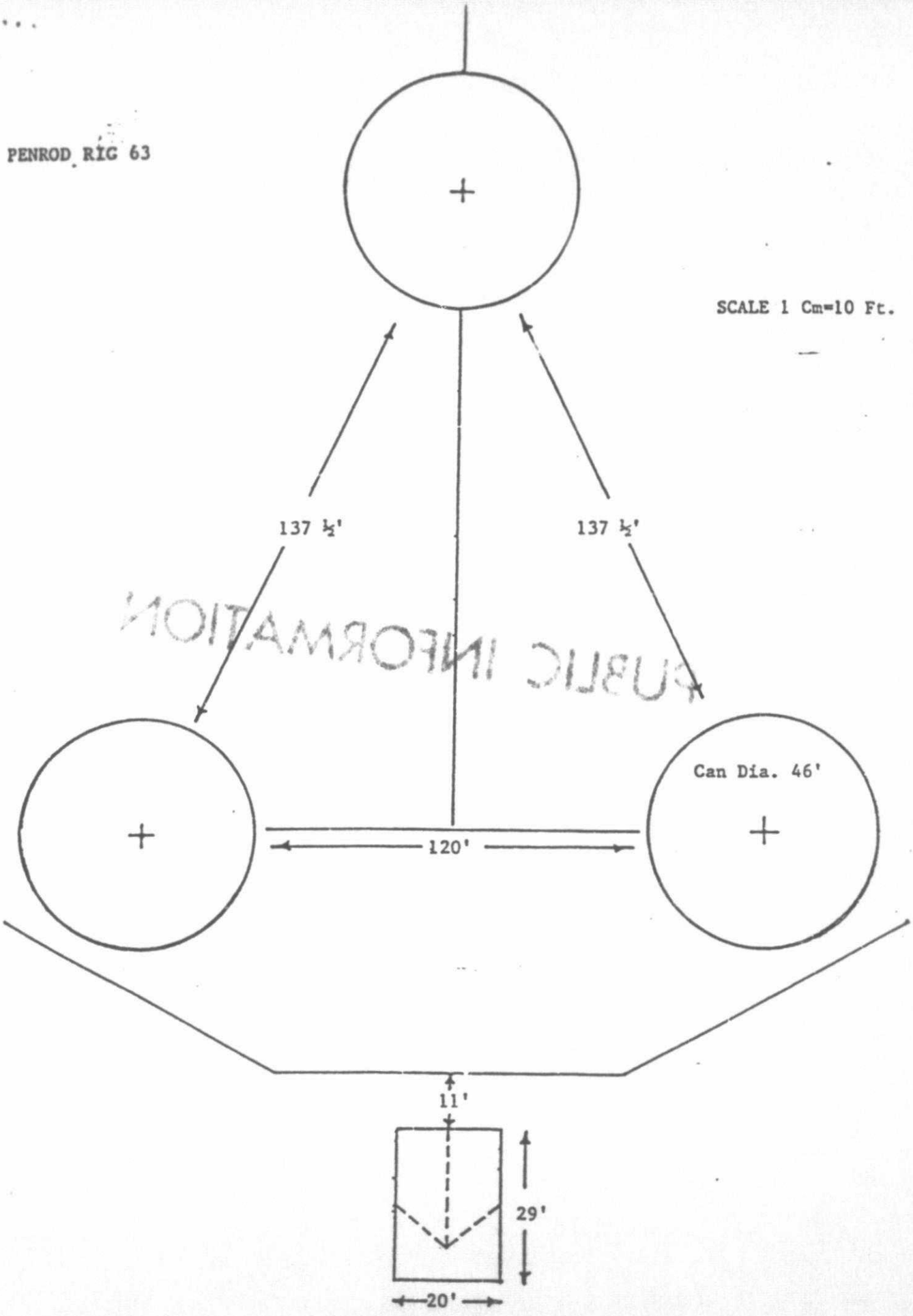
24. Diesel engine driven 250 KW emergency AC generator.

25. Baylor Filteron sewage treatment plant.

26. Degasser.

PENROD RIG 63

SCALE 1 Cm=10 Ft.



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