UNITED STATES GOVERNMENT
MEMORANDUM

09/24/97

To: Public Information, (MS 5034)

From: Exploration/Development Plans Unit, (MS 5231)

Reference is made to the following plan received September 10, 1997:

Type Plan - Initial Plan of Exploration
Lease - OCS-G 17961
Block - 59
Area - Eugene Island
Activities Proposed - Wells A and B
Control Number - N-5918

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

for Unit Supervisor

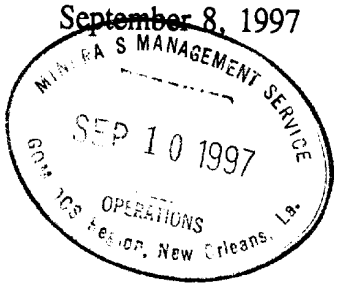
NOTED - SCHEXNAILDRE

MURPHY
EXPLORATION & PRODUCTION COMPANY

131 SOUTH ROBERTSON STREET
P.O. BOX 61780
NEW ORLEANS, LA 70161-1780
(504) 561-2811

U. S. Department of the Interior
Minerals Management Service
Office of Field Operations
MS 5231
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123-2394

September 8, 1997



Attention: Mr. Donald C. Howard
Regional Supervisor - Field Operations

Regarding: **Initial Plan of Exploration**
Eugene Island Block 59, OCS-G-17961 #A & #B
Anticipated Commencement Date: November 1, 1997

Gentlemen:

Enclosed herewith are nine (9) sets of the above referenced Initial Plan of Exploration We respectfully request that a speedy review be made to determine whether this document is complete. Should additional information be required, please advise us immediately.

Every effort you extend in order to affect an early approval of this Plan will be greatly appreciated.

Very truly yours,

Debra K. Benoit
Technical Assistant
Environment & Government Affairs

REFER TO CONTROL NO. N-5918

/plans/17961#A & #B

PUBLIC INFORMATION

MURPHY EXPLORATION & PRODUCTION COMPANY

INITIAL PLAN OF EXPLORATION

OCS-G-17961, WELL NO. A & B

EUGENE ISLAND BLOCK 59

OFFSHORE, LOUISIANA

SUBMITTED BY: Debra K. Benoit

Debra K. Benoit
Technical Assistant
Environment & Government Affairs

DATE: September 8, 1997

INDEX

MURPHY EXPLORATION & PRODUCTION COMPANY
INITIAL PLAN OF EXPLORATION
OCS-G-17961, WELL NO. A & B
EUGENE ISLAND BLOCK 59
OFFSHORE, LOUISIANA

Murphy Exploration & Production Company, as designated Operator of the subject lease, hereby submits this proposed Initial Plan of Exploration in accordance with the regulations contained in Title 30 CFR 250.34 and more specifically defined in the Minerals Management Service Letters to Lessees and Operators Dated October 12, 1988 and September 5, 1989.

HISTORY OF LEASE

This lease was acquired at Lease Sale 166 dated March 5, 1997. A geophysical survey was sumbitted on June 30, 1997. There are no lease stipulations.

In accordance with Letter to Lessees and Operators dated November 5, 1993 which amends Title 30 CFR 256 Surety bond requirements applicable to OCS leases and operators, Murphy Exploration & Production Company's activities are covered by its Areawide Oil and Gas Lease Bond in the amount of $3,000,000.

SCHEDULE OF OPERATIONS

Under this Initial Plan of Exploration, Murphy Exploration & Production Company proposes to drill as follows:

ACTIVITY	DATE
Drill #A	November 1, 1997 - December 10, 1997
Drill #B	March 1 - April 19, 1998

PROPOSED LOCATION #A

Surface Location	3350' FSL & 5200' FWL of Eugene Island Block 59
Water Depth	17'

PROPOSED LOCATION #B

Surface Location	2080' FSL & 7410' FEL of Eugene Island Block 59
Water Depth	17'

PUBLIC INFORMATION

PRODUCTION FACILITIES

Should proposed wells have no commercial production, they will be plugged and abandoned with casings removed to a minimum of 15' BML. If they prove successful, they will be Temporarily Abondoned in accordance with 30 CFR 250.113.

There will be no additional onshore or offshore facilities or personnel as a result of these exploration activities.

DESCRIPTION OF DRILLING RIG

Offshore development activities are carried out from mobile drilling rigs. The five most common types of rigs used are jack-up, semi-submersible, submersible, drillship and drill barges. The subject well will be drilled and completed with a jack-up rig. When a rig is selected, the rig specifications will be made part of the Application for Permit to Drill. Typical diverter and BOP schematics are included in attachments.

SAFETY STANDARDS AND PROGRAMS - DRILLING AND PRODUCTION OPERATIONS

The rig to be used will comply with all of the regulations of the American Bureau of Shipping, International Maritime Organization and the United States Coast Guard. All drilling operations will be conducted under the provisions of 30 CFR, part 250, Subpart D and other applicable regulations and notices, including those regarding the avoidance of potential drilling hazards and safety and pollution prevention control. Safety features will include well control and blowout prevention equipment as described in Title 30 CFR 250.50. The appropriate life rafts, life jackets, ring buoys, etc. as prescribed by the U.S. Coast Guard will be maintained on the facility at all times. All production facilities are constructed and installed to meet M.M.S. and Coast Guard standards for safety and protection of the environment. Murphy Exploration & Production Company's Safety and Training Department monitors and trains personnel in the conduct of safe operations and compliance with all safety and pollution prevention standards.

OIL SPILL CONTINGENCY PLAN

Refer to Murphy's Plan filed with MMS, updated and approved May 13, 1992. All completion and construction operations shall be performed in accordance with industry standards to prevent pollution of the environment. Murphy Exploration & Production Company's Oil Spill Contingency Plan has been approved by MMS. This plan designates an Oil Spill Response Team consisting of Murphy Exploration & Production Company personnel and contract person- nel. The Team's duties are to eliminate the source of the spill, remove all sources of possible ignition, deploy the most reliable means of transportation to monitor the movement of a slick and contain and remove the slick if possible.

Murphy Exploration & Production Company's Oil Spill Response Team attends drills for familiarization with pollution-control equipment and operation procedures on an annual basis.

Murphy Exploration & Production Company fulfills its oil spill contingency plan by being a member of Clean Gulf Associates, New Orleans, LA and M.S.R.C., Lake Charles, LA, agencies which handle clean up operations in the event of an oil spill. Fast Response Service can be obtained by calling M.S.R.C. in Lake Charles, LA, Tel. (888) 242-2007. Mr. Caro Louivier is in charge of administration of the equipment for Clean Gulf Associates. The CGA stores pollution equipment at two locations in Texas, at Ingleside and Galveston; three locations in Louisiana, at Fort Jackson, Grand Isle and Lake Charles and one location in Mississippi, at Pascagoula.

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 GCA also supplies advisors for cleanup operations. Equipment available from CGS and the base at which it is located is listed in the CGA Manual, Volume I, Section III.

Murphy Exploration & Production Company will make every effort to see that a spill is responded to as quickly as possible. Response equipment and response times will be suitable for anticipated environmental conditions in the area.

In good weather conditions, fast response with an oil boom, skimmers, pump and storage tanks would require approximately 10 hours for the response team to reach the site including preparation time as indicated below. A heavy equipment system response team would require approximately 12 to 24 hours to reach the site, including 6 hours preparation time.

Response Time - Equipment located in Grand Isle, LA would be utilized first with additional equipment transported from the nearest base, as required.

Vessels are to be provided by Murphy. Workboats under contract will be used. In the event of a spill, the fast response unit that is in Grand Isle, LA will be assembled at Fouchon, LA where it will be loaded onto a workboat. Vessel procurement and assembly of unit will take approximately 2 hours. It will take approximately 3 hours to round up a crew from various areas. All operations will be conducted simultaneously. Vessel travel time from Cocodrie, LA to Eugene Island 335 is approximately ten and one half hours*.

Initial Response - Fast Response Model from Grand Isle, LA to Eugene Island 335:

Procurement	2.0 hrs.
Waiting on crew	1.0 hrs.
Loading time	1.5 hrs.
Travel to Eugene Island 335 Area*	10.5 hrs.
Deployment time	1.0 hrs.
Total Response Time	**16.0 hrs.**

* (Open water 100 miles @ 10 mph, inland travel 3 miles @ 6 mph)

OIL SPILL TRAJECTORY SIMULATION

In the event a spill occurs from Eugene Island Block 59, a projected trajectory of a spill impacting the coastline has been prepared utilizing information in the Environmental Impact Statement (EIS) and its related Oil Spill Risk Analysis Report for OCS Lease Sales 157 and 161.

The EIS contains oil spill trajectory simulations using seasonal surface current coupled with wind data, adjusted every three 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 three, ten or thirty days.

Utilizing the summary of the trajectory analysis (for 10 days) as presented in the EIS, the probable projected land fall of an oil spill and the CGA Map Number corresponding to the land segment which will be utilized to determine environmentally sensitive areas that may be affected by a spill as follows:

Launch Site	Landfall Segment	%	CGA Map
Eugene Island 59	#12, Cameron Parish, LA	9%	Map #5
(C 36)	#13, Vermilion Parish, LA	14%	Map #5
	#14, Iberia Parish, LA	12%	Map #6
	#15, St. Mary Parish, LA	5%	Map #6
	#16, Terrebonne Parish, LA	19%	Map #6

If a spill should occur from these proposed operations, Murphy Exploration & Production Company would immediately activate its Oil Spill Response Team, determine from current conditions the probable location and time of landfall by contacting Continental Shelf Associates and/or the National Oceanic Atmospheric Administration's (NOAA) Gulf of Mexico Scientific Support Coordinator (SSC) for assistance in predicting spill movement. Then, using the CGA Operations Manual, Volume II, they would identify any biologically sensitive areas and determine the appropriate response mode.

Volume II, Sections V & VI of the CGA Operations Manual contain maps as listed above, equipment containment/cleanup protection respond modes for the sensitive areas and depicts the protection response modes that are applicable foil oil spill clean-up operations. Each response mode is schematically represented to show optimum deployment and operation of the equipment in areas of environmental concern. 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 deployment and operation of equipment to more effectively respond to site-specific circumstances.

DRILL MUD AND CHEMICAL COMPONENTS

MUD	COMPONENT	MUD	COMPONENT
Calcium Chloride	Calcium Chloride	Caustic Potash	Potassium Hydroxide
Caustic Soda	Sodium Hydroxide	Congor 303 A	Morpholine Process Res.
D-D	Surfactant Blend	Defoam-X	Defoamer
Desco	Sulfomethylated Tannin	Drispac	Polyanionic Cellulose
Fer-ox	Hematite, Iron Oxide	Gel Supreme	Bentonite (Natural Clay)
HEC	Hyroxylethyl Cellulose	K-17	Potassium Salt
K-52	Potassium Acetate	Kleen up	Surfactant Blend
Kwik Seal	Nut Hulls, Wood Fiber	Lime	Calcium Hydroxide
Lo-Wate	Calcium Carbonate	Lube 167	Lubricant
M-I Bar	Barium Sulfate	M-I CMC	Sodium Carboxymethyl
M-I Gel	Bentonite	M-I Mica	Mica
M-I-X II	Pulverized Cellulose	My-Lo-Jel	Pre-gelatized Starch
Nut Plug	Ground Nut Shells	Pipe-Lax ENV	Pipe Lax ENV
Poly Plus RD	Acrylic Copolymer	Polypac	Cellulose
Potassium Chloride	Potassium Chloride	Resinex	Lignite Resin Blend
Salt	Sodium Chloride	Salt Gel	Attapulgite Clay
SAPP	Sodium Pyrophosphate	Shale Chek	Anionic Polymer
Soda Ash	Sodium Carbonate	Sodium Bicarbonate	Sodium Bicarbonate
Soltex	Sodium Asphalt Sulfonate	Spersene	Chrome Lignosulfonate
Spercene CF	Chrome-Free Lignosulf.	Sulf-X	Zinc Oxide
Tannathin	Lignite (Leonaidite)	Thermex	Phenol-Formaldehyde
Thermpac U/L	Sodium Carboxymethyl	XCD Polymer	Polysaccharide
XP-20	Chrome Lignite		

The rig will contain approximately 1000 sacks of barite and 200 sacks of gel.

TRANSPORTATION ROUTES (WATER AND AIR)

The most direct routes from Eugene Island 59 to shore base for supplies and personnel will be used.

BASE OF OPERATIONS

Marine service to drill this well will be provided from Morgan City, LA. A crew boat will make approximately 40 round trips for #A and 50 round trips for #B of 3 hours duration and a supply boat will make approximately 20 round trips for #A and 25 round trips for #B of 7 hours duration.

Air service (helicopter) will be provided from Morgan City, LA. The helicopter will make approximately 6 round trips for #A and 10 round trips for #B of 1 hour duration.

DISCHARGE OF POLLUTANTS

This well will be drilled using a water based nondispersed unweighted mud system to 15000' then a dispersed weighted mud system to TD. Drill cuttings with a small amount of drilling fluid adhering to the shale and sand particles will be discharged at the well site during drilling operations. The maximum discharge rate of drill cuttings will be while drilling from the cemented conductor casing to the surface casing setting depth and should not exceed 500 bbls/day in any one day. This discharge rate of cuttings is based on drilling this section of the hole at a rate of 1400 feet per 24 hour period and allowing for two (2) inches of hole enlargement due to erosion. The discharge rate of cuttings for the remainder of the well should average less than 70 bbls./day based on an average drilling rate of 350-400 feet per day from surface casing to total depth and a two (2") hole enlargement due to erosion. The total discharge of cuttings for each of these wells is estimated to be 4070 bbls. for #A and 4200 bbls. for #B allowing for a 2" hole enlargement from the mud line to total depth.

Total discharge of drilling fluids is estimated to be 5600 bbls. for #A and 7000 bbls. for #B. Data from wells drilled in this area indicate that an average of 140 bbls/day of drilling fluid is discharged from the time a rig moves on location until drilling ceases. Upon setting casing and before moving the drilling rig, an additional 1000 bbls of mud can be expected to be discharged, thus it is anticipated to discharge approximately 6600 bbls. for #A and 2000 total bblsfor #B.

No oil will be added to the drilling mud or discharged at any time. In the event it becomes necessary to add oil to the drilling mud or "spot" an oil base lubricate around a stuck drill string, all mud and cuttings will be transported to shore for proper disposal. All mud discharged will be tested for toxicity as required by EPA's NPDES discharge permit.

Sanitary waste is treated by a waste treatment facility and discharged overboard in compliance with EPA's NPDES discharge permit. Treated waste discharged normally averages 25 gallons per day per man on the rig. A rig will discharge 750 to 1,000 gallons per day depending on the number of personnel on the rig.

All metal, steel, cables, etc. are stored on the rig until sufficient quantity accumulates. This material is then transported to our shore base for recycling. Paper, bags, plastics, etc. are compacted in a container by an onboard compactor then transported to shore for disposal.

All vessels used in our operations are equipped with Marine Sanitation Devices or holding tanks in compliance with DOT regulations. Drilling rigs are constructed with drip pans and or/drains under the floor and other machinery to maintain oil spills during operations. All used oil from machinery will be collected and stored and later transferred to shore base.

HYDROGEN SULPHIDE PLAN

These wells will be drilled in an area where the absence of hydrogen sulphide has been substantiated. In the unlikely event that hydrogen sulphide would be encountered, all operations would cease until the rig could be equipped and personnel trained for operations in a hydrogen sulphide environment. See letter regarding absence of hydrogen sulphide on attached geological program.

GASEOUS EMISSION DATA

Emissions:

See Attachment "C."

Exemptions: Distance from shore = 4.4 statute miles.

1. Hydrocarbons, NO_x, SO_2, Particles: 33.3 X 4.4= 146.52 tons/year
2. CO 3400 x $(4.4)^{2/3}$ or 9174.71 tons/year.

NEW OR UNUSUAL TECHNOLOGY

No new or unusual technology will be employed during drilling activities.

ATTACHMENTS

A. Vicinity map with transportation route plotted.

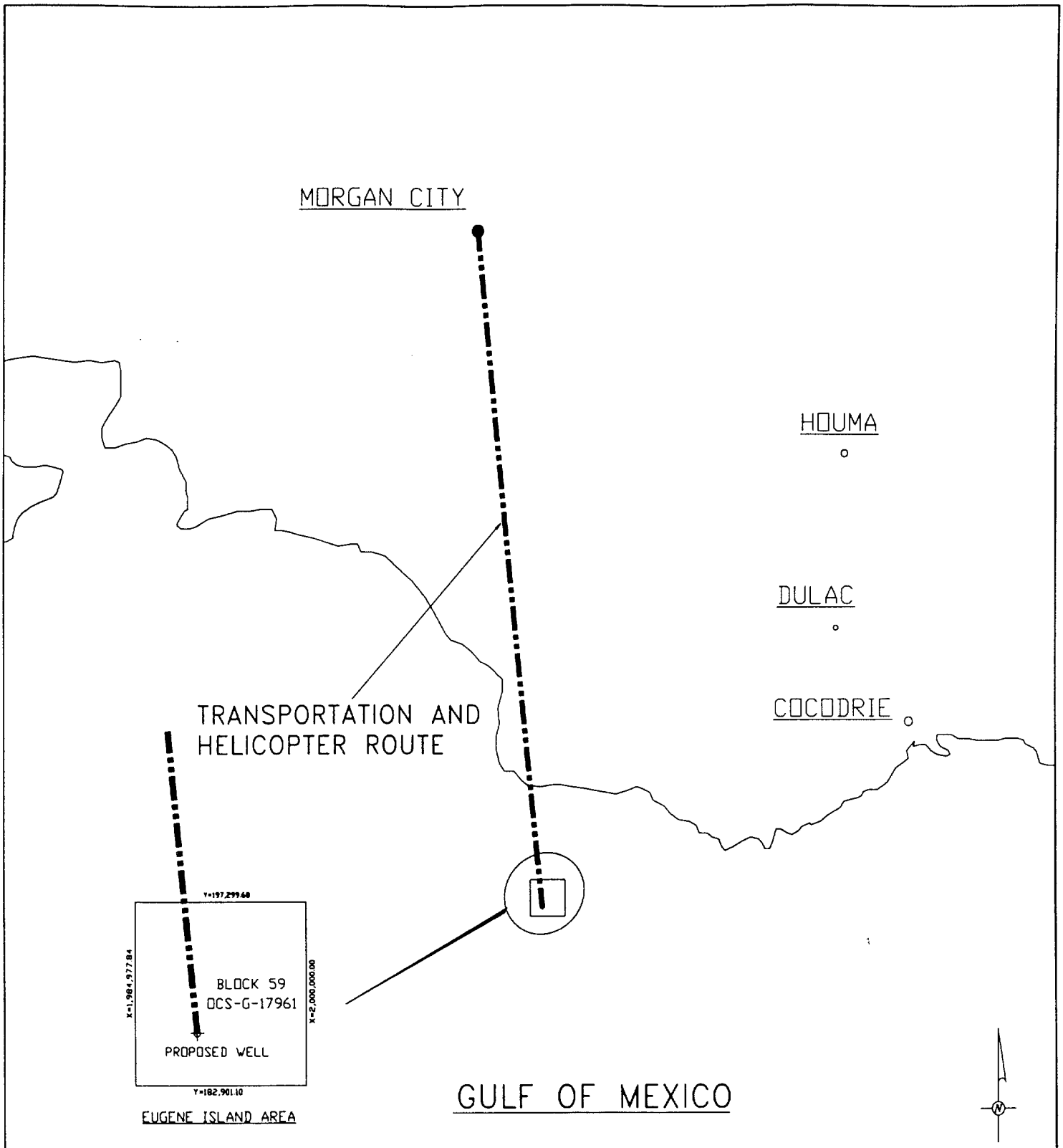
B. Public notification.

C. Air emission calculations.

D. Schematics of drill barge and of diverter.

E. Environmental report with coastal zone certification.

F. Geological program with cross section map, structure map, bathymetry map, shallow hazard letter, seismic plat and letter of request to determine status of H_2S



MURPHY EXPLORATION & PRODUCTION COMPANY
NEW ORLEANS, LOUISIANA

TRANSPORTATION ROUTE
FROM PROPOSED WELL IN
BLOCK 59 EUGENE ISLAND AREA
TO MORGAN CITY, LOUISIANA

DRAWN	DATE	SCALE	DWG.NO.
FJR	9-5-97	N/A	0956

13\DEB\EI-59

Public Notice of Federal Consistency review of a Proposed Initial Exploration Plan by the Coastal Management Section/Louisiana Department of Natural Resources of the Plan's consistency with the Louisiana Coastal Resources Program.

APPLICANT: Murphy Exploration & Production Company
Post Office Box 61780
New Orleans, Louisiana 70161

LOCATION: Eugene Island Block 59
OCS-G-17961

DESCRIPTION: Proposed exploration plan for the above area provides for the exploration of oil and gas. Exploration activities shall include drilling from a jackup drilling rig and transport of drilling crews and equipment by helicopter and/or cargo vessel from the onshore base of Morgan City, Louisiana. No ecologically sensitive species or habitats are expected to be located near or affected by these activities.

A copy of the Plan described above is available for inspection at the Coastal Management Section Office located on the 10th floor of the State Lands and Natural Resources Building, 625 North 4th Street, Baton Rouge, Louisiana (Office hours: 8:00 AM to 5:00 PM, Monday through Friday). The public is requested to submit comments to the Coastal Management Section, Attention: OCS Plans, Post Office Box 44396, Baton Rouge, Louisiana 70804. Comments must be received within 15 days after Coastal Management Section obtains a copy of the Plan and it is available for public inspection. The Public Notice is provided to meet the requirements of the NOAA regulations on Federal Consistency with approved Coastal Management Programs.

AIR EMISSION CALCULATIONS

COMPANY	MURPHY EXPRO
AREA	EUGENE ISLAND
BLOCK	59
LEASE	OCS-G-17961
PLATFORM	--
WELL	A & B
LATITUDE	
LONGITUDE	
COMPANY CONTACT	DEBRA K. BENOIT
TELEPHONE NO.	(504) 561-2409
REMARKS	INITIAL P.O.E.

AIR EMISSION CALCULATIONS

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL	LATITUDE	LONGITUDE	CONTACT	PHONE	REMARKS
RPHY EXPRO	EUGENE ISLAND	59	OCS-G-17961	- -	A & B	0	0	DEBRA K. BENOIT	(504) 561-2409	INITIAL P.O.E.

OPERATIONS	EQUIPMENT		MAX. FUEL	ACT. FUEL	RUN TIME		POUNDS PER HOUR					TONS PER YEAR				
	Diesel Engines	HP	GAL/HR	GAL/D												
	Nat. Gas Engines	HP	SCF/HR	SCF/D												
	Turbines	MMBTU/HR	SCF/HR	SCF/D	HR/D	DAYS	TSP	SOx	NOx	VOC	CO	TSP	SOx	NOx	VOC	CO
ILLING	PRIME MOVER > 600hp diesel	1650	79.70	1912.66	24.0	40	0.87	5.42	39.98	1.20	8.72	0.42	2.60	19.19	0.58	4.19
	PRIME MOVER > 600hp diesel	1650	79.70	1912.66	24.0	40	0.87	5.42	39.98	1.20	8.72	0.42	2.60	19.19	0.58	4.19
	PRIME MOVER > 600hp diesel - STANDBY ONLY	1650	79.70	1912.66	0.1	40	0.87	5.42	39.98	1.20	8.72	0.00	0.01	0.08	0.00	0.02
	AUXILIARY EQUIP < 600hp diesel - EMERGENCY GEN.	460	22.22	533.23	0.1	40	1.01	0.94	14.19	1.13	3.07	0.00	0.00	0.03	0.00	0.01
	VESSELS > 600hp diesel - CREW BOAT	1800	86.94	2086.56	3.0	40	0.95	5.91	43.61	1.31	9.52	0.06	0.35	2.62	0.08	0.57
	VESSELS > 600hp diesel - SUPPLY BOAT	2250	108.68	2608.20	7.0	20	1.19	7.38	54.52	1.64	11.89	0.08	0.52	3.82	0.11	0.83
	VESSELS > 600hp diesel - HELICOPTER	1800	86.94	2086.56	1.0	6	0.95	5.91	43.61	1.31	9.52	0.00	0.02	0.13	0.00	0.03
	VESSELS > 600hp diesel - TUGS (3)	12600	608.58	14605.92	24.0	2	6.66	41.35	305.29	9.16	66.61	0.16	0.99	7.33	0.22	1.60
PELINE	PIPELINE LAY BARGE diesel	0	0.00	0.00	0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
STALLATION	SUPPORT VESSEL diesel	0	0.00	0.00	0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	PIPELINE BURY BARGE diesel	0	0.00	0.00	0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	SUPPORT VESSEL diesel	0	0.00	0.00	0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CILITY	DERRICK BARGE diesel	0	0.00	0.00	0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
STALLATION	MATERIAL TUG diesel	0	0.00	0.00	0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RECIP. < 600hp diesel	0	0.00	0.00	0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RECIP. > 600hp diesel	0	0.00	0.00	0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	SUPPORT VESSEL diesel	0	0.00	0.00	0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TURBINE nat gas	0	0.00	0.00	0.0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	RECIP.2 cycle lean nat gas	0	0.00	0.00	0.0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	RECIP.4 cycle lean nat gas	0	0.00	0.00	0.0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	RECIP.4 cycle rich nat gas	0	0.00	0.00	0.0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	[redacted]	0	0.00	0.00	0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	MISC.	BPD	SCF/HR	COUNT												
	TANK -	0			0.0	0				0.00					0.00	
	FLARE -		0		0.0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	PROCESS VENT -		0		0.0	0				0.00					0.00	
	FUGITIVES -			0		0				0.00					0.00	
	GLYCOL STILL VENT -		0		0.0	0				0.00					0.00	
ILLING	OIL BURN	0			0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ELL TEST	GAS FLARE		625000		24.0	2		0.36	44.63	37.69	242.81		0.01	1.07	0.90	5.83
1997	YEAR TOTAL						13.36	78.10	625.77	55.83	369.58	1.14	7.10	53.45	2.48	17.26
EMPTION CALCULATION	DISTANCE FROM LAND IN MILES											146.52	146.52	146.52	146.52	9174.71
	4.4															

BEST AVAILABLE COPY

AIR EMISSION CALCULATIONS

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL	LATITUDE	LONGITUDE	CONTACT	PHONE	REMARKS
URPHY EXPRO	EUGENE ISLAND	59	OCS-G-178	--	A & B	0	0	DEBRA K. BENOIT	(504) 561-24	INITIAL P.O.E.

OPERATIONS	EQUIPMENT		MAX. FUEL	ACT. FUEL	RUN TIME		POUNDS PER HOUR					TONS PER YEAR				
	Diesel Engines	HP	GAL/HR	GAL/D												
	Nat. Gas Engines	HP	SCF/HR	SCF/D												
	Turbines	MMBTU/HR	SCF/HR	SCF/D	HR/D	DAYS	TSP	SOx	NOx	VOC	CO	TSP	SOx	NOx	VOC	CO
RILLING	PRIME MOVER > 600hp diesel	1650	79.70	1912.68	24.0	51	0.87	5.42	39.98	1.20	8.72	0.53	3.31	24.47	0.73	5.34
	PRIME MOVER > 600hp diesel	1650	79.70	1912.68	24.0	51	0.87	5.42	39.98	1.20	8.72	0.53	3.31	24.47	0.73	5.34
	PRIME MOVER > 600hp diesel - STANDBY ONLY	1650	79.70	1912.68	0.1	51	0.87	5.42	39.98	1.20	8.72	0.00	0.01	0.10	0.00	0.02
	AUXILIARY EQUIP < 600hp diesel - EMERGENCY GEN.	460	22.22	533.23	0.1	51	1.01	0.94	14.19	1.13	3.07	0.00	0.00	0.04	0.00	0.01
	VESSELS > 600hp diesel - CREW BOAT	1800	86.94	2086.56	3.0	50	0.95	5.91	43.61	1.31	9.52	0.07	0.44	3.27	0.10	0.71
	VESSELS > 600hp diesel - SUPPLY BOAT	2250	108.68	2608.20	7.0	25	1.19	7.38	54.52	1.64	11.89	0.10	0.65	4.77	0.14	1.04
	VESSELS > 600hp diesel - HELICOPTER	1800	86.94	2086.56	1.0	10	0.95	5.91	43.61	1.31	9.52	0.00	0.03	0.22	0.01	0.05
	VESSELS > 600hp diesel - TUGS (3)	12600	608.58	14605.92	24.0	2	6.66	41.35	305.29	9.16	66.61	0.16	0.99	7.33	0.22	1.60
PELINE	PIPELINE LAY BARGE diesel	0	0.00	0.00	0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
STALLATION	SUPPORT VESSEL diesel	0	0.00	0.00	0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	PIPELINE BURY BARGE diesel	0	0.00	0.00	0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	SUPPORT VESSEL diesel	0	0.00	0.00	0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CILITY	DERRICK BARGE diesel	0	0.00	0.00	0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
STALLATION	MATERIAL TUG diesel	0	0.00	0.00	0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RECIP. < 600hp diesel	0	0.00	0.00	0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	RECIP. > 600hp diesel	0	0.00	0.00	0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	SUPPORT VESSEL diesel	0	0.00	0.00	0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TURBINE nat gas	0	0.00	0.00	0.0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	RECIP 2 cycle lean nat gas	0	0.00	0.00	0.0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	RECIP 4 cycle lean nat gas	0	0.00	0.00	0.0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	RECIP 4 cycle rich nat gas	0	0.00	0.00	0.0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	[redacted]	0	0.00	0.00	0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	MISC.	BPD	SCF/HR	COUNT												
	TANK -	0			0.0	0				0.00					0.00	
	FLARE -		0		0.0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
	PROCESS VENT -		0		0.0	0				0.00					0.00	
	FUGITIVES -			0		0				0.00					0.00	
	GLYCOL STILL VENT -		0		0.0	0				0.00					0.00	
RILLING	OIL BURN	0			0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ELL TEST	GAS FLARE		625000		24.0	2		0.36	44.63	37.89	242.81		0.01	1.07	0.90	5.83
1998	YEAR TOTAL						13.36	78.10	625.77	55.83	369.58	1.41	8.76	65.73	2.85	19.93
XEMPTION CALCULATION	DISTANCE FROM LAND IN MILES											146.52	146.52	146.52	146.52	9174.71
	4.4															

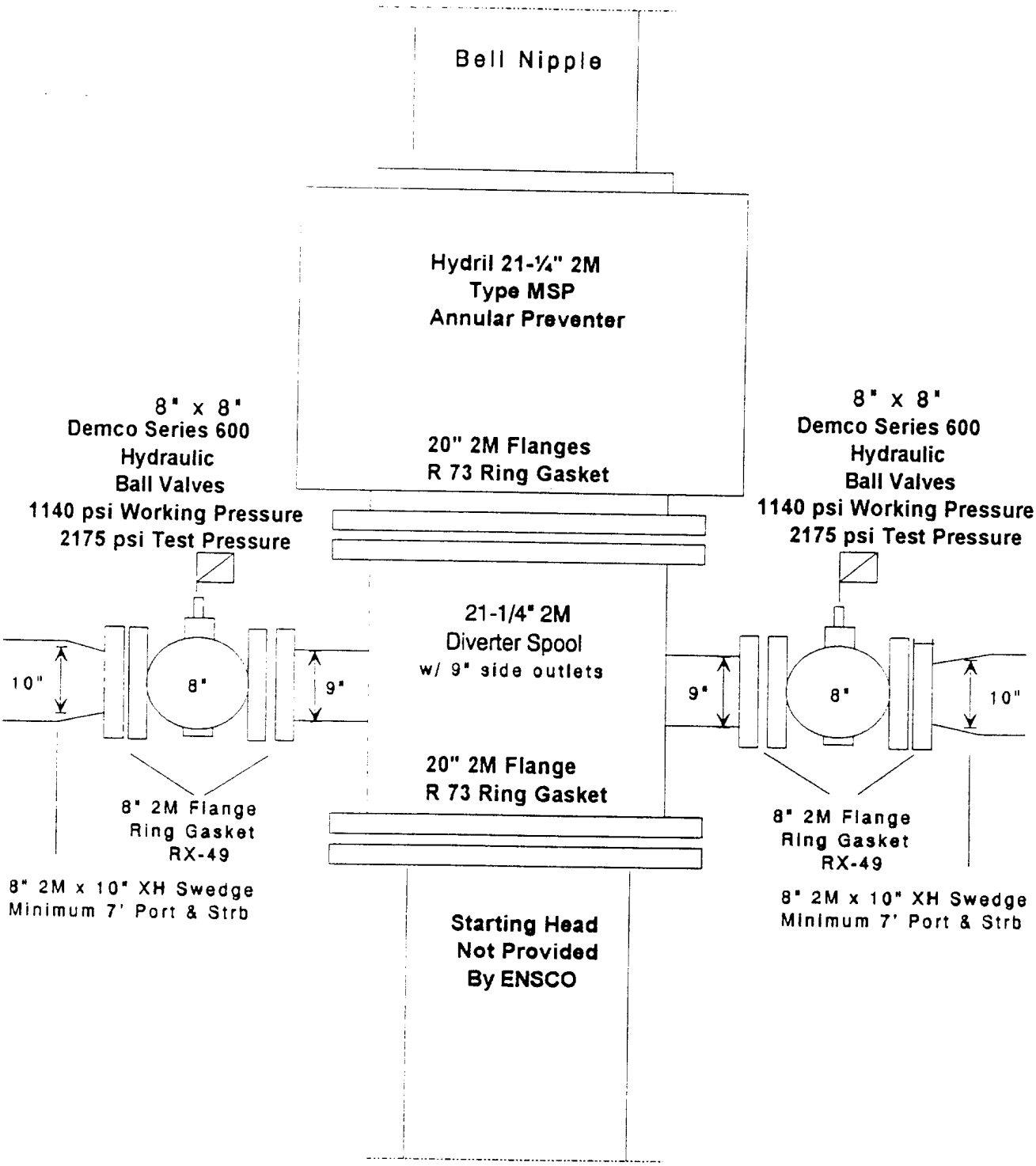
COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL
MURPHY EXPRO	EUGENE ISLAND	59	OCS-G-17961	--	A & B

Year	Emitted Substance				
	TSP	SOx	NOx	HC	CO
1997	1.14	7.10	53.45	2.48	17.26
1998	1.41	8.76	65.73	2.85	19.93
1999	0.00	0.00	0.00	0.00	0.00
2000	0.00	0.00	0.00	0.00	0.00
2001	0.00	0.00	0.00	0.00	0.00
2002	0.00	0.00	0.00	0.00	0.00
2003	0.00	0.00	0.00	0.00	0.00
2004	0.00	0.00	0.00	0.00	0.00
2005	0.00	0.00	0.00	0.00	0.00
2006	0.00	0.00	0.00	0.00	0.00
Allowable	146.52	146.52	146.52	146.52	9174.71

ENSCO 88

Diverter Detail

(Revised - February 1993)

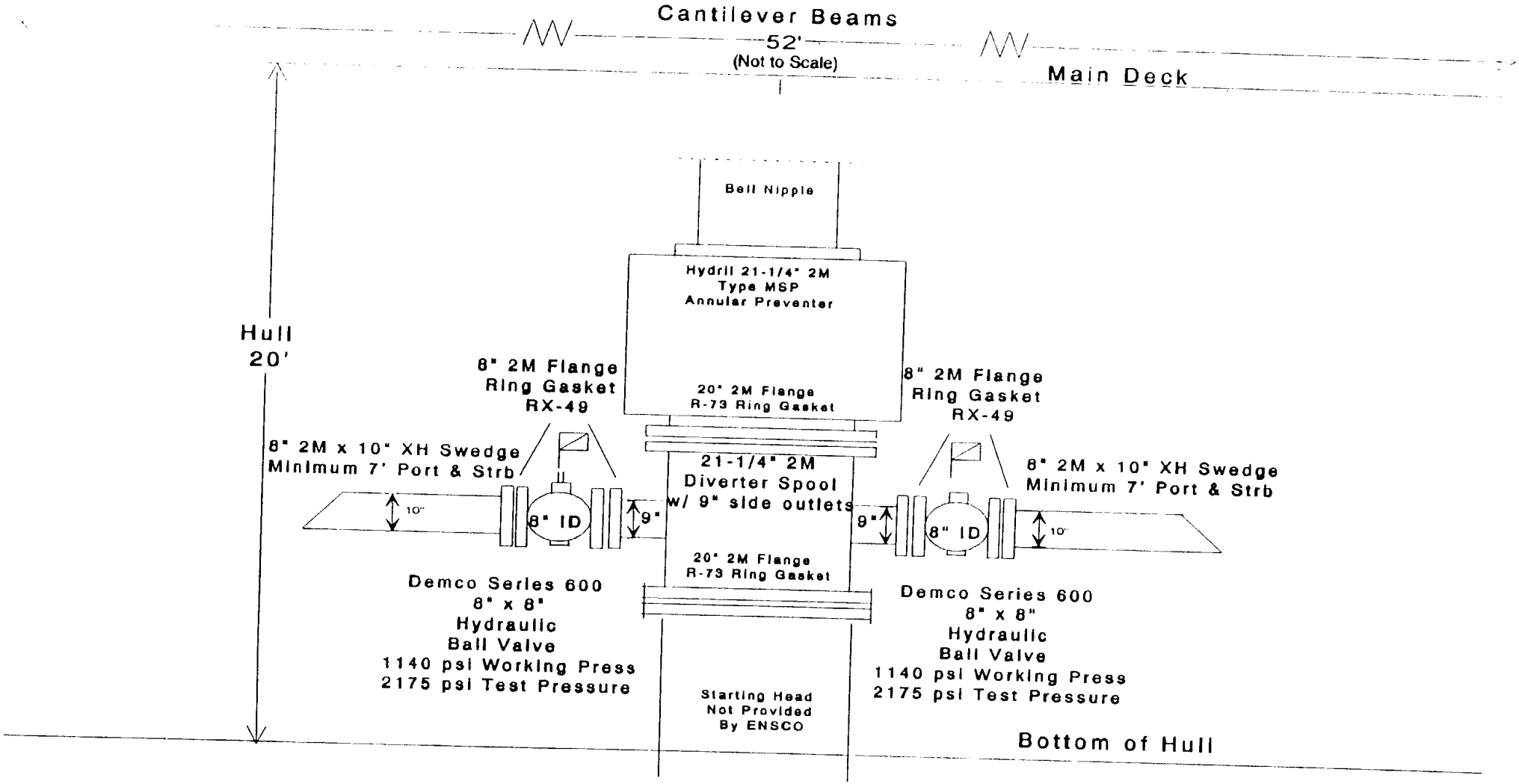


Diverter lines are 10" ID with a 3700 psig Burst Pressure

ENSCO 88

Diverter Detail
Elevation View

(Revised - February 1993)

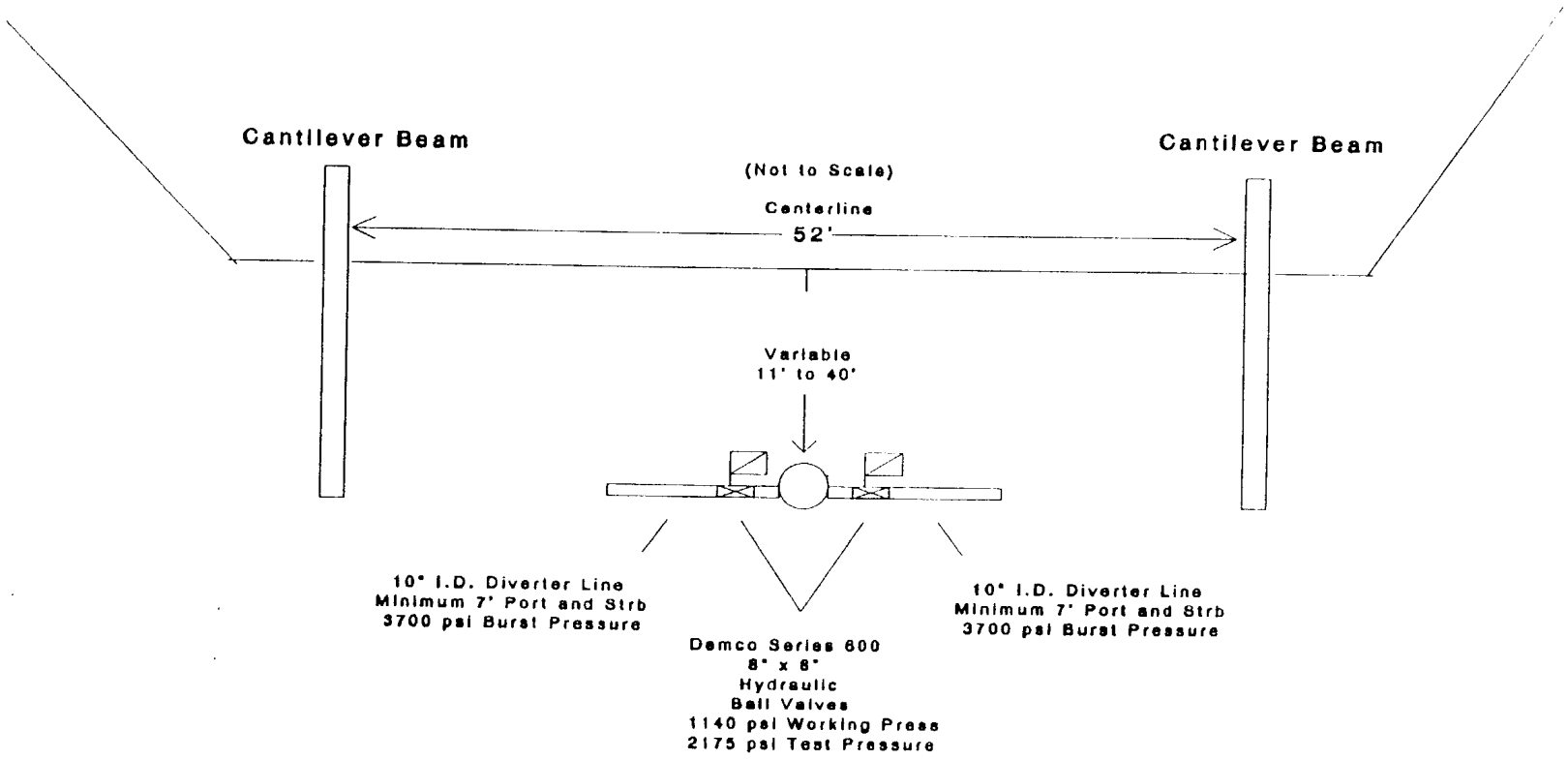


ENSCO 88

Diverter System

Top View

(Revised - February 1993)



ENSCO 88
Choke Manifold
(Revised - January 1993)

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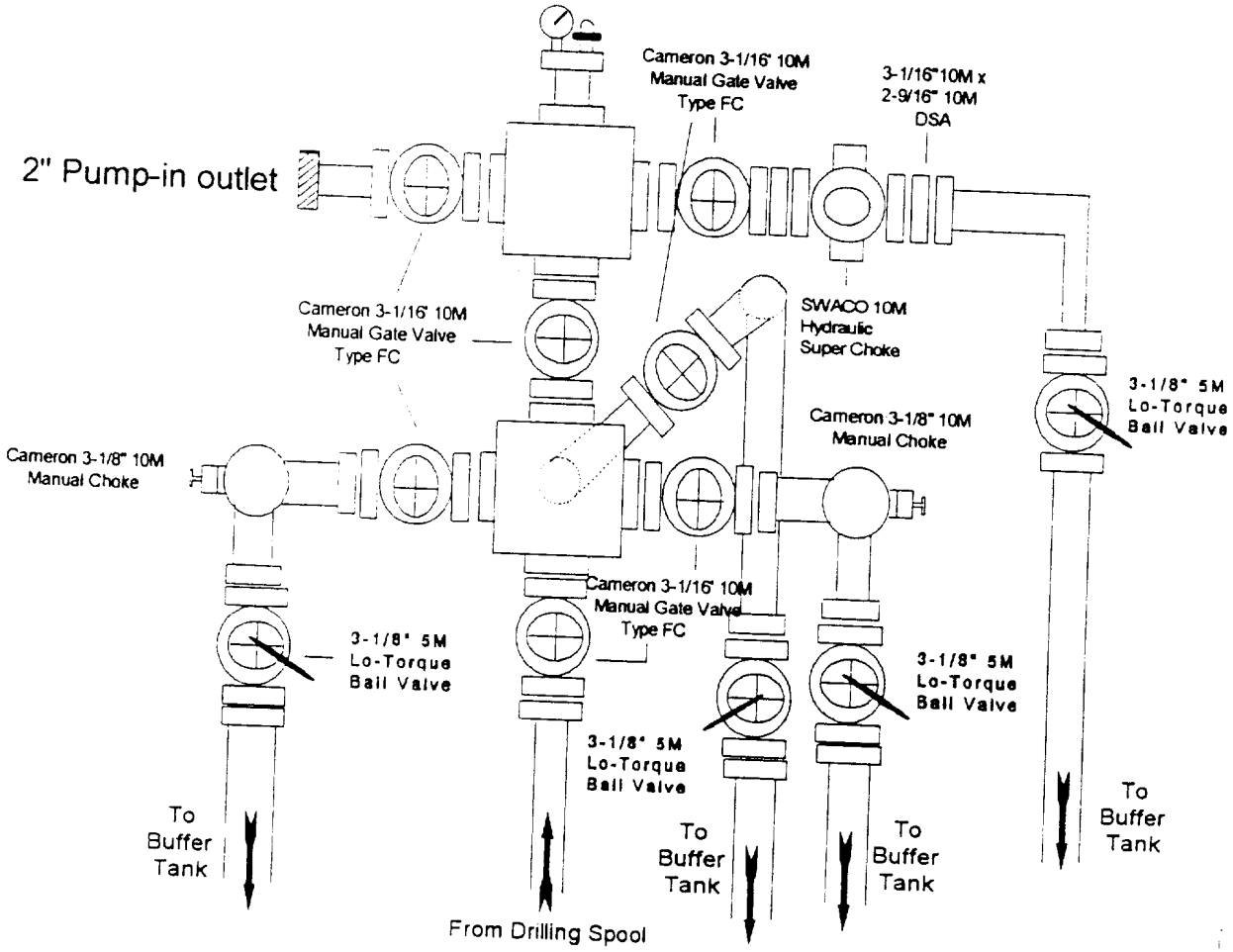
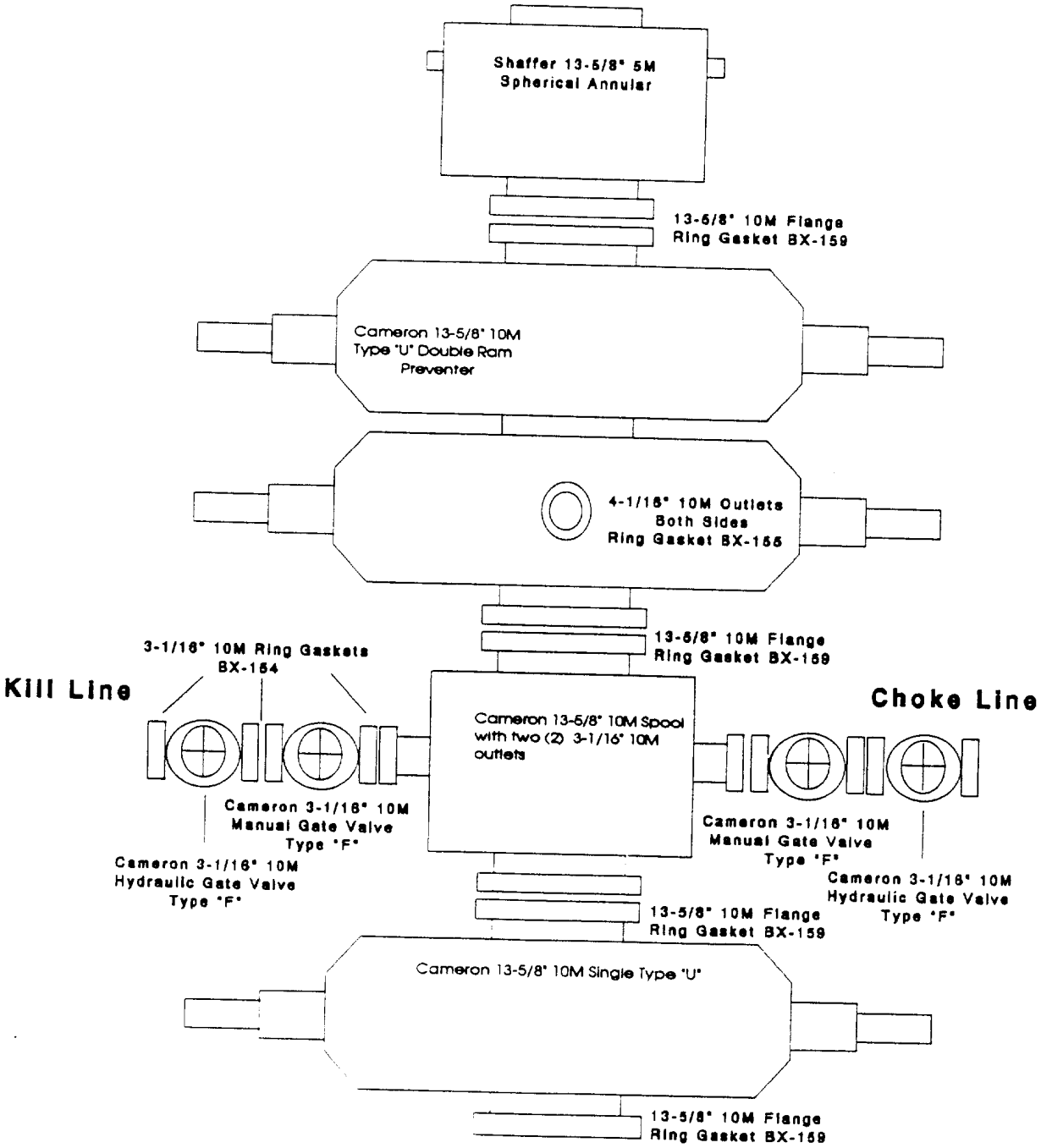


ENSCO 88
B.O.P. Stack
Layout

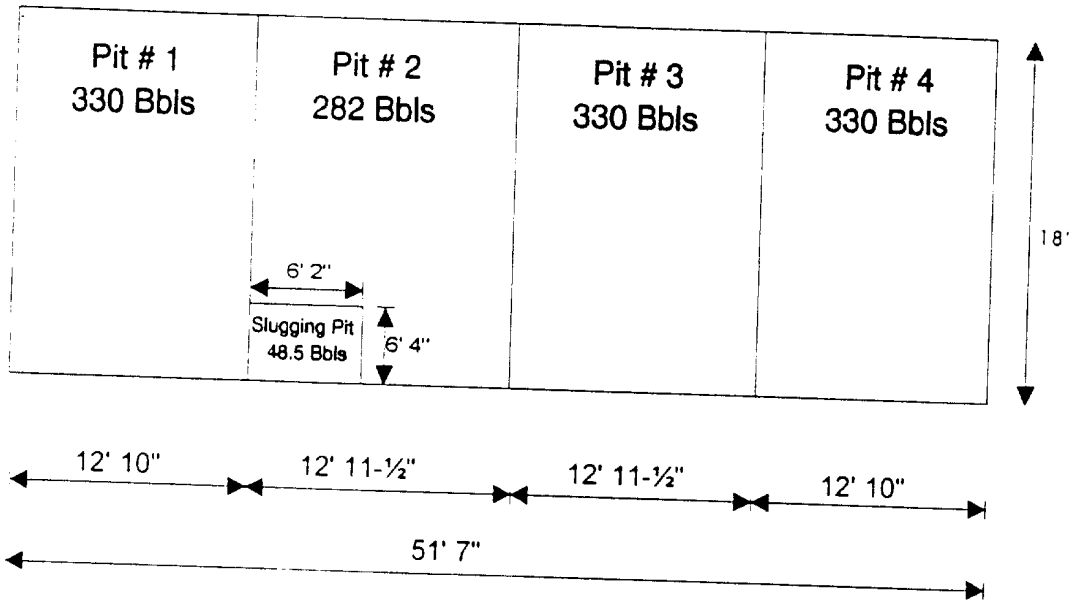
(Revised - April 1995)



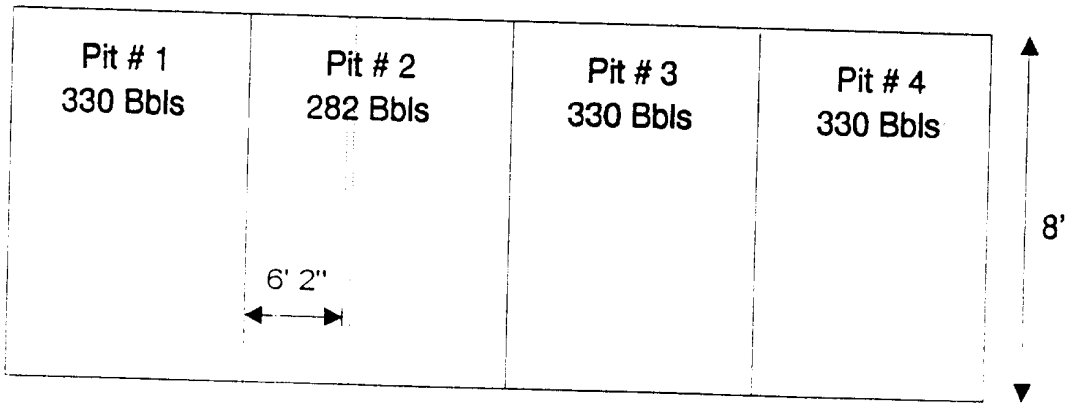
ENSCO 88
Mud Pits

(Revised - January 1993)

Top View



Plan View

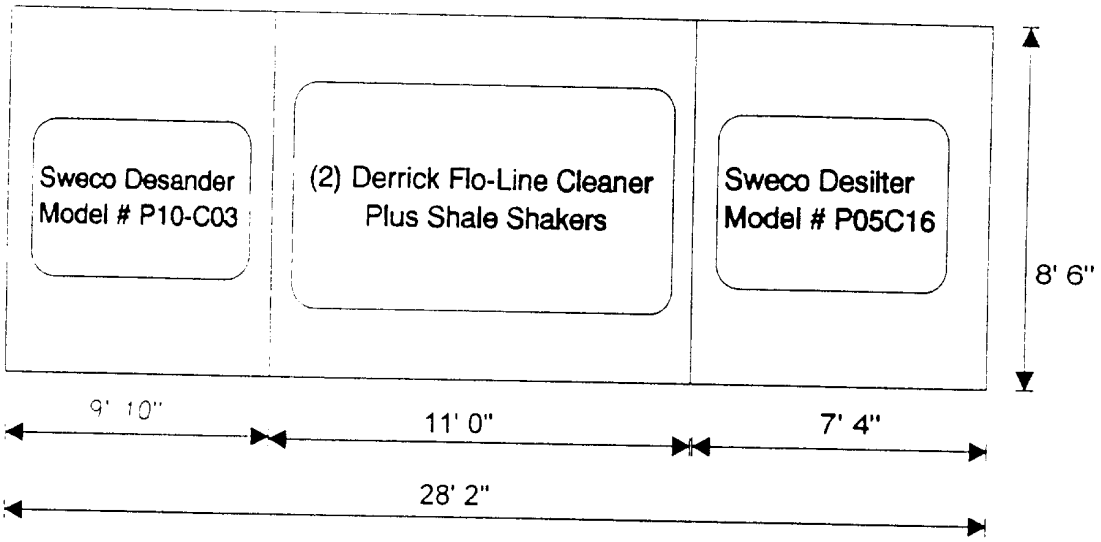


Mud pits #1, #2, #3, & #4 equipped with (1) Brandt Electrical Mud Agitator powered by a 20 Hp motor

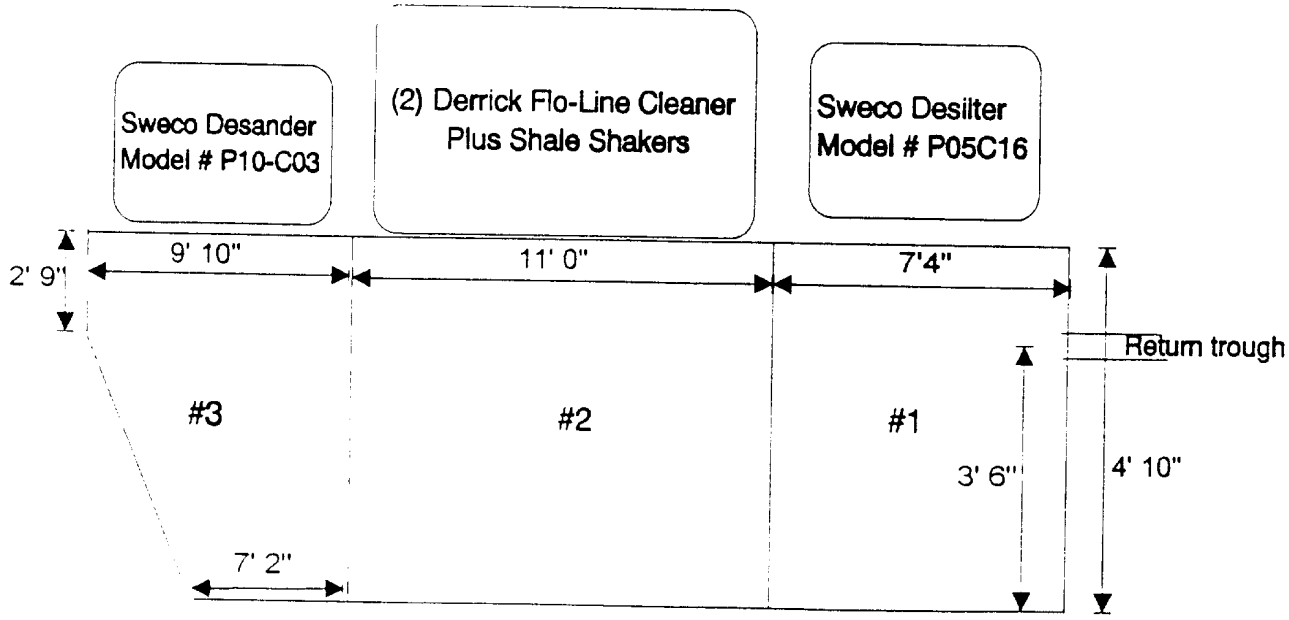
ENSCO 88
Shaker Pit

(Revised - January 1993)

Top View



Plan View

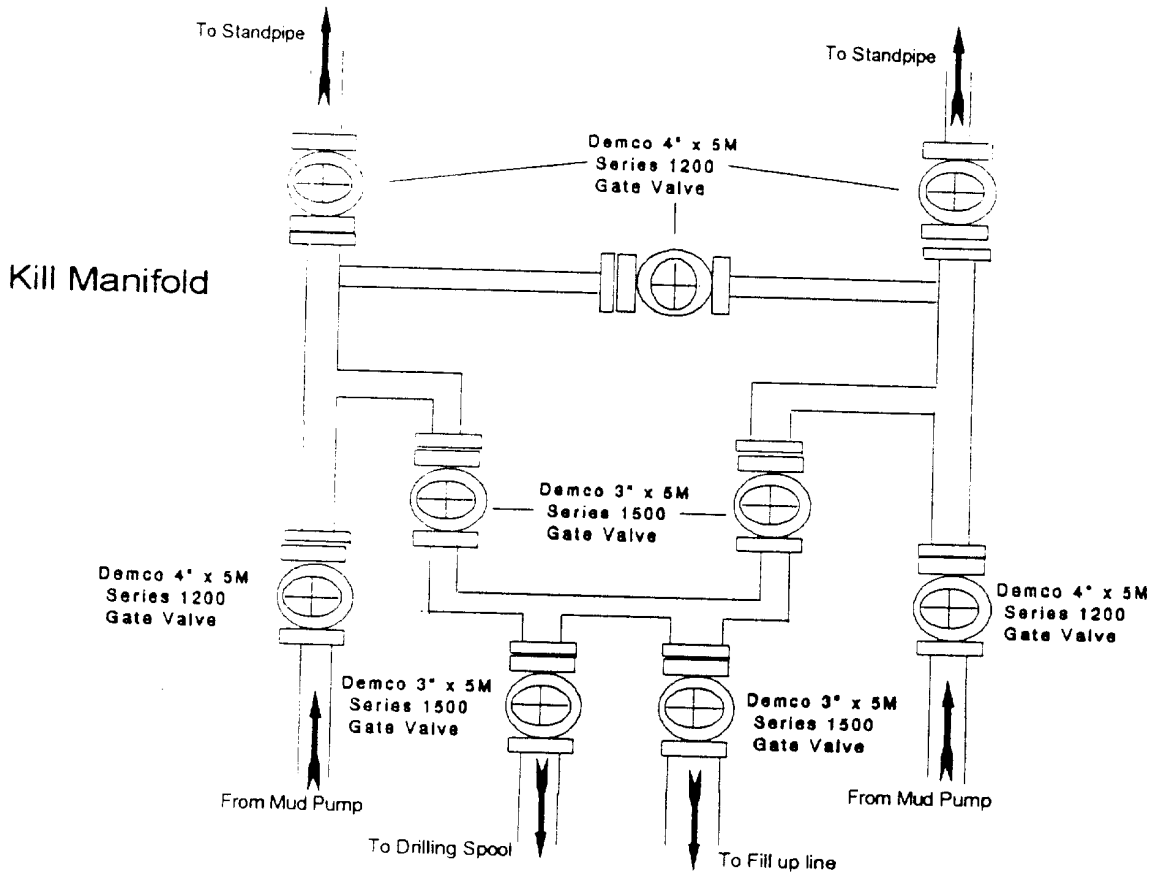


Desander & Desilter discharge into Pit # 1.
Desander & Desilter can intake from any pit.
Shale Shakers can discharge into any pit.

ENSCO 88

Standpipe Manifold

(Revised - January 1993)



COASTAL ZONE MANAGEMENT CONSISTENCY CERTIFICATE

PLAN OF EXPLORATION

GULF OF MEXICO

FOR

EUGENE ISLAND AREA BLOCK 59

SUBMITTED TO:

MRS. DEBRA K. ORMSON

TECHNICAL ASSISTANT

MURPHY EXPLORATION & PRODUCTION COMPANY

P. O. BOX 1780

NEW ORLEANS, LOUISIANA 70161

(504/561-2409)

SEPTEMBER 2, 1997

PREPARED BY:

TIM MORTON & ASSOCIATES, INC.

REGULATORY & ENVIRONMENTAL CONSULTANTS

PROJECT NO. 97-271

COASTAL ZONE MANAGEMENT

CONSISTENCY CERTIFICATION

EXPLORATION

.....

Type of Plan

EUGENE ISLAND AREA BLOCK 59

.....

Area and Block

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

Arrangements have been made to publish Public Notices regarding the proposed activity no later than ..Sept. 24, 1997.... with THE ADVOCATE, the official journal of Louisiana, with the FRANKLIN BANNER, the official journal of St. Mary Parish, and with the HOUMA DAILY COURIER, the official journal of Terrebonne Parish.

MURPHY EXPLORATION & PRODUCTION COMPANY

.....

Lessee or Operator

.....

Certifying Official

9-8-97

.....

Date

ENVIRONMENTAL REPORT

FOR COASTAL MANAGEMENT CONSISTENCY DETERMINATION

PLAN OF EXPLORATION

GULF OF MEXICO

FOR

EUGENE ISLAND AREA BLOCK 59 (OCS-G-17961)

SUBMITTED TO:

MRS. DEBRA K. ORMSON

TECHNICAL ASSISTANT

MURPHY EXPLORATION & PRODUCTION COMPANY

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PROJECT NO. 97-271

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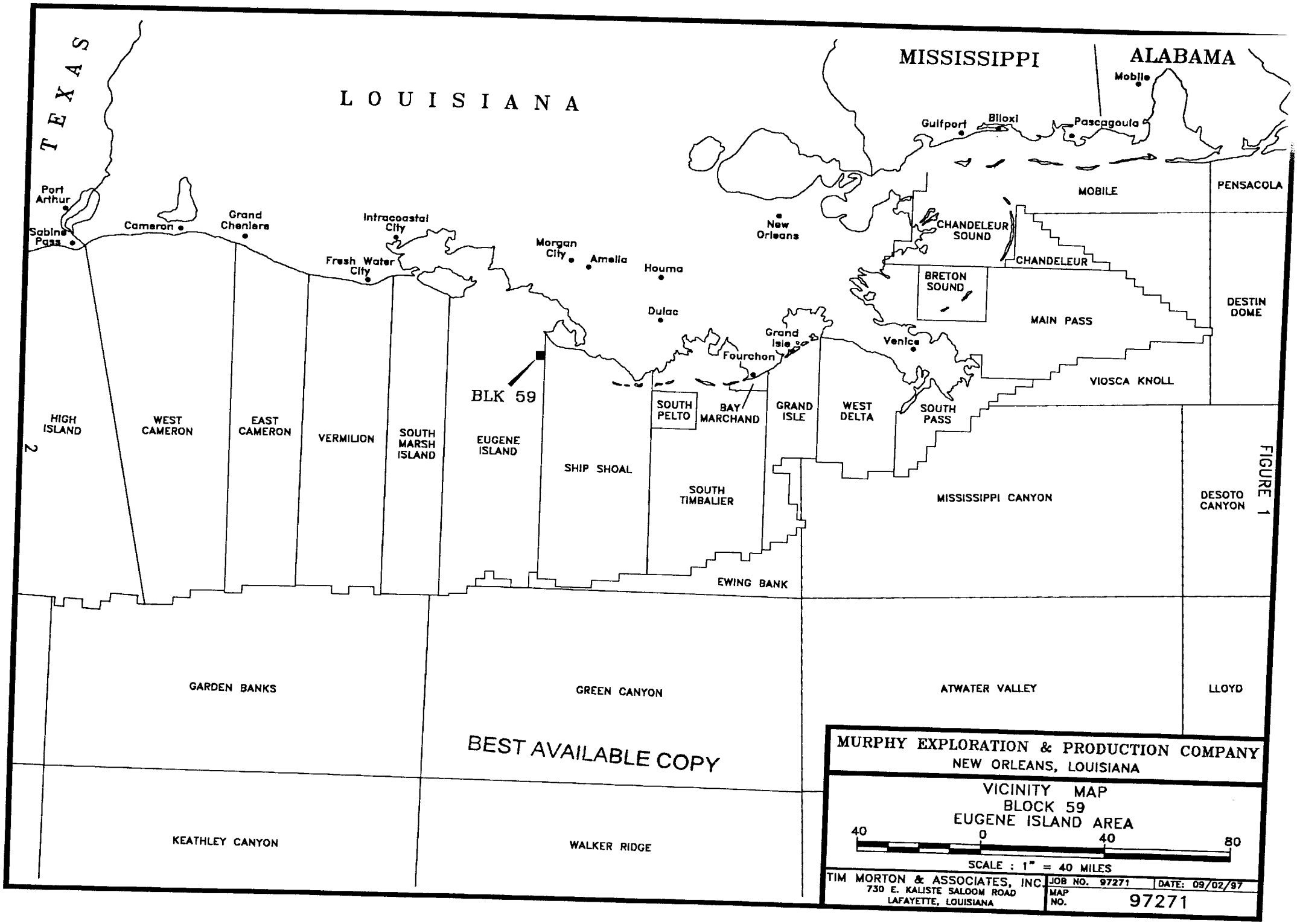
II. DESCRIPTION OF THE PROPOSED ACTION

This environmental report addresses the activity proposed by Murphy Exploration & Production Company for Eugene Island Area Block 59 (OCS-G-17961). The approximate location of the activity is presented on a general vicinity map of the Outer Continental Shelf (OCS) lease areas off the coast of Louisiana (Figure 1).

A jack-up rig will be utilized to drill two wells. The activities proposed by Murphy Exploration & Production Company for this block are addressed in the attached Plan of Exploration.

The proposed activities will be carried out by Murphy Exploration & Production Company with a guarantee of the following:

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, equipment and monitoring systems.
2. All operations will be covered by a M.M.S. approved Oil Spill Contingency Plan.
3. All applicable Federal, State, and local requirements regarding air emissions, water quality, and discharge for the proposed activities, as well as any other permit conditions, will be complied with.


TEXAS
LOUISIANA
MISSISSIPPI
ALABAMA
Mobile
Gulfport
Biloxi
Pascagoula
Port Arthur
Sabine Pass
Cameron
Grand Chenieres
Intracoastal City
Fresh Water City
Morgan City
Amelia
Houma
New Orleans
Dulac
Grand Isle
Fourchon
Venice
MOBILE
PENSACOLA
CHANDELEUR SOUND
CHANDELEUR
BRETON SOUND
MAIN PASS
DESTIN DOME
VIOSCA KNOLL
BLK 59
HIGH ISLAND
WEST CAMERON
EAST CAMERON
VERMILION
SOUTH MARSH ISLAND
EUGENE ISLAND
SHIP SHOAL
SOUTH PELTO
BAY MARCHAND
SOUTH TIMBALIER
GRAND ISLE
WEST DELTA
SOUTH PASS
MISSISSIPPI CANYON
DESOTO CANYON
EWING BANK
GARDEN BANKS
GREEN CANYON
ATWATER VALLEY
LLOYD
KEATHLEY CANYON
WALKER RIDGE
2
FIGURE 1
BEST AVAILABLE COPY
MURPHY EXPLORATION & PRODUCTION COMPANY
NEW ORLEANS, LOUISIANA
VICINITY MAP
BLOCK 59
EUGENE ISLAND AREA
40 0 40 80
SCALE : 1" = 40 MILES
TIM MORTON & ASSOCIATES, INC.
730 E. KALISTE SALOOM ROAD
LAFAYETTE, LOUISIANA
JOB NO. 97271
DATE: 09/02/97
MAP NO. 97271

A. Travel Modes, Routes, and Frequencies

Murphy Exploration & Production Company will operate out of service base facilities established in Morgan City, Louisiana. Murphy Exploration & Production Company proposes to utilize one helicopter, one supply boat, and one crew boat to support the Eugene Island Area Block 59 activities.

The helicopter will travel to the location a total of sixteen times. The crew boat will travel to the location a total of ninety times, and the supply boat will travel to the location a total of forty-five times.

Transportation vessels will utilize the most direct route from the Morgan City, Louisiana service base. However, because a vessel supporting the Eugene Island Area Block 59 exploration activities, as outlined in the Plan of Exploration, may be scheduled for other stops in the area, the exact route for each vessel on each particular trip cannot be predetermined.

B. Support Base and New Personnel

Murphy Exploration & Production Company will utilize support base facilities established in Morgan City, Louisiana. The Morgan City, Louisiana support base is located approximately thirty-four miles from the block.

Helicopter and marine facilities are currently available at the service base and are presently and continuously manned, therefore, no additional onshore employment is expected to be generated as a result of these activities.

The initial OCS Socio-Economic Data Base Report for the service base facilities utilized by Murphy Exploration & Production Company will be prepared for submission upon issuance of the specific parameters to be established by the DOI/MMS.

C. New Support Facilities

Exploration activities in Eugene Island Area Block 59 will not require the development of any new support facilities.

D. New or Unusual Technology

Exploration activities in Eugene Island Area Block 59 will not warrant utilizing any new or unusual technology that may affect coastal waters.

E. Location of the Proposed Activities

Eugene Island Area Block 59 is located approximately thirty-four miles from Morgan City, Louisiana and approximately four miles from the shore of Terrebonne Parish, Louisiana. Figure 1 presents the location of the block in relation to the Louisiana coast, as well as the geographic relationship between other OCS lease areas and Eugene Island Area Block 59.

III. DESCRIPTION OF THE AFFECTED ENVIRONMENT AND IMPACTS

A. Physical and Environmental

1. Commercial Fishing

Louisiana is traditionally one of the top states in the nation in terms of commercial fisheries. In 1993, Louisiana's commercial landings amounted to 1,242,811,935 pounds worth $243,262,226 (USDC, NMFS 1994). Nine families of finfish and shellfish represented 95 percent of the dockside value (dollars) of Louisiana's marine and estuarine commercial fishery landings.

The most valuable commercial species in Louisiana are the brown shrimp (Penaeus aztecus) and the white shrimp (P. setiferus), which together produce by far the greatest shrimp harvest in the Gulf of Mexico. Louisiana fishermen harvested 78,070,808 pounds (heads-on) of shrimp worth $110,816,447 in 1993 (USDC, NMFS 1994). The brown shrimp dominates the Louisiana shrimp harvest, as it is the most abundant species in that region of the gulf (White and Boudreaux 1977). Both the white shrimp and the brown shrimp are estuarine dependent and have similar life histories, with the major differences being the time and location that the various life stages begin and reach their maximum levels. Generally, spawning occurs offshore with the resulting larvae migrating inshore to develop in estuaries. Brown shrimp spawn from November to April in water depths of 30 to 120 meters, while white shrimp spawn from March to October in

water depths of 8 to 34 meters (Benson 1982). Juvenile and adult brown shrimp migrate offshore from May to July, and white shrimp migrate between June and November (Benson 1982).

The Eugene Island Area under consideration falls within the high to moderate white and brown shrimp productivity areas (USDOI, MMS 1986, Visual No. 2) wherein the possibility of shrimp fishing activity exists. Some documented impacts of petroleum exploration and production on the shrimp fishery include the removal of trawling space during the drilling and exploration phases and the possibility of fishing gear conflicts with existing well heads. These conflicts could result in loss of catch, loss of or damage to nets, vessel damage, and/or fishing downtime losses. Additional discussion of the impacts on the commercial fishing industry is contained in the Final Environmental Impact Statement, Gulf of Mexico, Central and Western Planning Areas, Volume II, pages 381 to 388 (USDOI, MMS 1994).

The Gulf menhaden (Brevoortia patronus) or "pogy" fish constitutes Louisiana's second most valuable fishery, accounting for 1,058,398,657 pounds worth $51,190,652 in 1993 (USDC, NMFS 1994). Gulf menhaden spawn offshore from mid-October through March in 40 to 140 meters of water, with the larvae subsequently moving into shallow, low salinity estuaries from February to May (Benson 1982). In the shallow estuaries, the larvae metamorphose into juveniles and change from being carnivores to filter-feeding omnivores. The juveniles and subadults migrate from the estuaries into offshore waters from December through February (Benson 1982). Adults rarely venture far offshore

(Hoese and Moore 1977); indeed, about 93 percent of the commercial fishing effort for this species occurs within ten miles of shore (USDOI, MMS 1983).

Because Eugene Island Area Block 59 is within the "Principle Menhaden Harvest Area" (USDOI, MMS 1986, Visual No. 2), the possibility of negative impacts on menhaden fishing exists. As with the shrimp fishery, these impacts potentially include loss of fishing area, gear conflicts, and associated loss of catch.

Blue crabs (Callinectes sapidus) range from Nova Scotia to Uruguay and support the largest crab fishery in the United States (Marine Experiment Station 1973). In 1993, 45,945,372 pounds of crabs worth $24,465,305 were landed in Louisiana (USDC, NMFS 1994). Blue crabs inhabit shallow water and can be found in high salinity sounds, bays, and channels where they spawn from March through November, with a peak from May to September (Benson 1982). The resulting planktonic larvae pass through several molts and stages before the juveniles drop to the bottom of the estuarine nurseries, where they remain throughout the year (Benson 1982). The blue crab fishery will not be significantly affected by exploration activities in this block because these activities will be conducted offshore of the coastal and estuarine waters in which this fishery occurs.

The Eastern oyster (Crassostrea virginica) is most abundant in the Gulf of Mexico from Aransas Bay, Texas to Apalachicola Bay, Florida (Beccasio et al. 1982). Louisiana oystermen landed 10,314,823 pounds of oysters worth $17,143,973 in 1993. Oysters are Louisiana's fourth most valuable fishery

(USDC, NMFS 1994). Optimum conditions for oysters are found at salinities between 5 and 15 parts per thousand and water depths of 2.5 to 8 meters (Beccasio et al. 1982). Oysters spawn during the summer, and the free-swimming larvae attach and develop in the same estuarine habitat. The activities proposed in Eugene Island Area Block 59 are not expected to have any impact on the oyster fishery in Louisiana.

In 1993, Louisiana landed a total of 6,071,695 pounds of tuna (Scombroidae) worth $14,869,966 (USDC, NMFS 1994). Six species of tuna were commercially important to Louisiana. These included albacore (Thunnus alalunga), bluefin tuna (T. thynnus), little tunny (Euthynnus alletteratus), yellowfin tuna (T. albacares), bigeye tuna (T. obesus), and blackfin tuna (T. atlanticus).

Most species of tuna travel in schools and feed on smaller fish or squid. Most are highly regarded both as game fish and as food fish, with some species supporting extensive commercial fisheries (Hoese and Moore 1977).

Tunas are mass spawners, so that the details of spawning behavior are difficult to observe. These fishes do not protect their eggs and young after spawning, but leave them scattered over the bottom, on aquatic plants, or drifting in the water (Moyle 1993).

Scombroids range around the world in tropical, temperate, and even cold seas (Herald 1972). Tuna are sometimes found in shallow water, especially in places where deep water is immediately adjacent. The presence of tuna at the

surface or at greater depths is determined by the water temperature as well as by the composition of the pelagic community (Herald 1972). The activities proposed in Eugene Island Area Block 59 are not expected to have any impact on the scombroids.

Red snapper (Lutjanus campechanus) and Vermilion snapper (Rhomboplites aurorubens) accounted for the majority of the snapper landings in Louisiana which amounted to 2,406,526 pounds worth $4,358,039 in 1993 (USDC, NMFS 1994). Snappers are common over or near banks, coral reefs and outcrops, submarine ridges, rocks, and man-made structures such as shipwrecks and offshore drilling platforms, especially offshore Louisiana (Benson 1982; Hardy 1978). Red snapper spawn in the Gulf of Mexico from June to Mid-September, in water depths of 16-37 meters, over bottoms of hard sand and shell with rocky reef areas; spawning may actually take place at the surface (Hardy 1978). Little or no information is available about larval red snapper, but juveniles are typically found inshore in high salinity (24 to 40 ppt) water 9-91 meters in depth (Benson 1982). The vermilion snapper has a life history and habits similar to the red snapper. The proposed activities should create a suitable habitat for snapper.

Louisiana harvested 7,992,820 pounds of striped mullet (Mugil cephalus) worth $3,730,185 in 1993 (USDC, NMFS 1994). Mullets are one of the most abundant fishes in the Gulf of Mexico (Hoese and Moore 1977). Mullet have been observed in Alabama inland as far as 607 kilometers from the Gulf, and offshore as far as 80 kilometers and as deep as 1,385 meters (Benson 1982). Mullet spawn from October to May, and some females spawn more than once in a season

(Benson 1982). Larvae move inshore in the spring and the juveniles are found in the shallow areas of the estuaries. Offshore movement from the estuaries occurs during the fall (Beccasio et al. 1982). No impacts to mullets are anticipated as a result of the proposed activities.

The drums (Sciaenidae) are one of the three most abundant families of fishes in the Gulf of Mexico in terms of biomass, and they outnumber all other families in the number of species (Hoese and Moore 1977). Three species of drums are commercially important to Louisiana. These include black drum (Pogonias cromis), spotted seatrout (Cynoscion nebulosus), and sand seatrout (C. arenarius). In 1993, Louisiana landed a total of 4,455,212 pounds of drums worth $3,318,964 (USDC, NMFS 1994).

Typically, sciaenids are euryhaline species that spawn in shallow nearshore Gulf waters, producing larvae that enter coastal estuaries for development (Benson 1982; Johnson 1978; Hoese and Moore 1977). Spotted seatrout spawn at night in deep channels and depressions adjacent to shallow flats, grass beds, and bayous in the estuary, from March to September with a peak from April through July (Benson 1982). The larvae associate with bottom vegetation (predominantly sea grasses) or shell rubble in channel bottoms (Johnson 1978). The juveniles spend at least their first 6 to 8 weeks on the nursery grounds, usually within 50 meters of the shoreline, until late fall when they move into the deeper parts of the estuary (Benson 1982). Adult spotted seatrout rarely leave the estuaries (Benson 1982).

Black drum spawn from February to April in or near tidal passes and in open bays and estuaries (Benson 1982). The larvae are transported to shallow estuarine marshes, but may move to deeper estuarine waters or shallow waters off sandy beaches as large juveniles (Johnson 1978). Adult migration is largely restricted to spring and fall movement through the passes between estuaries and nearshore environments (Beccasio et al. 1982).

Sand seatrout spawn from March to September offshore near passes and inlets to estuaries. Larvae migrate into shallow areas of the upper estuaries. Adults apparently move farther offshore than most members of the family (Benson 1982). In the fall most adults and juveniles migrate to offshore waters (Benson 1982). The activities proposed are not expected to have any impact on the drums in Louisiana.

The most common species of sharks found in the Gulf of Mexico include the tiger shark (Galeocerdo cuvier), blacknose shark (Carcharhinus acronotus), spinner shark (C. brevipinna), blacktip shark (C. limbatus), sandbar shark (C. plumbeus), Atlantic sharpnose shark (Rhizoprionodon terraenovae), and scalloped hammerhead (Sphyrna lewini) (Branstetter 1981). A total of 2,698,050 pounds of shark worth $1,105,605 were landed offshore Louisiana in 1993 (USDC, NMFS 1994).

The following discussion is summarized from Castro (1983). Shark reproduction is achieved through internal fertilization, usually during the months of June and July. Many species migrate to specific mating areas for this purpose. After a gestation period of ten to twelve months, sharks migrate

to the nursery areas for the birth of small litters of large pups. These nursery areas are typically highly productive coastal or estuarine waters able to provide ample food for the growing pups.

Sharks are cold blooded and their body temperature usually corresponds to the temperature of the surrounding water. Each species lives within a relatively narrow temperature range determined by its metabolism. Many species migrate to remain within their temperature tolerance limits. In general these migrations are directed northward and inshore during the summer and southward and offshore in the winter months. No impacts to sharks are expected as a result of the proposed activities.

2. Shipping

A designated shipping fairway is located approximately twenty-two miles east of Eugene Island Area Block 59. It is unlikely that marine vessels supporting this block will utilize the shipping fairway to gain access to the support base. The drilling rig and each of the marine vessels will be equipped with all U. S. Coast Guard required navigational safety aids.

3. Recreation

The open Gulf encompasses a broad expanse of saltwater which is utilized by numerous sports fishermen. Many fishermen charter boats to fish and sport dive in the northern Gulf. The states of Alabama, Mississippi, and Louisiana support approximately 120 charter boats which conduct fishing activities in the

waters of the OCS (USDOI, MMS 1983). Petroleum platforms provide recreation for fishermen and scuba divers because they act as artificial reefs attracting and establishing aquatic communities including highly sought after food and sport fishes. The reef effect created by petroleum platforms is well known and is evidenced by the numerous private boat owners who regularly fish at offshore facilities.

Offshore rigs and platforms serve as navigation points for small commercial and recreational marine craft. Manned drilling rigs and platforms can also provide a haven for small craft operators forced to abandon their vessels during storms. The installation and use of navigational aids, lifesaving equipment, and other safety requirements pursuant to Coast Guard regulations are standard procedure for drilling rigs and marine vessels utilized by Murphy Exploration & Production Company.

4. Cultural Resources

Visual No. 4 from the Final Environmental Impact Statement (USDOI, MMS 1986) indicates that Eugene Island Area Block 59 falls within the zone designated as an area with a high probability of historic and prehistoric cultural resources. Gulf Ocean Services, Inc. (1997) prepared A High Resolution Geophysical Survey of Eugene Island Area Block 59. An Archaeological Evaluation was included in that report, and the following has been extracted from that Evaluation.

The probability of locating the presence of significant prehistoric cultural resources in Block 59, Eugene Island Area is assessed as not probable. No extant geomorphological features indicative of prehistoric archaeological site potential are present. The block lies in the MMS Zone 1, defined as having high potential for historic shipwrecks. Twenty-nine magnetic anomalies in twenty-four areas represent cultural material of an unknown source, age or significance which could represent an historic shipwreck or wreckage.

5. Ecologically Sensitive Features

Eugene Island Area Block 59 is located approximately eight miles south of Atchafalaya Bay Wildlife Management Area, approximately thirty-one miles southeast of Marsh Island Wildlife Refuge, and approximately thirty miles southeast of Shell Keys National Wildlife Refuge (USDOI, MMS 1986, Visual No. 4). There are no other known ecologically sensitive areas near Eugene Island Area Block 59.

The Morgan City, Louisiana support base which will be utilized as the operations base for the Eugene Island Area Block 59 exploration activities is located approximately thirty miles northeast of Marsh Island Wildlife Refuge (USDOI, MMS 1986, Visual No. 3). In general, if all activities are executed as planned, the environmentally sensitive areas will not be affected.

The following discussion of wetlands is summarized from the Final Environmental Impact Statement for Proposed Gulf of Mexico OCS Lease Sales 147 and 150 (USDOI, MMS 1993). Wetland habitat types occurring along the Gulf coast include fresh, brackish, and saline marshes; forested wetlands; and small areas of mangroves. Wetland habitats may occur along narrow bands or across broad expanses. They can support sharply delineated zones of different species, monotonous stands of a single species, or mixed communities of plant species.

Coastal wetlands are characterized by high organic productivity, high detritus production, and efficient nutrient recycling. Wetlands provide habitat for a great number and wide diversity of invertebrates, fish, reptiles, birds, and mammals. Wetlands are particularly important as nursery grounds for juvenile forms of many important fish species. The Louisiana coastal wetlands support over two-thirds of the Mississippi Flyway wintering waterfowl population and the largest fur harvest in North America.

Louisiana contains most of the Gulf coastal wetlands. These wetlands occur in two physiographic settings -- the Mississippi River Deltaic Plain and the Chenier Plain. Wetlands on the deltaic plain are situated on a series of overlapping riverine deltas that have extended onto the continental shelf during the past 6,000 years. The alluvial and organic-rich sediments found on these areas are subject to high, natural-subsidence rates. The effects of subsidence are compounded by sea-level rise. Under natural conditions, sedimentation encourages vertical accretion of wetland areas and may offset the submergence and inundation that result from subsidence and sea-level rise.

Historically, areas of the deltaic plain that were located near an active channel of the Mississippi River tended to build outward, and marsh areas tended to expand. At the same time, areas located near inactive, abandoned channels tended to deteriorate and erode as a result of the lack of sediment. Today, the Mississippi River is leveed, which greatly reduces the once natural formation of deltaic wetlands.

The Chenier Plain, located to the west of the Atchafalaya Bay in the western part of coastal Louisiana, is a series of separate ridges of shell and sand, oriented parallel or oblique to the Gulf Coast. These ridges are separated by progradational mudflats that are now marshes or open water. The mudflats were built during times when the Mississippi River channel was located on the western side of the deltaic plain or when minor changes in localized hydrologic and sedimentation patterns favored deposition in the Chenier Plain.

The deterioration of coastal wetlands, particularly in Louisiana, is an issue of concern. Several factors contribute to wetlands loss in coastal Louisiana. Sediment deprivation is a result of a 50 percent decrease in the suspended-sediment load of the river since the 1950's, the channelization of the river, and the primary cause, the construction of the flood protection levees. Subsidence and sea level rise have caused submergence of lower wetland areas. Construction of ring levees have allowed drainage and development of extensive wetlands. Development activities in low areas, outside leveed areas, have caused the filling of wetlands. Construction of canals have converted wetlands to open water and upland spoilbanks. Canals and subsidence have also

contributed to increased tidal influence and salinities in freshwater and low-salinity wetlands, which in turn has increased erosion and sediment export.

Wetlands and estuaries could be affected by OCS-related activities. These activities include construction of new onshore facilities in wetland areas; pipeline placement in wetland areas; vessel usage of navigation channels and access canals; maintenance of navigation channels; onshore disposal of OCS-generated oil-field wastes; and oil and chemical spills from both onshore and offshore OCS support activities. No direct wetland losses are anticipated as a result of the proposed activities.

6. Existing Pipelines and Cables

There is a Transco sixteen-inch pipeline located in Eugene Island Area Block 59. Murphy Exploration & Production Company is not aware of any other pipelines or cables located in the block.

7. Other Mineral Uses

There are no other known mineral resources located in or near Eugene Island Area Block 59.

8. Ocean Dumping

The major sources of ocean dumping related to OCS petroleum exploration activity are drilling fluids, or "muds", and drill cuttings. After the

exploratory drilling in Eugene Island Area Block 59 is completed, Murphy Exploration & Production Company does anticipate dumping their excess water-based drilling fluids. If any oil-based mud is used in the drilling operations, it will be transported to shore for proper disposal.

Drill cuttings are brought up by the drilling mud and range in size from grains of sand to pebbles. These cuttings are separated and sifted and then disposed overboard. Treated domestic wastes and drill waters will also be disposed at the proposed drilling site. There will be no intentional discharge of any oily or hazardous materials in violation of DOI or EPA regulations.

9. Endangered or Threatened Species

Endangered or threatened species which might occur in Eugene Island Area Block 59 are northern right whale (Eubalaena glacialis), fin whale (Balaenoptera physalus), humpback whale (Megaptera novaeangliae), sei whale (B. borealis), sperm whale (Physeter macrocephalus), blue whale (B. musculus), Kemp's ridley turtle (Lepidochelys kempii), green turtle (Chelonia mydas), hawksbill turtle (Eretmochelys imbricata), leatherback turtle (Dermochelys coriacea), and loggerhead turtle (Caretta caretta) (USDOI, Region IV Endangered Species Notebook).

Endangered or threatened species expected to occur in the vicinity of the onshore base are bald eagle (Haliaeetus leucocephalus) and American alligator (Alligator mississippiensis) (USDOI, Region IV Endangered Species Notebook). Bald eagle nesting areas occur between Morgan City and Houma (Beccasio et al.

1982). The American alligator is classified as threatened in Louisiana due to similarity of appearance. This species is neither endangered nor threatened biologically in Louisiana and a regulated harvest is permitted under State Law (USDOI, Region IV Endangered Species Notebook). The presence of marine mammals in coastal Louisiana is considered sporadic and probably no resident populations exist. It is unlikely that onshore or exploration activities related to Eugene Island Area Block 59 will have any effect on the previously named species.

B. Socio-Economic Impacts

In accordance with DOI/MMS guidelines (OS-7-01), dated November 20, 1980, the initial OCS Data Base Report will be developed for submission on or before the prescribed due date. Subsequent Environmental Reports provided by Murphy Exploration & Production Company will address this data and related activity impacts as required.

IV. UNAVOIDABLE ADVERSE IMPACTS

The greatest threat to the natural environment is caused by inadequate operational safeguards that may cause or contribute to an oil spill or well blowout. These accidents can be greatly reduced in number by utilizing trained operational personnel and employing all available safety and pollution control systems. These measures are standard operating procedure for Murphy Exploration & Production Company. Murphy Exploration & Production Company has an approved Oil Spill Contingency Plan.

It should be noted that most large crude oil and refined products spills have occurred during transportation and not during drilling or production operations. Furthermore, the probability of an oil spill occurring during exploratory drilling operations is low (Danenberger 1976). Transportation and river runoff contribute an estimated 34.9 percent and 26.2 percent, respectively, to the hydrocarbon contamination of the world's oceans while offshore production activities account for only 1.3 percent (National Academy of Sciences 1975). Natural seeps of petroleum and natural gas, which occur throughout the northern Gulf of Mexico (Zo Bell 1954; Geyer 1979), contribute an estimated 9.8 percent to the contamination of the world's oceans (National Academy of Sciences 1975). Additionally, it was noted in the executive summary of a study of petroleum production platforms in the central Gulf of Mexico (Bedinger 1981), that natural disturbances (i.e. river flooding and storms) can more greatly affect normal biological communities than the current industrial development of the OCS. The preceding discussion is not intended to minimize

the significance of major oil spills resulting from petroleum exploration and production activities but is provided to establish a perspective relative to their probable occurrence.

Thirteen of the forty-six blow-outs on the OCS between 1971 and 1978 were associated with exploratory drilling activities, none of which released any oil to the marine environment (Danenberger 1980). The IXTOC I spill of 1979, however, demonstrates that advanced drilling technology and available safety and pollution control systems are not infallible. Most spills are subjected to immediate containment and clean-up efforts. The ultimate fate of oil spilled in the marine environment is generally considered to be one or a combination of the following: evaporation and decomposition in the atmosphere, dispersal in the water column, incorporation into sediments, and oxidation by chemical or biological means (National Academy of Sciences 1975).

The unavoidable adverse impacts that will occur as a result of the exploratory drilling and discharging of drilling fluids, domestic wastes, and treated sewage will be few in number and temporary in nature. The primary adverse impacts include a localized degradation of water and air quality in the vicinity of the drilling site, the potential obstruction to commercial and recreational fishing vessels, and the disruption and/or killing of benthic and/or pelagic organisms during location of the drilling rig and during disposal of muds, cuttings, and domestic wastes and sewage.

Discharging from the drill site is inevitable during OCS operations, particularly during exploration. Any materials that may contain oil or other

hazardous materials, and therefore would have a much greater adverse impact on the environment, will not be discharged intentionally. Any discharging will be done pursuant to all DOI and EPA regulations. The discharges to be disposed overboard as a result of the exploration activity will include domestic waste and sewage that is treated on the rig before discharging, drill cuttings, and excess water-based mud.

The environmental fate and effects of drilling muds and cuttings has been extensively addressed in a symposium (See Ayers et al. 1980 for detailed discussions). The discharging of drill cuttings and water-based mud will result in an increase in water turbidity, burial of benthic organisms, and possible toxic effects on marine organisms in the immediate vicinity of the drilling rig. A reduction in photosynthetic activity and plankton populations can also be expected as a result of discharging. It is expected, however, that pelagic and benthic organisms will repopulate the area rapidly after discharging if the effects are minimal and intermittent as expected.

Offshore activities generate a small but significant amount of air pollutants due to the emissions of diesel engines; therefore, the deterioration of air quality is unavoidable in an OCS operation area. In most instances, these emissions affect only the immediate exploration activity site and are rapidly dissipated by the atmosphere depending upon climatic conditions. An Air Quality Review Report has been prepared for Eugene Island Area Block 59 and is included as an attachment to the Plan of Exploration.

Commercial and recreational fishing would be affected by OCS development, but primarily in terms of inconvenience and interference. Although the unavoidable adverse impacts could include some smothering of shellfish, snagging of trawl nets, reduction of area presently used for unrestricted fishing, and minimal finfish killing, commercial fishing activities would not be significantly affected, except in the unlikely event of an oil spill. An oil spill would result in serious economic losses due to the contamination of commercial fish species over a large area.

There is a remote possibility that offshore areas of historical, cultural, or biological significance could be damaged or destroyed by OCS exploration operations. Visual No. 3 from the Final Environmental Impact Statement (USDOI, MMS 1986) indicates that no archeological, cultural, or historic areas are in the vicinity of Eugene Island Area Block 59. Murphy Exploration & Production Company will make every effort to avoid disturbing any historically, culturally, or biologically significant feature.

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