In Reply Refer To: MS 5231

February 6, 1996

Murphy Exploration & Production Company
Attention: Ms. Debra K. Ormson
Post Office Box 61780
New Orleans, Louisiana 70161-1780

Gentlemen:

Reference is made to the following plan received January 8, 1996:

Type Plan - Supplemental Development Operations Coordination Document
Lease - OCS 0599
Block - 63
Area - South Timbalier
Activities Proposed - Well J-2

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

Your control number is S-3850 and should be referenced in your communication and correspondence concerning this plan.

Sincerely,

[Orig. Sign] [Name]

Donald C. Howard
Regional Supervisor
Field Operations

bcc: Lease OCS 0599 POD File (MS 5032)
MS 5034 w/public info. copy of the plan
and accomp. info.

BNewton:cic:01/26/96:DOCDCOM
U. S. Department of the Interior  
Minerals Management Service  
Office of Field Operations  
MS 5231  
1201 Elmwood Park Boulevard  
New Orleans, Louisiana 70123-2394

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

Regarding:  
Supplemental Development Operations  
Coordination Document for  
So. Timbalier Block 63, OCS-0599 #J-2  
Anticipated Commencement Date: April 1, 1996

Gentlemen:

Enclosed herewith are nine (9) sets of the above referenced Supplemental D.O.C.D. 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. Ormson  
Technical Assistant  
Environment & Government Affairs

PUBLIC INFORMATION
MURPHY EXPLORATION & PRODUCTION COMPANY

SUPPLEMENTAL DEVELOPMENT OPERATIONS COORDINATION DOCUMENT

OCS-G-0599, WELLS NO. J-2

SO. TIMBALIER BLOCK 63

OFFSHORE, LOUISIANA

SUBMITTED BY: Debra K. Ormson
Technical Assistant
Environment & Government Affairs

DATE: January 3, 1996
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<th>PAGE</th>
</tr>
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MURPHY EXPLORATION & PRODUCTION COMPANY
SUPPLEMENTAL DEVELOPMENT
OPERATIONS COORDINATION DOCUMENT
OCS-0599, WELL NO. J-2
SO. TIMBALIER BLOCK 63
OFFSHORE, LOUISIANA

Murphy Exploration & Production Company, as designated Operator of the subject lease, hereby submits this proposed Supplemental D.O.C.D. 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 is presently maintained by ongoing production from Murphy Exploration & Production Company's So. Timbalier Block 86 Field. This well will be drilled from the existing the #14 well jacket which will be renamed "J-1". 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 Supplemental D.O.C.D., Murphy Exploration & Production Company proposes to drill, complete, and produce Well #J-2.

PROPOSED LOCATION #J-3

Surface Location 7174' FSL & 7380' FWL of So. Timbalier Block 63
Water Depth 86'

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>COMMENCEMENT DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drill</td>
<td>April 1- May 25, 1996</td>
</tr>
<tr>
<td>Complete</td>
<td>May 26-31, 1996</td>
</tr>
<tr>
<td>Initial production</td>
<td>June 1, 1996</td>
</tr>
</tbody>
</table>

PUBLIC INFORMATION
PRODUCTION FACILITIES

Should proposed well have no commercial production, it will be plugged and abandoned with casings removed to a minimum of 15' BML. If it proves successful, it will be produced via the existing 4" flowline to the "A" Platform in So. Timbalier Block 63.

Separation of liquids from gas takes place at the "A" platform in S. Timbalier 63. Oil/condensate is metered for sale at the "A" Platform in So. Timbalier Block 63 and delivered to Chevron’s pipeline, then to terminal located at Fouchon, La. The gas is being sold at the "A" platform to Trunkline Gas’ 12" trunkline in Block 63 which routes the gas to land.

No additional offshore or onshore personnel or additional facilities are anticipated as a result of these hookup activities.

ESTIMATED PRODUCTION RATES - DEPLETION SCHEDULE

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 typical 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.

PUBLIC INFORMATION
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, November 1994.

Murphy Exploration & Production Company fulfills its oil spill contingency plan by being a member of Clean Gulf Associates, P. O. Box 51239, New Orleans, LA 70151, an agency which handles clean up operations in the event of an oil spill. Fast Response Service can be obtained by calling Halliburton Services in Lafayette, LA, Tel. (318) 837-7400. Mr. Caro Louvier is in charge of administration of the equipment for Clean Gulf Associates.

DESCRIPTION OF CLEAN UP EQUIPMENT AVAILABLE IN VARIOUS LOCATIONS

1. Fast Response System Model I consists of:
   a. Primary & auxiliary skid with 180 bbl. tank on each skid
   b. One "Don Wilson" skimmer
   c. One basket and one lot of Bennet oil boom section
   d. Fire extinguisher skid
2. Fast Response Model II consists of:
   a. Section of floating oil boom
   b. Skimmer
   c. Outrigger
   d. Pump
   e. Two skid-mounted storage tanks of 180 bbls. each
4. Shallow water skimmer system.
5. Auxiliary shallow water skimmer and booms.
6. Helicopter spray system (HUSS Units).
7. Waterfowl rehabilitation units.
9. Miscellaneous material.
10. Radio systems.

Estimated deployment time - see "Oil Spill Trajectory Simulation" Section.
OIL SPILL TRAJECTORY SIMULATION

Taken from Final Environmental Impact Statement Gulf of Mexico Sales 142 and 143, Central and Western Planning Area. The below listed are percent chance that an oil spill starting in any areas within So. Timbalier Block 63 will contact certain land segments within 3, 10 or 30 days. Potential launch sites are identified in Figure IV-1 of Final EIS are within the Central Planning area of C1. Percent chance of spill reaching land - taken from Table IV-20. Hypothetical spill location C39:

<table>
<thead>
<tr>
<th>Land Segment</th>
<th>Percent Chance</th>
<th>Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>n %</td>
<td>St Mary, LA</td>
</tr>
<tr>
<td>16</td>
<td>3 %</td>
<td>Terrebonne, LA</td>
</tr>
<tr>
<td>17</td>
<td>5 %</td>
<td>Lafourche, LA</td>
</tr>
<tr>
<td>18</td>
<td>1 %</td>
<td>Jefferson, LA</td>
</tr>
<tr>
<td>19</td>
<td>n %</td>
<td>Plaquemines, LA</td>
</tr>
</tbody>
</table>

n = Less than 0.5% probability.

Probabilities (expressed as percent chance) that one or more spills and number of probable spills occurring and contacting Central Gulf archeological sites within 10 days of a spill. Taken from Table IV-21:

<table>
<thead>
<tr>
<th>Land Segment ID</th>
<th>B Scenario</th>
<th>H Scenario</th>
<th>Average B</th>
<th>Average H</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>n %</td>
<td>n %</td>
<td>0.0 %</td>
<td>0.0 %</td>
</tr>
<tr>
<td>16</td>
<td>1 %</td>
<td>2 %</td>
<td>0.0 %</td>
<td>0.0 %</td>
</tr>
<tr>
<td>17</td>
<td>n %</td>
<td>n %</td>
<td>0.0 %</td>
<td>0.0 %</td>
</tr>
<tr>
<td>18</td>
<td>0 %</td>
<td>0 %</td>
<td>0.0 %</td>
<td>0.0 %</td>
</tr>
<tr>
<td>19</td>
<td>1 %</td>
<td>1 %</td>
<td>0.0 %</td>
<td>0.0 %</td>
</tr>
</tbody>
</table>

n = Less than 0.5% probability.

Probabilities (expressed as percent chance) that one or more spills and number of probable spills occurring and contacting Central Gulf archeological sites within 10 days of a spill over the expected production life of the lease. Taken from Table IV-21:

<table>
<thead>
<tr>
<th>Archeological Sites</th>
<th>B Percent Scenario</th>
<th>H Percent Scenario</th>
<th>Average B Percent Scenario</th>
<th>H Percent Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timbalier Bay</td>
<td>1 %</td>
<td>2 %</td>
<td>0.0 %</td>
<td>0.0 %</td>
</tr>
<tr>
<td>Barataria Bay</td>
<td>n %</td>
<td>n %</td>
<td>0.0 %</td>
<td>0.0 %</td>
</tr>
<tr>
<td>Caminada Headlands</td>
<td>n %</td>
<td>7 %</td>
<td>0.0 %</td>
<td>0.0 %</td>
</tr>
<tr>
<td>W. Plaquemines Coastal Barrier</td>
<td>n %</td>
<td>1 %</td>
<td>0.0 %</td>
<td>0.0 %</td>
</tr>
<tr>
<td>East Deltic Plain Marshes</td>
<td>1 %</td>
<td>2 %</td>
<td>0.0 %</td>
<td>0.0 %</td>
</tr>
<tr>
<td>W. Winter Menhaden Spawning Grounds</td>
<td>n %</td>
<td>1 %</td>
<td>0.0 %</td>
<td>0.0 %</td>
</tr>
</tbody>
</table>

n = Less than 0.5% probability

Identification of Biologically Sensitive Areas: These are set forth in Clean Gulf Associates Operations Manual, Volume II, Section V. Louisiana Map #6, V-123.0a and Louisiana Map #7, V-113.0a.

The Protection Response Modes for Biologically Sensitive Areas: These are set forth in Clean Gulf Associates Operatn Manual, Volume II, Section V. Louisiana Map #6, V-109.0a to V-112.2a and Louisiana Map #7, V-119.0a to V-122.1
EQUIPMENT LOCATION AND RESPONSE TIME

Grand Isle, LA
All equipment listed on Page 3 (Items 1 through 10) of this Plan.

Venice, LA
a. Fast Response Model I (Item 1)
   b. Fast Response Model III (Item 3)
   c. Items 4, 5, 8, and 9
   d. Boat Sprayer system

Intracoastal City, LA
a. Fast Response Model I (Item 1)
   b. Items 4, 5, 6, 8, and 9

Cameron, LA
a. Fast Response Model II (Item 2)
   b. Fire extinguishers, storage boxes

Houma, LA
a. Fast Response Model II (Item 2) trailer loaded
   b. Item 4
   c. Dispersants
   d. Sorbents
   e. Drums, collectant

Theodore, AL
a. Fast Response Model II (Item 2)

Response Time - It takes approximately one hour to load Fast Response Model I onto vessel and approximately one and one half hours to load Model II, and approximately 3 hours to load Model III.

Vessels under contract to Murphy Exploration & Production Company’s South Pelto Block 19 are to be used. In the event of a spill, the Fast Response Unit II that is located in Houma, LA would be deployed. This would take approximately one and one half hours to accomplish. It will take approximately two and one half hours to round up crew from various areas and transport to Cocodrie, LA. Deployment of fast response unit, crew operations and vessel travel will be conducted simultaneously. Vessel travel time from Cocodrie to So. Timbalier Block 63 is approximately five hours.

Initial Response - Fast Response Model II from Houma, LA to So. Timbalier Block 63:
Procurement, assembly of Unit and travel time 3.5 hrs.
Waiting on crew 0.0 hrs.
Loading time 1.5 hrs.
Travel from Cocodrie to So. Timbalier Block 63 5.0 hrs.

Total Response Time 10.0 hrs.
(30 miles open water @ 10 MPH, 12 miles inland water @ 6 MPH)
TRANSPORTATION ROUTES (WATER AND AIR)

The most direct routes from So. Timbalier Block 63 to shore base for supplies and personnel will be used.

BASE OF OPERATIONS

Marine service to drill this well will be provided from Dulac, LA, a distance of approximately 55 miles. A crew boat will make approximately 60 round trips of 6 hours duration. A supply boat will make approximately 30 round trips of 8 hours duration.

Air service (helicopter) will be provided from Houma, LA. The helicopter will make approximately 15 round trips of 2 hours duration.

DRILL MUD AND CHEMICAL COMPONENTS

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

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

This well will be drilled using a water based nondispersed unweighted mud system to 15,000', then a dispersed weighted mud to total depth. 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 700 bbls/day in any one day. This discharge rate of cuttings is based on drilling this section of the hole at a rate of 1800 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 50 bbls./day based on an average drilling rate of 250 feet per day from surface casing to total depth and a two (2") hole enlargement due to erosion. The total discharge of cuttings for this well is estimated to be 4425 bbls. allowing for a 2" hole enlargement from the mud line to total depth.

Total discharge of drilling fluids for this well is estimated to be 8400 bbls. 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 on our well we anticipate discharging approximately 9400 total bbls.

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

This well will be drilled in an area which is known to be free of hydrogen sulphide. 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 "E".

Exemptions: Distance from shore = 21 statute miles.

1. Hydrocarbons, NO$_x$, SO$_2$, Particles:
   
   \[ 33.3 \times 21 = 699.3 \text{ tons/year} \]

2. CO $3400 \times (21)^{2/3}$ or 26,143.63 tons/year.

NEW OR UNUSUAL TECHNOLOGY

No new or unusual technology will be employed during hookup and production activities.

ATTACHMENTS

A. Location plat.

B. Vicinity map with transportation route plotted.

C. Flowline map.

D. Schematics of drill barge and of diverter.

E. Air emission calculations.

F. Geological program with structure map, bathymetry map, top of pressure map, top of salt map, shallow hazards letter with seismic map, and letter of request to determine status of H$_2$S.
LAT = 28° 48' 27.06"  
LON = -90° 13' 10.52"  
X = 2,356,750.750  
Y = 52,955.855
"J-2"
X=2,356,750.00
Y=52,955.53

REUSING EXISTING
4"Ø FLOWLINE

SOUTH TIMBALIER AREA

PROPOSED REUSING EXISTING 4"Ø FLOWLINE FROM OCS-0599 J-2 WELL TO OCS-0599 "CA" PLATFORM
BLOCK 63 SOUTH TIMBALIER AREA

<table>
<thead>
<tr>
<th>DRAWN</th>
<th>DATE</th>
<th>SCALE</th>
<th>DWG.NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>FJR</td>
<td>1-2-96</td>
<td>1&quot;=1000'</td>
<td>0867</td>
</tr>
</tbody>
</table>
OCEAN CHAMPION

Bethlehem Design
Mat-Supported
Slot Type
Jackup Drilling Unit

ODECO DRILLING INC.
1600 Canal Street
New Orleans, Louisiana 70112
OCEAN CHAMPION

GENERAL DESCRIPTION AND EQUIPMENT LIST

A. GENERAL DESCRIPTION:

The Ocean Champion is a USCG certified, ABS Classed Bethlehem designed mat-supported slot jackup rated for operation in water depths up to 250', drilling depths to 25,000' below the rotary, and hook loads of up to 1,300,000 lbs.

PRINCIPAL CHARACTERISTICS AND DIMENSIONS:

MAT:

Length: 210' 0"
Width: 170' 0"
Depth: 10' 0"
Scouring skirt

Max. avg. bearing pressure (psf) (non hurricane) 482 psf
Max. bearing pressure (psf) (non hurricane) 632 psf
Max. avg. bearing pressure (psf) (hurricane) 438 psf
Max. bearing pressure (psf) (hurricane) 789 psf
Max. allowable sinkage in soil 8' 0"

SLOT:

Length: (bow to stern) 87' 0"
Width: (port to starboard) 90' 0"

PLATFORM:

Length: 166' 0"
Width: 132' 0"
Depth: 16' 0"
Number of legs 3
Diameter of each leg 12' 0"
Overall length of legs (includes mat height) 312' 0"
Longitudinal leg centers 104' 0"
Transverse leg centers 109' 0"
Loadline draft 9' 3"
Jackhouse leg length requirements 36' 0"
Water tower length (flange to bottom) 106' 0"
Top of rotary table to bottom of barge 37' 7"
SLOT:

Length: (bow to stern) 48' 0"
Width: (port to starboard) 50' 0"

NOMINAL VARIABLE DECK LOAD (MAXIMUM):

<table>
<thead>
<tr>
<th>WATER DEPTH (FT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
</tr>
<tr>
<td>-----------------</td>
</tr>
<tr>
<td>Operating</td>
</tr>
<tr>
<td>Storm (hurricane-kip)</td>
</tr>
<tr>
<td>Jacking (kips)</td>
</tr>
<tr>
<td>Transit (kips)</td>
</tr>
</tbody>
</table>

* Very minimal conditions during certain periods of Hurricane Season

WATER DEPTH RATING:

* Minimum 24' 0"
** Maximum normal 250' 0"
*** Hurricane season (max) 195' 0"

* Under certain limited sheltered conditions, the mat can be deballasted resulting in a 16.5 draft.
** Extendable under certain conditions

DRILLING AREA: 21' 6" x 15'

Unit has maximum drilling pattern of 7'6" port or starboard from center line (15' total) and 21'6" fore and aft.

Forward most position is 10' aft of slot bulkhead. Aftermost position is 31'6" aft of slot bulkhead. There is minimum clearance of 17'6" from slot sides.

MAXIMUM CAISSON OD THAT IS DRIVABLE:

Maximum outside diameter caisson that can be driven with the rotary skid and pollution pan removed:

* No other modifications (max) 36"
* Minor modifications such as unpin or remove rotary beams, remove KFDJ diverter, etc (max) 60"
Removal of BOP tracks, guide dolly tracks, some welding, etc as controlled by main structural beams in drill floor (max) 84".

AIR GAP:

- Hurricane Season (under 100' WD)
  - 40' to 50'
- Hurricane Season (over 100' WD)
  - 50' to 43'
- Non Hurricane Season (under 100' WD)
  - 26' to 34'
- Non Hurricane Season (over 100' WD)
  - 34' to 33'
- Maximum as controlled by water tower with 10' submerged (75') and lifeboats (83') *
  - 75'
- Extendable to 83' with auxiliary submersible pumps (not included).

NOMINAL TOW SPEED (using three (3) 4,200 hp tugs):

- 3.5/4 kts

CAPACITIES:

- Bulk Mud:
  - 2,880 cu. ft.
- Bulk Cement:
  - 3,150 cu. ft.
- Liquid Mud:
  - 1,806 BBLs
- Potable Water:
  - 474 BBLs
- Drill Water:
  - 4,575 BBLs
- Sack Material:
  - 3,000 sacks
- Fuel Oil:
  - 1,827 BBLs

QUARTERS:

Air conditioned living quarters to accommodate 74 persons, including mess room, galley and recreation room plus a three (3) person hospital.

DRILLING LOADS:

The substructure and associated structural components will accept the following maximum loads:

- Drive pipe support system
  - 120 kips
- Set back load
  - 600 kips
- Rotary load
  - 1,300 kips
- Hook load
  - 1,300 kips
- Combined hook, rotary, setback and drive pipe tension
  - 1,400 kips

HELIDECK:

83' x 83' cantilevered helicopter landing area with an elevation of 36' above hull bottom, located on forward end of drilling unit, helideck is designed for a maximum take off load of 20,195 lbs. and will support Sikorsky S-61 helicopter.
JACKING SYSTEM: Each of the three (3) column jacks are independently powered by two (2) hydraulic pumps (each fitted with 60 hp electric motors driving six (6) 18" bore x 75" stroke cylinders and are controlled from a central location.


DESIGN: Bethlehem slot mat-supported


DOCUMENTATION: U.S. Registry with USCG Certificate of Inspection

B. DRILL FLOOR EQUIPMENT:

1. Drawworks - National Model 1625 DE electric drawworks powered by two (2) 800 hp Model D79 MB DC motors and equipped with Parmac V295 auxiliary brake, 1-5/8" drill line, National type "A" makeup and breakout catheads, one (1) Model TCB "Crown-O-Matic".

2. Derrick - Dreco nominal 147' high x 30' sq base x 14 sq top with 1.3 million lbs. static hook capacity with 14 lines strung.

   Derrick complete with standard accessories which include:
   - Racking platform with fingers to accommodate 25,500' +/-285 stands of 5" drill pipe.
   - Dreco block dolly assembly with spring loaded dolly for installation to National Type 760 H-650 travelling block.
   - Adjustable casing stabbing board.
   - Derrick is complete with Class 1 Division 1 explosion proof fluorescent lighting and obstruction lights.

3. Substructure - The derrick and drill floor are mounted on a sliding substructure rated for 1,400,000 lbs. combined load and is equipped with hydraulic jacking cylinders for skidding the drill floor from the stowed position to its drilling position.

4. Traveling equipment consisting of:
   - One (1) Dreco, 742 ton capacity crown block with eight (8) 60" drill line sheaves grooved for 1-5/8" line.
One (1) National Type H-650 traveling block (650 ton capacity) with seven (7) 60" sheaves grooved for 1-5/8" drill line, and adapted to be used with Drecq block dolly guide.

One (1) National HA 650 hook (650 ton) load rating. Has built in hydraulic snubber and rotation lock.

One (1) Continental Emsco L-650 swivel.

One (1) International kelly spinner Model A-6C-2 with 6-5/8 LH Reg. connections.

5. One (1) National type "EB" drill line anchor rated for 100,000 lb. line pull with 1-5/8" drill line, fitted with a type E-80 sensator load cell.

6. Rotary - One (1) National Type C-375, (37-1/2" max opening), driven by one (1) EMD D79 MB 800 hp continuous rating DC motor (650 ton dead load capacity).

One (1) National C-700 two speed rotary transmission:

- Low Gear Ratio 1.76:1
- High Gear Ratio 1:1.02

Rotary complete with Varco MPCH No. 6600 hinged pinned master bushings, with No. 3 insert bowls and one (1) 27 hp pin drive kelly bushings.

One (1) Air Flex rotary inertia brake.

7. Wire line unit with capacity of 20,000 lb. 0.092 slick line.

8. One (1) Eastman deviation recorder/drift indicator complete with one (1) 0° to 6° and one (1) 0° to 12° clocks.

9. Standard drill floor instrumentation consisting of a driller console, containing a weight indicator, tong torque indicator, rotary rpm and torque amp meters, mud pump pressure gauges, stroke counters and speed indicators, monitors and recorders include:

- A-1 Rig Service dual mud monitoring system (monitors and recorders at drillers station and office) with 30 day strip chart recorder, audible and visual alarms for mud return flow and mud pit volume. Included is a pump speed indicator and individual stroke counters.

- One (1) two channel circular chart recorder to record pit volume and trip tank volume.

- One (1) trip tank monitoring system with resetable gain/loss indicator and tank volume indicator.

10. Air winches consisting of:

- Three (3) 10,000 lbs. nominal rating.
Four (4) 2,500 lbs. nominal rating.

Two (2) 7,000 lbs. nominal rating.

One (1) 2000 nominal rated unit in derrick to act as a "mule" for derrickman.

C. MUD SYSTEM AND EQUIPMENT

1. Two (2) National Model 12P-160 6-1/2" x 12" stroke triplex single acting pumps. Each pump is driven by two (2) EMD D-79 MB 800 hp continuous rating DC motors. Fluid ends are fitted with a Hydrill K-20 5,000 psi discharge pulsation dampener and Cameron type B 3" resealable relief valve. Pump equipped with 6-1/2" liners.

2. Mud service pumps consisting of:
   - Two (2) Mission Magnum 8" x 6" centrifugal supercharging pump, each driven by a 75 hp AC motor. Rated at 1400 rpm at 68' of head.
   - Two (2) Mission Magnum 8" x 6" centrifugal mud mixing pumps, each driven by a 75 hp AC motor. Rated at 1300 rpm at 75' of head.
   - One (1) Mission Magnum 8" x 6" centrifugal pumps driven by 100 hp AC motor for use with operator furnished centrifuge or as a stand by unit for desander, desilter and degasser service. Each rated at 2,000 gpm with 17 ppg mud and 70' head.
   - Two (2) Mission Magnum 8" x 6" centrifugal pump driven by 75 hp AC motor for use mud cleaner, desander, desilter and degasser service.
   - One (1) Mission Magnum 4" x 4" x 14" Vortex pump for derrick flowline cleaner driven by 100 hp AC motor. Rated output of 1000 gpm 75' head with 17 ppg mud.

3. Mud cleaning equipment consisting of:
   - One (1) Brandt dual tandem high speed shale shakers. Capacity is 1,200 gpm with 18 ppg mud.
   - One (1) dual Derrick flow line cleaner. Average flow with low viscosity mud is 400 gpm using 175 mesh screens, as taken from the derrick solid control chart equipment capacity equipment chart.

Note: Derrick flow line cleaners are fed by a Vortex centrifugal pump (item C2) in which well cuttings do not come in contact with the pumps impellers thus cuttings are not reduced in size.

   - One (1) Brandt dual mud cleaner (capacity 800 gpm).
   - One (1) Demco desander Model 102 with two (2) 10' cones, capacity GPM (70' - 80' head) 1,000 to 1,200 GPM. Serviced by a Mission Magnum 8 x 6 centrifugal pump.
One (1) Pioneer desilter, Model T20-4 (20-4" cones) min feed rate 1,000 GPM at 75' head. Serviced by a 8" x 6" Mission Magnum centrifugal pump.

4. One (1) ODECO designed mud/gas separator, 4' dia x 12' high with an 8" dia. vent line extending above the top of the derrick and an 8" dia. under flow incorporating a liquid leg to minimize vapors in the shale shaker area.

5. One (1) Swaco vacuum type degasser with a three hp AC motor driven vacuum pump which discharges extracted gas to the vent line extending above the derrick (Rated capacity 1,000 GPM).

6. Liquid mud pit consisting of:

<table>
<thead>
<tr>
<th>Description</th>
<th>Capacity</th>
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<tbody>
<tr>
<td>4 - shaker/settling pits</td>
<td>180 bbls</td>
</tr>
<tr>
<td>2 - active pits</td>
<td>556 bbls</td>
</tr>
<tr>
<td>1 - reserve pit</td>
<td>414 bbls (95%) 70°</td>
</tr>
<tr>
<td>1 - slugging pit</td>
<td>100 bbls (95%) 70°</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1,806 bbls</strong></td>
</tr>
</tbody>
</table>

7. Three (3) "Lightin" rotary type mud pit agitators driven by 20 hp explosion proof motor (one (1) each mud pit).

8. Seven (7) low pressure mud guns (2 in each of the active pits/1 in slugging pit and one (1) agitator in the slugging pit).

9. Pneumatic bulk mud cement storage transfer consisting of:

- Four (4) 720 cu. ft. (2,880 cu. ft. total capacity) pneumatic bulk mud tanks. Bulk mud tanks equipped with electronic weighing system with remote electronic read out in toolpushers office.

- Three (3) 1050 cu. ft. pneumatic bulk cement tanks with 3,150 cu. ft. total capacity.

- One (1) 80 sack pressurized surge tank for use in mud mbx area.

- One (1) Gardner Denver Model MVADB 300 cfm, 40 psi for bulk system.

- One (1) Deltic Model D-55 bulk air dryer. Rated capacity is 750 cfm at 150 psig max.

- Back-up low pressure bulk system air furnished by rig air compressors through a 120/40 psi regulator.

- One (1) removable crossover line that allows bulk cement to be stored in any P-Tank.

10. Sack storage area located in mud pit area for approximately 3,000 sack.

11. Two (2) low pressure mud hoppers one (1) sack fed and one (1) surge tank fed.
12. Equipment for basic/routine mud testing consisting of mud balance, marsh viscosity funnel and sand content equipment.

13. One (1) 5" dual stand pipe manifold, 5,000 psi working pressure with outlets for pressure gauges, sensors, and transducers with access to choke manifold.

14. Two (2) rotary hoses 3" x 75', 5,000 psi WP with 4" Weco end connections 10,000 psi test.

15. One (1) 40 bbl recirculating trip tank with one 2 x 3 centrifugal pump, this system is connected to the A-1 mud monitoring system to drill floor and T. P. Office.

16. One (1) lot of various length Chicksan lines with 2" 1502 Weco nions (10,000 psi WP).

D. BLOWOUT PREVENTERS AND WELL CONTROL EQUIPMENT:

1. One (1) 13-5/8" x 10,000 psi WP Cameron Type "U" double ram preventers (trimmed for H₂S service) with two (2) 3-1/16" and two (2) 4-1/16" (on bottom) x 10,000 psi outlets with all connecting being flanged.

2. One (1) 13-5/8" x 10,000 psi WP up Cameron Type "U" single ram preventers (trimmed for H₂S service) with two (2) 3-1/16" x 10,000 psi outlet with all connections being flanged.

NOTE: Ram bodies fitted from top to bottom as follows:

- 5" pipe ram
- blind ram
- 5" pipe ram

- One (1) 13-5/8" x 5,000 psi WP Hydril type "GL" annular preventer with 13-5/8" x 10,000 lb. BX-159 flanged bottom and 13-5/8" 5,000 lb. BX-160 studded top.

- BOP stack valves consisting of:
  - 2 - 3-1/16" x 10M hydraulic operated valves
  - 2 - 3-1/16" x 10M manual operated valves

- Two (2) 3" ID x 55' long x 10,000 psi WP choke and kill line droop hoses for connection of BOP stack valves to choke manifold.

3. Diverter - One (1) Hughes/Regan type KFDJ 27-1/2" nominal x 2,000 psi WP with three (3) hydraulically operated 12" 2,000 WP ball valves to divert flow to 12" port/starboard overboard lines and control flow to the shale shaker area. Assembly is complete with overshots for 30° and 20° casing and is all MMS approved.
4. BOP and diverter control system consisting of:

   One (1) Valvcon Model 400-E30-3B60 master hydraulic pumping and control unit mounted on the drill floor to operate the BOP and diverter functions. Unit is complete with one (1) 3,000 psi triplex pump driven by a 30 hp AC motor with pressure controlled auto start/stop feature, three (3) Model B-60 60:1 ratio air driven pumps with air governor manifold and a 400 gallon BOP fluid reservoir. Manifold set up for four (4) rams and one annular.

   Twenty seven (27) 15 gallon bladder/separater type accumulator bottles, each with its own isolation valve and safety vent.

5. One (1) 10,000 psi WP choke manifold (trimmed for H₂S service) providing connections for two (2) choke lines, two (2) kill lines, two buffer chamber outlets with 6" XXH lines to the mud/gas separator and three (3) inlets that can be directly connected to the mud pumps through the stand pipe manifold. Manifold valves and chokes consisting of the following:

   Two (2) 3-1/16" x 10,000 psi WP Swaco super choke (max. opening 1.9 sq. in.) each with its own independent remote control console with SIDPP and SICP gauges.

   Two (2) 3-1/16" x 10,000 psi WP manual adjustable chokes (max. opening 2.0 sq. in.).

   Four (4) 3-1/16" x 10,000 psi WP gate valves.

   Thirteen (13) 2-1/16" x 10,000 psi WP gate valves.

   One (1) 4-1/16" x 5,000 psi WP gate valves.

   Three (3) 3-1/8" 5,000 psi WP gate valves.

   One (1) electric remote control panel located in T. P. office to operate BOP stack and diverter through the master hydraulic unit.

   One (1) 24 volt emergency back up battery pack with battery charger.

6. One (1) 120,000 lb. constant hydraulic drive pipe support system balanced with a 30 gallon accumulator capacity for drive pipe movement.

7. BOP handling system, Hogan fluid power with a lifting capacity of 50 tons via two (2) 25 ton hoists.

E. DRILL STRING AND RELATED EQUIPMENT:

1. Drill pipe consisting of:

   9,000' - 5" OD, 19.50 lb/ft Grade E Range III with 4-1/2" IF connection, 6-3/8" OD x 3-3/4" ID and 18+ taper.
6,000' - 5' OD 19.50 lb/ft Grade G Range III with 4-1/2" IF connection, 6-3/8' OD x 3-1/2" ID and 18° taper.

NOTE: The above drill pipe is internally coated.

2. Drill collars consisting of:
   - Fifteen (15) 7-3/4" OD x 2-13/16" ID x 30' long with 6-5/8" API Reg. connections (presently 16 on the rig).
   - Fifteen (15) 6-1/2" OD x 2-3/4" ID x 30' long with 4-1/2" IF connections.

NOTE: Other sizes may be available upon request (not included).

3. One (1) 5-1/4" hex 54' long kelly with 6-5/8" Reg. LH box x 4-1/2" IF pin connections. Kelly is complete with throw away type saver subs.

4. Bit breaker for standard three (3) cone bits 26", 17-1/2", 12-1/4" and 8-1/2".

5. Subs consisting of:
   - Two (2) bit subs for 7-3/4" D/C bored for a float 6-5/8 Reg. double box connection.
   - Two (2) each crossover subs as needed for use with all contractor furnished drill string and down hole tools.
   - Four (4) kelly saver subs.
   - Six (6) lift nipples for 7-3/4" drill collars.
   - Six (6) lift nipples for 6-1/2" drill collars.
   - One (1) pump in sub with 4-1/2 IF pin and 2" Weco fig. 1502 outlet.
   - One (1) kelly test sub with 4-1/2 IF box and 2" Weco Fig. 1502 outlet.

6. Drill pipe/casing protectors for 5' OD drill pipe for use in surface casing. Additional and/or replacement rubber protectors furnished by Operator.

7. Kelly valves consisting of:
   - Two (2) lower kelly valves (10,000 psi WP) with 4-1/2 IF (NC-50) connections.
   - Two (2) upper kelly valves (10,000 psi WP) with 6-5/8 Reg. LH connections.
   - Two (2) Inside BOP valve (float type) (10,000 psi WP) with 4-1/2 IF (NC-50) connections.
8. Fishing tools consisting of:
   - One (1) Bowen Series 150 over shot type S.H./Part No. 9850 (7-3/4" maximum catch) complete with required grapples, packers and guides to catch Contractor furnished in-hole tubulars.
   - One (1) taper tap with 4-1/2" IF box connection with taper from 1-3/8" to 5'.

9. Drill string and drill collar elevators consisting of:
   - Two (2) BJ type "GG" center latch elevators, (350 ton) for 5" OD/18+ taper drill pipe.
   - Two (2) BJ type "TA-150" center latch elevators for 7-3/4" drill collars (150 ton).
   - Two (2) 100 ton center latch elevators for 6-1/2" drill collars.

10. Elevator links consisting of:
    - One (1) set 2-3/4" x 132" elevator links (350 ton).

11. Two (2) BJ type "DB" rotary tongs with jaws to handle 3-1/2" to 14-3/8" OD pipe sizes.

12. One (1) Varco SSW-10 spinning wrench.

13. Slips to handle drill pipe and drill collars consisting of:
    - Two (2) Varco type "SDXL" rotary slips (or equivalent) for 5" OD drill pipe.
    - Two (2) Varco type "DCSL" drill collar slips to handle 7-3/4" drill collar.
    - Two (2) Varco DCS-R drill collar slips for handling 6-1/2" drill collars.

14. Two (2) Varco type "MD-R" safety clamps for 6-1/2" and 7-3/4" drill collar sizes.

15. Drillco Ezy-torq type "1" hydraulic cathead for torques up to 120,000 ft/lb.

16. One (1) mud saver bucket OTECO (mud Guard).

17. Drill pipe wipers for 5" drill pipe.

F. **AUXILIARY EQUIPMENT:**

1. Two (2) EMD Model 16-645-E8 diesel engines, each rated at 1950 hp at 900 rpm, each driving one 1,400 kw, 600 VAC 2525 A, AC generator.

   One (1) EMD Model 8-645-E8 diesel engine, rated at 975 hp at 900 rpm, driving one (1) 600 volt, 2525 KVA at 900 rpm.
One (1) Cummins Model 12 Marathon 500 KW standby generator rated 760 hp at 1800.

One (1) Ross Hill SCR system.

2. Compressors consisting of:

- Two (2) Ingersoll - Rand SSR-200 rotary screw air compressors, each rated at 350 cfm at 125 psi (Rig Service).
- One (1) Gardner Denver 300 cfm, 40 psi bulk air compressor.
- Quincy Model 350-18, 30 cfm at max am output of 200 psi driven by one (1) two cylinder Lister diesel engine.
- One (1) Quincy Model 350-18, 30 cfm at max air output of 200 psi, driven by one electric motor.
- One (1) Deltech Model D-55 dryer rated at 150 psi.

3. Two (2) Letourneau PCM-120-AS cranes, each with 100' boom, rated at 46 tons at 26' radius.

4. Two (2) personnel transfer nets.

5. One (1) lot of slings (certified) for loading and off loading of equipment.

6. One (1) set of cargo transfer hoses for loading and offloading of rig.

7. Two (2) electric arc welder Lincoln Model SAE 400, 400 amp.

8. One (1) Alfa Laval Nirex Model Type JWP-36-0100 capacity 5,000 GPD.

9. One (1) fresh hot water 3,000 psi pressure wash system for cleaning drilling unit plumbed throughout the rig via waste engine heat.

10. One (1) oil/water separator system with regulated drip pans, drain lines and collection tanks to meet MMS requirements.

11. Firefighting and lifesaving equipment to comply with USCG and ABS requirements including:

- 150 lb. semi portable dry chemical wheel unit heliport.
- Four (4) 20-man davit launched inflatable life rafts.
- Fixed 30 lb. dry chemical unit (for galley stove hood).
- Two (2) 44-man Watercraft life boats with launch and recovery system.
Various safety signal.

Coast Guard approved life jackets for all persons aboard rig.

Eight (8) ring bouy according to USCG specification.

First aid supply.

One (1) line throwing appliance (badger).

Fixed Halon system for machinery 8 pace (1301).

Fire extinguishers.

Two (2) Fireman outfit.

Fire pump system.

Survival suits for 150% of rig complement.

Three (3) stroke litter.

12. Ships service pumps consisting of:

- Drill water pumps. Two (2) Mission Magnum 2 x 3 centrifugal pumps driven by 30 hp AC motors. Rated output of 300 gpm at 155' of head.

- Salt water pumps. Three (3) Durco 2" x 3" x 8" Mark III centrifugal pumps driven by 30 hp AC motors. Rated output of 290 gpm at 210' of head.


- Saltwater deep well pumps. One (1) Auroma Model 10L6 driven by 40 hp 1770 rpm AC motor. Rated output of 600 gpm at 176' of head.

- Fuel oil service pumps. Two (2) Worthington Model 4 Guam, driven by 7.5 hp - 1740 rpm AC motor. Rated output of 20 gpm at 60 psi.

- Fuel oil centrifuge. One (1) Alfa-Laval Model JWP-36-C. Rated at 80 gpm.

- Lube oil centrifuge one (1) Alfa-Laval Model JWP 36-C. Rated at 80 gpm.

13. One (1) Galtronics paging system with stations fixed throughout the rig.

14. Communication equipment consisting of:

- ODECO FM 3070 MHZ Gulf of Mexico system
- VHF radios
**DE**

**DIVERTER OPERATION**

**OCEAN CHAMPION**

**BEST AVAILABLE COPY**

**DESCRIPTION:**

The diverter system consist of a Regan KFDJ diverter with a two outlet housing, one for flowline and one for the vent lines. The flowline is constructed of 12" line pipe with a 12" class 900 ball valve to block flow. The vent lines are constructed of 12" line pipe and utilize a 12" class 900 ball valve to block flow and two 12" class 300 knife gate valves to direct flow port or starboard. Both the vent lines and flowline are constructed of XXS pipe up stream of the ball valves and Schedule 80 pipe down stream of the ball valves. The diverter can be operated from the main panel on the drill floor or from the mini panel located in the Toolpushers office. The remote panel is electric. Electric signals from the remote panel energize solenoid valves in the explosion proof box in the main panel which send air pilot signals to the valves on the main panel. The main panel hydraulic control valves are manually operated or indirectly operated by the mini panel as described above. See attached schematic.

**NORMAL OPERATION:**

1) During drilling operations the valves are in the below position:
   a.) Flowline valve open
   b.) Vent line ball valve open or closed (depending on type of mud system)
   c.) Port or starboard overboard valve open
   d.) Choke and fill valves closed

2) To shut the Regan KFDJ diverter, the diverter packer valve is operated from either the main or remote panel. In order for the packer to close the diverter packer insert lockdown dog must be activated.

3) When the packer valve is closed the air over hydraulic circuitry places the valves in the following positions then closes the packer.
   a.) Flowline valve closed
   b.) Vent line ball valve open
   c.) Port and starboard overboard valves open.
   d.) Choke and fill-up valve closed.

4) After the packer is closed, either the port or starboard overboard valve can be closed but not both at the same time. The circuitry is such that only one valve can be closed, either with the packer open or closed.

**TEST FUNCTION:**

1.) When the test function is operated from the main panel all valves can be closed simultaneously with the packer closed. This function allows the system to be hydro-tested with the packer closed on drill pipe or other suitable tubular.
<table>
<thead>
<tr>
<th>COMPANY</th>
<th>AREA</th>
<th>BLOCK</th>
<th>LEASE</th>
<th>PLATFORM</th>
<th>WELL</th>
<th>LATITUDE</th>
<th>LONGITUDE</th>
<th>CONTACT</th>
<th>PHONE</th>
<th>REMARKS</th>
<th>REVISED SUPPLEMENTAL DQCD</th>
<th>TONS PER YEAR</th>
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<td>S. TIMALIER</td>
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### OPERATIONS

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<tr>
<th>EQUIPMENT</th>
<th>MAX FUEL</th>
<th>ACT FUEL</th>
<th>RUNTIME</th>
<th>FOUND</th>
<th>PER HOUR</th>
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<tr>
<td>Diesel Engines</td>
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| 1996 YEAR TOTAL | | | | | | |

### EXEMPTION CALCULATION

DISTANCE FROM LAND IN MILES

21.0
## Air Emission Calculations

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### EQUIPMENT

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### PIPELINE

| PIPELINE LAY & BURIAL | 6700 | 32.81 | 7760.84 | 24.0 | 0 | 3.54 | 21.99 | 50.33 | 4.87 | 35.42 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

### INSTALLATION

| INSTALLATION | 350 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

### BURIAL

| SUPPORT VESSEL, diesel | 2100 | 101.43 | 2443.32 | 24.0 | 0 | 1.11 | 0.89 | 50.88 | 1.53 | 11.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| SUPPORT VESSEL, diesel | 2100 | 101.43 | 2443.32 | 24.0 | 0 | 1.11 | 0.89 | 50.88 | 1.53 | 11.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

### FACILITY INSTALLATION

| VACUUM TUG, diesel | 1800 | 88.94 | 2088.58 | 7.0 | 0 | 0.95 | 5.91 | 45.61 | 1.31 | 3.52 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

### PRODUCTION

| RECIP > 4000 hp diesel | 144 | 10.96 | 2498.62 | 24.0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| recycle & transfer | 144 | 10.96 | 2498.62 | 24.0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Generator | 144 | 10.96 | 2498.62 | 24.0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

### REFINERY NGS

| 0.7 | 906.87 | 18000.00 | 24.0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

### TANKS

| 0.0 | 906.87 | 18000.00 | 24.0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

### SITE

| 0.0 | 906.87 | 18000.00 | 24.0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

### YEAR TOTAL

1825.70 79.23 420.61 21.54 139.38 42.70 25.89 206.41 5.59 54.55

### EXEMPTION CALCULATION

DISTANCE FROM LAND IN MILES

02 - Jan - 96 (MMS/WKG)

PAGE 1