

In Reply Refer To: RP-2-1

MAY 23 1986

CMS Producing Company
Attention: Ms. Helda T. Decker
Canal Place One - Suite 310C
New Orleans, Louisiana 70130

Gentlemen:

Reference is made to your Initial Plan of Exploration and Environmental Report received May 9, 1986, for Lease OCS-G 6692, Block 31, South Marsh Island Area. This plan includes the activities proposed for Wells A and B.

In accordance with 30 CFR 250.34, revised December 13, 1979, and our letter dated January 29, 1979, this plan has been determined to be complete as of May 23, 1986, and is now being considered for approval.

Your plan control number is H-2466 and should be referenced in your communication and correspondence concerning this plan.

Sincerely yours,

Jed
Original Signed: Kent E. Stauffer

A. Donald Giroir
Deputy Regional Supervisor
Rules and Production

bcc: Lease OCS-G 6692 (OPS-3-2) (FILE ROOM)
(OPS-3-4 w/Public Info. Copy of the plan and ER (PUBL.REC.)
DD-4

ADGobert:gcw:5/13/86 Disk 1a

Office of
Program Services

MAY 28 1986

Information Services
Section

PUBLIC INFORMATION

CNG PRODUCING COMPANY
CANAL PLACE ONE - SUITE 3100



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MAY 1, 1986

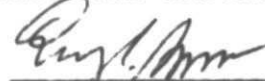
MAY 10 1986

RECEIVED

**PLAN OF EXPLORATION
SOUTH MARSH ISLAND BLOCK 81 AREA
SOUTH ADDITION
OCS-6-6692 LEASE
OFFSHORE, LOUISIANA**

CNG PRODUCING COMPANY

BY:


EUGENE C. SMITH

TITLE: SENIOR VICE PRESIDENT

DATE: May 6, 1986

PLAN OF EXPLORATION
SOUTH MARSH ISLAND BLOCK 81 AREA

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PLAN OF EXPLORATION
SOUTH MARSH ISLAND BLOCK 81 AREA

HISTORY

OCS-G-6692 LEASE

SOUTH MARSH ISLAND BLOCK 81 AREA

THE SUBJECT LEASE WAS BID IN 100% BY CNG PRODUCING COMPANY AT OCS SALE 81 HELD ON APRIL 24, 1984 FOR A CASH BONUS OF \$1,837,000 AND HAS AN EFFECTIVE DATE OF JUNE 1, 1984. TERM OF THE LEASE IS FIVE (5) YEARS AND COVERS ALL OF SOUTH MARSH ISLAND AREA, BLOCK 81, SOUTH ADDITION, APPROXIMATE WATER DEPTH OF 140 FEET AND CONTAINS 5000 ACRES. IT PROVIDES FOR A ROYALTY OF 16-2/3% AND A MINIMUM ROYALTY OF \$3.00 PER ACRE SHOULD A WELL BE COMPLETED AS CAPABLE OF PRODUCING UNDER OCS ORDER No. 4 AND IS SHUT-IN FOR COMPLETION AND PRODUCTION IN THE FUTURE.

THE FORM OF THE LEASE IS THE USUAL OCS LEASE FORM UTILIZED FOR PAYMENT OF A STRAIGHT ROYALTY INTEREST TO THE FEDERAL GOVERNMENT WITH THE EXCEPTION OF STIPULATION 1 PROVIDING FOR THE PROTECTION OF CULTURAL RESOURCES. SHOULD THE REGIONAL MANAGER BELIEVE THAT CULTURAL RESOURCES EXIST ON THE LEASE PREMISES, HE SHALL, PRIOR TO ANY DRILLING OPERATIONS, NOTIFY THE OPERATOR AND ADVISE HIM THAT HE MUST COMPLY WITH THIS STIPULATION WHICH SETS OUT THE PROCEDURES IN MEETING THE REQUIREMENTS OF SAME.

HAZARDS SURVEY WAS PREPARED BY MARINE TECHNICAL SERVICES, INC. IN AUGUST OF 1984. IN ACCORDANCE WITH MMS LETTER TO LESSEES AND OPERATORS OF JULY 2, 1984, A HISTORIC SHIPWRECK/PREHISTORIC SITE SURVEY WAS A LEASE REQUIREMENT ON THIS BLOCK AND WAS INCLUDED WITH THIS REPORT WHICH WAS SUBMITTED TO THE MINERALS MANAGEMENT SERVICE ON MARCH 13, 1986.

PLAN OF EXPLORATION
SOUTH MARSH ISLAND BLOCK 81 AREA

DESCRIPTION OF PROPOSED PLAN

CNG PRODUCING COMPANY, AS OPERATOR OF SOUTH MARSH ISLAND BLOCK 81 AREA, OCS-G-6692 LEASE PROPOSES TO DRILL TWO (2) EXPLORATORY WELLS TO EXPLORE FOR OIL AND GAS RESERVES IN SOUTH MARSH ISLAND BLOCK 81, OCS-G-6692 LEASE.

THE FOLLOWING WELLS ARE PROPOSED TO BE DRILLED UNDER THIS PLAN OF EXPLORATION:

LOCATION "A"

<u>SURFACE LOCATION</u>	<u>BOTTOM HOLE LOCATION</u>	<u>MD</u>	<u>TVD</u>
5450'FNL & 3700'FWL OF SOUTH MARSH ISLAND 81			

LOCATION "B"

<u>SURFACE LOCATION</u>	<u>BOTTOM HOLE LOCATION</u>	<u>MD</u>	<u>TVD</u>
5450'FNL & 3700'FWL OF SOUTH MARSH ISLAND 81			

LOCATION PLATS REFLECTING THE ABOVE LOCATIONS HAVE BEEN PREPARED AND ARE ATTACHED TO THIS PLAN.

PUBLIC INFORMATION

PLAN OF EXPLORATION
SOUTH MARSH ISLAND BLOCK 81 AREA

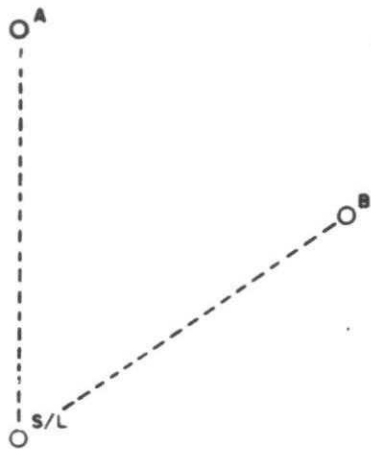
SCHEDULE OF ACTIVITY

<u>WELL No.</u>	<u>COMMENCE DRILLING</u>	<u>T&A OR P&A</u>
"A"	MAY 1, 1988	80 DAYS
"B"	AUGUST 15, 1988	70 DAYS

WESTERN TRITON, A JACK-UP RIG WILL BE USED TO DRILL THE SUBJECT LOCATIONS.

IT SHOULD BE STRESSED THAT THE ABOVE TIME-TABLE IS AN ESTIMATE AND IS SUBJECT TO CHANGE DUE TO UNFORESEEN AND UNAVOIDABLE CIRCUMSTANCES AND DELAYS.

IF ANY OF THE ABOVE WELLS PROVE TO BE PRODUCTIVE, SAID WELL OR WELLS WILL BE TEMPORARILY ABANDONDED, AND A DEVELOPMENT PLAN WILL BE PREPARED AND SUBMITTED TO THE MMS TO COVER INSTALLATION OF PLATFORM FOR DEVELOPMENT DRILLING AND SUBSEQUENT PRODUCTION OF THE LEASE.



BLK. 81

PUBLIC INFORMATION

CNG
OCS-G-6692

CNG PRODUCING COMPANY
NEW ORLEANS, LOUISIANA

SOUTH MARSH ISLAND AREA
BLOCK 81

0 2000'

5450' FNL

3700' FWL

S/L

BLK. 81

PUBLIC INFORMATION

CNG
OCS-G-6692



CNG PRODUCING COMPANY
OCS-G-4460 NO. A
PERMIT PLAT
SOUTH MARSH ISLAND ARE
SCALE: 1" = 2000'

5450' FWL

3700' FWL

S/L

BLK. 81

PUBLIC INFORMATION

CNG
OCS-G-6692



CNG PRODUCING COMPANY
OCS-G-446C NO. E
PERMIT PLAT
SOUTH MARSH ISLAND ARE
SCALE: 1" = 2000'

PLAN OF EXPLORATION
SOUTH MARSH ISLAND BLOCK 81 AREA

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CONFIDENTIAL INFORMATION

PUBLIC INFORMATION

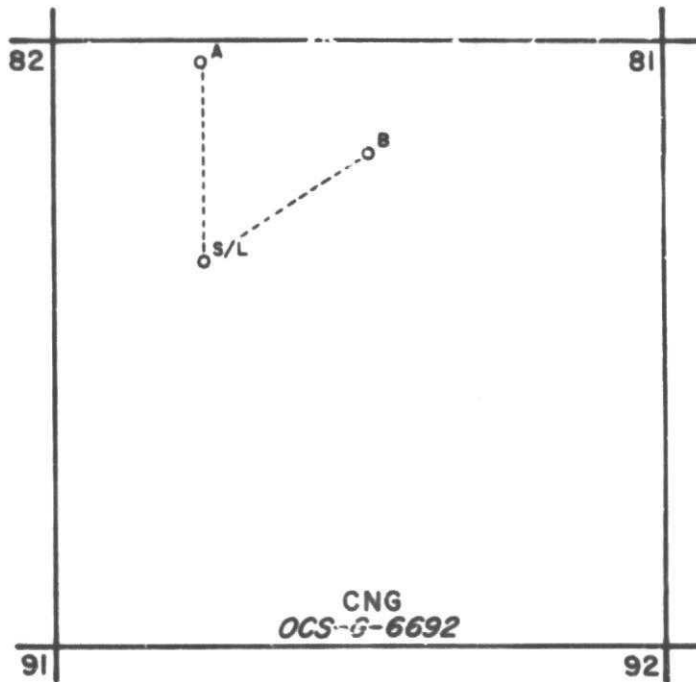
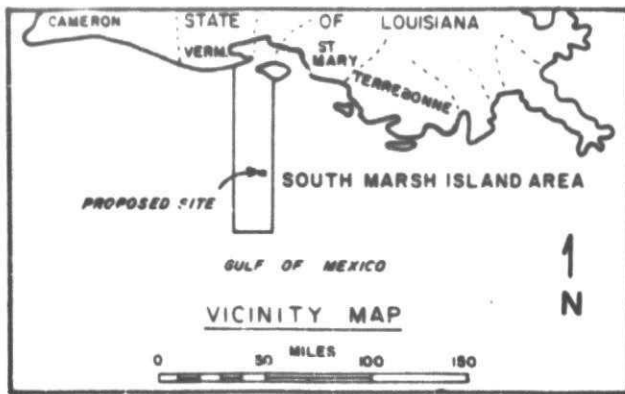
PLAN OF EXPLORATION
SOUTH MARSH ISLAND BLOCK 81 AREA

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DUE
TO

CONFIDENTIAL INFORMATION

PUBLIC INFORMATION



VICINITY MAP
SOUTH MARSH ISLAND AREA
BLOCK 81
GULF OF MEXICO

PLAN OF EXPLORATION
SOUTH MARSH ISLAND BLOCK 81 AREA

OIL SPILL CONTINGENCY PLAN

CNG PRODUCING COMPANY HAS ON FILE WITH THE MINERALS MANAGEMENT SERVICE, METAIRIE DISTRICT AN OIL SPILL CONTINGENCY PLAN WHICH HAS BEEN APPROVED BY THE AREA SUPERVISOR OF THE MINERALS MANAGEMENT AND IS AVAILABLE UPON REQUEST.

ANY SPILLS OF ANY POLLUTANT WILL BE RECORDED AND REPORTED AS REQUIRED BY THE APPROPRIATE REGULATIONS, INCLUDING NOTIFICATION TO OTHER OPERATORS OF MALFUNCTION/POLLUTION FROM THEIR FACILITIES.

IN THE EVENT OF AN OIL SPILL OCCURRING FROM THE LOCATIONS OUTLINED IN THIS PLAN FOR THE SOUTH MARSH ISLAND BLOCK 81 AREA NOTIFICATION PROCEDURES WOULD BE INITIATED IMMEDIATELY TO CNG'S MANAGEMENT PERSONNEL AND TO ALL FEDERAL AND STATE AGENCIES. SIMULTANEOUSLY, EFFORTS WOULD BE IN PROGRESS TO STOP AND RESTRAIN THE SPILL. CNG'S OIL DISCHARGE RESPONSE OPERATION CENTER FOR ALL OFFSHORE AREAS IS LOCATED IN HOUMA, LOUISIANA.

DEPENDING ON THE SEVERITY OF AN OIL SPILL, ACTION WILL BE ACCOMPANIED BY CNG PERSONNEL AND THE CLEAN GULF ASSOCIATES. CNG PRODUCING COMPANY IS A MEMBER OF THE CLEAN GULF ASSOCIATES, AND ALL THIS ORGANIZATION'S EQUIPMENT (CONTAINMENT BOOMS, SKIMMERS, CLEAN UP MATERIALS, ETC.) IS AVAILABLE TO ASSIST IN ANY CLEAN-UP OPERATIONS. CLEAN GULF ASSOCIATES MAINTAINS FACILITIES AND EQUIPMENT AT INTRACOASTAL CITY, VENICE, GRAND ISLE AND CAMERON, LOUISIANA. CNG WOULD UTILIZE THE GRAND ISLE FACILITY SHOULD A SPILL OCCUR IN LOCATIONS OF OPERATIONS IN THE SOUTH MARSH ISLAND BLOCK 81 AREA. TRAVEL AND DEPLOYMENT TIME TO ANY OF THESE LOCATIONS FROM CAMERON IS ESTIMATED AT A MINIMUM OF 1 HOUR BY HELICOPTER AND FOUR (4) HOURS BY BOAT.

PLAN OF EXPLORATION
SOUTH MARSH ISLAND BLOCK 81 AREA

SAFETY AND POLLUTION PLANS AND PROCEDURES

OPERATOR AND CONTRACTOR WILL IMPLEMENT OPERATING PROCEDURES IN ACCORDANCE WITH OCS ORDER No. 2, WHICH WILL BE DIRECTED TO MAINTAIN A WORKING PLACE THAT MINIMIZES PERSONAL INJURY, EQUIPMENT DAMAGE, AND DAMAGE TO THE SURROUNDING ENVIRONMENT.

AT ALL TIMES OPERATOR/CONTRACTOR WILL BE IN COMPLIANCE WITH APPLICABLE LAWS, RULES, REGULATIONS, AND/OR OPERATING PROCEDURES AS MAY BE SET FORTH BY THE MINERALS MANAGEMENT SERVICE, THE U.S. COAST GUARD, THE EPA, CORPS OF ENGINEERS AND ANY OTHER GOVERNMENTAL AGENCY HAVING JURISDICTION THEREON. ALL POLLUTION PREVENTION CONTROLS ON ABOVE-MENTIONED RIG ARE IN ACCORDANCE WITH OCS ORDER No. 7. OPERATING PROCEDURES NOT COVERED BY SPECIFIC LEGAL REGULATIONS WILL BE CONDUCTED IN ACCORDANCE WITH STANDARD INDUSTRY PRACTICES, AS CONTAINED IN THE AMERICAN PETROLEUM INSTITUTE'S SPECIFICATION, BULLETINS AND RECOMMENDED PRACTICES ISSUED FOR DRILLING AND PRODUCTION OPERATIONS OR AS OTHER SPECIFIED BY THE OPERATOR IN ITS DRILLING PROGRAMS AND SIMILAR WRITTEN DOCUMENTS.

OPERATOR/CONTRACTOR WILL MAINTAIN AN EFFECTIVELY ADMINISTERED SAFETY AND TRAINING PROGRAM. FEATURES OF SUCH PROGRAM SHALL INCLUDE, BUT NOT BE LIMITED TO: PERIODIC SAFETY AND/OR TRAINING SESSIONS ON THE DRILLING LOCATION OR AT OTHER LOCATIONS WITH SPECIAL EMPHASIS ON WELL CONTROL, EMERGENCY ABANDONMENT PROCEDURES, AND FIREFIGHTING; PERIODIC SAFETY INSPECTIONS OF EQUIPMENT AND PROCEDURES BY DRILLING LOCATION SUPERVISORY PERSONNEL, AS WELL AS BY A QUALIFIED SAFETY PROFESSIONAL; NEW EMPLOYEE ORIENTATION PROGRAM; AN ON-GOING FORMAL ON-THE-JOB TRAINING PROGRAM; ADEQUATE PERSONAL PROTECTIVE EQUIPMENT AND ENFORCEMENT OF ITS USE; WELL MAINTAINED SAFETY DEVICES DESIGNED TO PREVENT INJURY FROM ROTATING OR MOVING EQUIPMENT, INCLUDING EMERGENCY SUPERINTENDENT AND/OR MANAGERS TO INSPECT THE DRILLING OPERATIONS AND PARTICIPATION IN THE SAFETY PROGRAM.

PLAN OF EXPLORATION
SOUTH MARSH ISLAND BLOCK 81 AREA

ONSHORE SUPPORT BASE

THE ONSHORE SUPPORT BASE FOR SOUTH MARSH ISLAND BLOCK 81 AREA IS LOCATED IN HOUMA, LOUISIANA. HOUMA IS LOCATED NEAR THE COASTLINE OF SOUTHEAST LOUISIANA ON THE GULF INTERCOASTAL WATERWAY, ALLOWING EASY ACCESS TO THE GULF OF MEXICO.

CNG'S FACILITIES IN HOUMA INCLUDE A 7500 SQUARE FOOT OFFICE BUILDING, WAREHOUSE, BOAT DOCK, HELIPORT AND PARKING LOT. THE TOTAL FACILITY ENCOMPASSES 50 ACRES.

SOUTH MARSH ISLAND BLOCK 81 AREA IS LOCATED APPROXIMATELY 100 MILES SOUTH WEST OF HOUMA, LOUISIANA.

MUD COMPONENTS

COMPARABLE MUD PRODUCTS

I. ITEMS USED ON A ROUTINE BASIS

<u>IMCO</u>	<u>CHROMALLOY</u>	<u>MILCHEM</u>	<u>MAGCOBAR</u>	<u>DESCRIPTION</u>
Imco Bar	Barite	Barite/Milbar	Barite/Magcobar	Barite
Imco Gel	Bentonite	Milgel	Magcogel	Bentonite
Imco Lig	Lignite	Ligco	Tannathin	Lignite
RD-111	Cl-CLS	Uni Cal	Spercene	Blended Lignosulfonate
Caustic Soda	Caustic Soda	Caustic Soda	Caustic Soda	Sodium Hydroxide
Aluminum Stearate	Aluminum Stearate	Aluminum Stearate	Aluminum Stearate	Aluminum Stearate
Lime	Lime	Lime	Lime	Calcium Hydroxide
Imco Thin	- - -	Ligcon	XP-20	Modified Lignite
Soda Ash Bicarb	Soda Ash Bicarb	Soda Ash Bicarb	Soda Ash Bicarb	Sodium Carbonate Bicarbonate of Soda
Poly Rx	- - -	Chemtrol-X	Resinex	Selected Polymer Blend
Imco MD	Detergent	M.D.	D-D	Detergent
Foampan	FB-3	LD-8	Magconol	Defoamer (Usually alcohol based)

II. ITEMS USED LESS FREQUENTLY

<u>IMCO</u>	<u>CHROMALLOY</u>	<u>MILCHEM</u>	<u>MAGCOBAR</u>	<u>DESCRIPTION</u>
DMS	DMS	DMS	DMS	Nonionic Mud Surfactant
Imco Loid	Starch	Milstarch	My Lo Gel	Pregelatinized Starch
CMC	Drioscos Reg.	CMC	CMC	Sodium Carboxy Methyl Cellulose
Cypan	Cypan	Cypan	Cypan	Sodium Polyacrylate
Permaloid	Starlose	Perma-Lose	Poly Sal	Organic Polymer
Drispac	Drispac	Drispac	Drispac	Polyanionin Cellulose
Gyp	Gypsum	Gyp	Gyp	Gypsum (Plaster of Paris)
HME/Superdril	HME/Superdril	HME/Superdril	HME/Superdril	Gilsonite (Treated) Natural Hydrocarbons + Wetting Agent
Black Magic Supermix	DFT	Black Magic Supermix	Black Magic Supermix	Mud Concentrate for spotting fluid
Lubrikleen	Clean Spot	Lubrisal	Magolube	Organic Lubricant
Imco Myca	Mica	Mil-Mica	Mago-Mica	Mica-Flakes
Imco Plug	Nut Plug	Mil Plug	Nut Plug	Ground Walnut or other nut hulls
Ironite	Ironite	Ironite	Ironite	Synthetic Iron Oxide, H ₂ S Scavenger
- - -	Zinc Carbonate	Mil Gard	- - -	H ₂ S Scavenger (Zinc Carbonate)

II. ITEMS USED LESS FREQUENTLY (CONT.)

<u>INCO</u>	<u>CHROMALLOY</u>	<u>MILCHEM</u>	<u>MAGCOBAR</u>	<u>DESCRIPTION</u>
Separan	Separan	Separan	Separan	Polyacrylamide Polymer
Salt	Salt	Salt	Salt	Sodium Chloride
SAPP	SAPP	SAPP	SAPP	Sodium Acid Pyrophosphate
- - -	- - -	Shale Trol	- - -	Ograno/Aluminum Compound
KCL	KCL	KCL	KCL	Potassium Chloride

III. OIL BASE MUD

Inco Spot	Clean Spot Concentrate	Mil-Free	Pipe Lax	Emulsifiers for spotting fluid
	Del-Vert			
	PE-11			
	SE-22			
Kenol-S	DFT	Carbo-Tec	Oilfaze & Vertoil	Emulsifiers, gelling agents and fluid loss agents for oil muds
Ken-Gel	Delton	Carbo-Cal	VG-69	Organophilic clays for viscosifying
- - -	- - -	- - -	- - -	Asphaltic Viscosifier
Ken-Cal-L	Del-K Ma-33	Carbo-Mul	DV-33	Organic wetting agents.
VR	HTS Del G Del G II	Carbo-Trol	DV-22	Fluid loss agents

Western Triton III and Western Triton IV

Cantilever Jack-ups for 250 ft. water depth.

DRILLING & WORKOVER EQUIPMENT

Drawworks:

Continental Emsco C2. 1½" drill line driven by two EMD 800 HP electric motors..

Derrick:

Continental Emsco Model 20RD 147' x 30' x 30' cantilever type mast. Nominal hook load capacity 1,400,000 lbs.

Substructure:

The 54' x 32' x 8' substructure has the following capacity:

Max. Hook Load	1,000,000 lbs.
Max. Setback	450,000 lbs.
Max. Combination	1,000,000 lbs.
Cantilever capacity	1,000,000 lbs. at 34' and 695,000 lbs. at 40'

Rotary & Traveling Equipment:

Continental Emsco T3750 37½" rotary
Continental Emsco RA-52-6 block BJ 5500 Hook
Continental Emsco LB-500 swivel

Mud Pumps:

Two continental Emsco FA 1600 triplex pumps each driven by two EMD 800 HP electric motors.

Prime Movers:

Three EMD 16-645-E8 diesels rated at 2200 HP each equipped with 1500 KW A/C Generators.

D/C Power & Controls:

Ross Hill SCR drive system.

Drilling Equipment Motors:

Seven EMD DC motors.

Blow Out Preventers (All Trimmed for H₂S Service):

One Cameron single U 13½" 10,000 psi WP
One Cameron double U 13½" 10,000 psi WP
One Cameron "D" 13½" 5,000 psi WP
One Shaffer Spherical 21¼" 2,000 psi WP

Choke Manifold:

Two adjustable chokes
One Swaco Super adjustable choke
One Full Flow 4-1/16" choke
All for H₂S Service 10,000 lb WP

Mud Mixing:

Two Mission 6" x 8" pumps
Capacity 1000 G.P.M.

Desander/Desilter:

One Demco MD 416H desilter with 1½-4" cones
One Demco MD 86V desander with 6-8" cones

Air Compressors:

Three Joy Twistair TA-450 compressors driven by 100 HP, 1750 RPM motors.
For cold start: Lister ST2A diesel driving a KA340 compressor.

Drill Pipe:

10,000 5" O.D. X-Hole Grade E
5,000 5" O.D. X-Hole Grade G

Drill Collars:

30-6½" O.D. x 30'
21-8" O.D. x 30'
30-5" O.D. Hevi-wate by 30'

Miscellaneous:

Cementing Unit Haliburton HT400
Kelly Spinner Varco Series 6500
Logging Unit Schlumberger
Wire Line Unit Mathey Slick

RIG EQUIPMENT

Gravity Separation Oil Skimmer Tank

Cranes:

Three PCM-120-AS LeTourneau, 100' boom—45 tons at 25 feet.

Elevating System:

LeTourneau rack & pinion—90 ft. per/hr. continuous rate.

Propulsion Units:

Two Schottel 1250 HP removeable azimuthing thrusters powered by GE 1250 HP DC traction motors.

Crew Quarters:

Air conditioned crew quarters for 90 men.

Lifeboats:

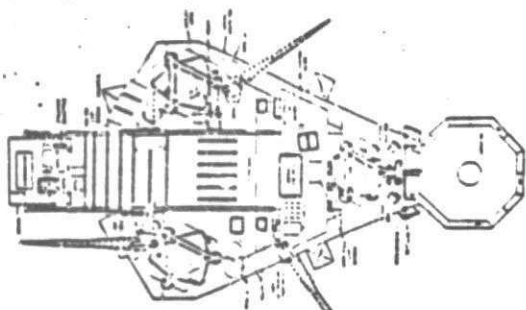
Two units to accomodate 50 men each. Five 20 man inflatable life rafts.

Heliport:

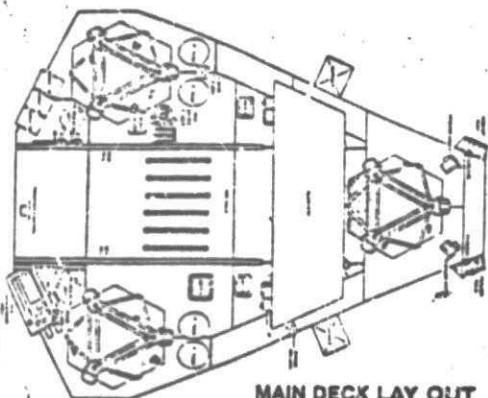
Approved foam fire fighting equipment. Meets requirements for operation of Sikorsky S61 helicopters worldwide.

RIG STORAGE

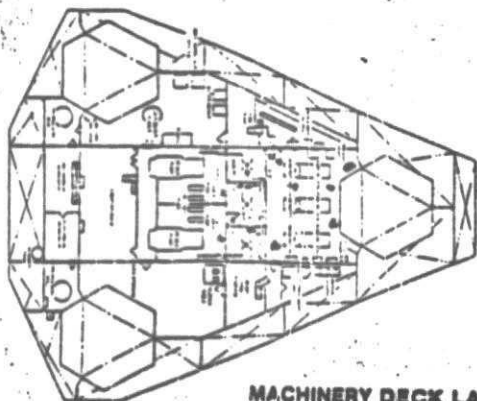
Drilling Mud	1200 bbls.
Drill Water	6600 bbls.
Potable Water	1000 bbls.
Diesel Fuel	2500 bbls.
Bulk Mud or Cement	7600 cu. ft.
Sack Mud or Cement	3000 sacks



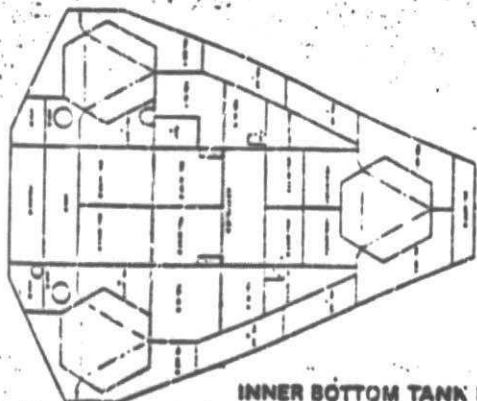
TOP PLAN LAY OUT



MAIN DECK LAY OUT

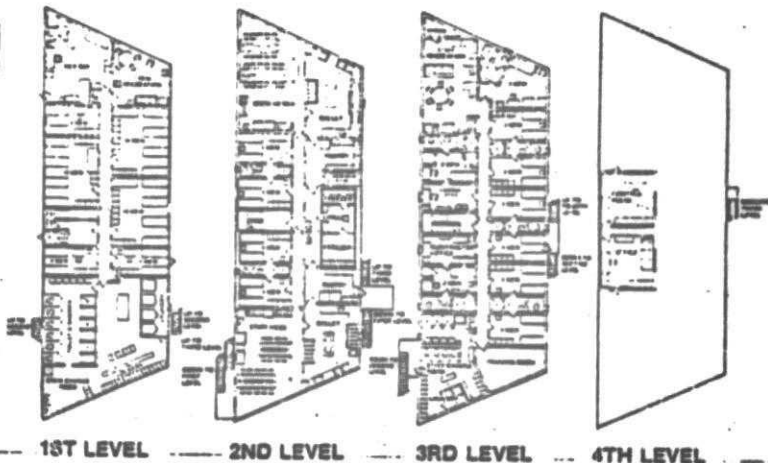


MACHINERY DECK LAY OUT



INNER BOTTOM TANK LAYOUT

QUARTERS



RIG DESCRIPTION

Barge Dimensions:

Length	207'
Width	176'
Depth of Hull	20'
Length of Legs	260'
Spud tank diameter	40'

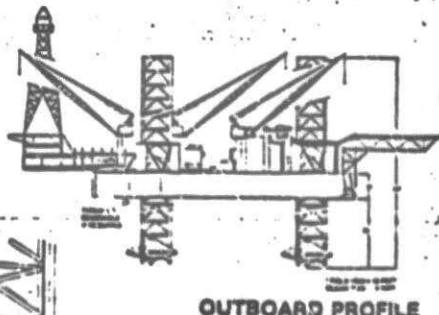
Operating Water Depth:

Maximum	250'
Minimum	13'
Hurricane (Gulf of Mexico)	203'

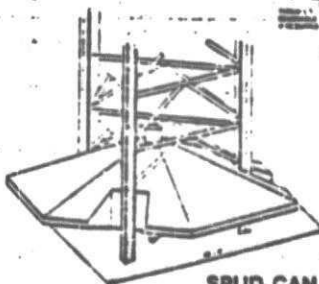
Drilling Depth: 20,000'

Cantilever:

Rotary can be located from 7'6" to 40' out from end of the barge and 10' on either side of center line for a 20' x 32' - 6" drilling pattern area.



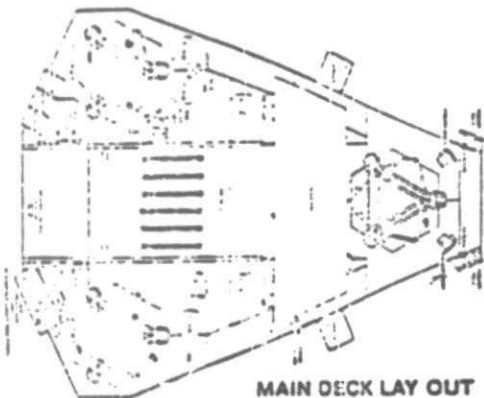
OUTBOARD PROFILE



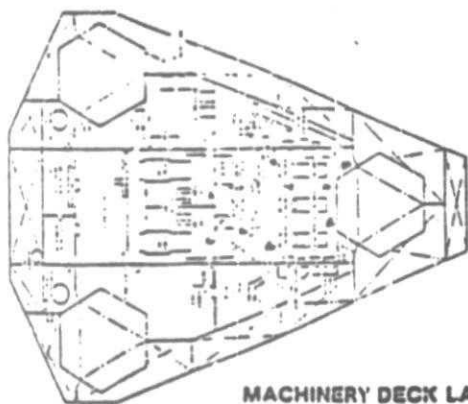
SPUD CAN



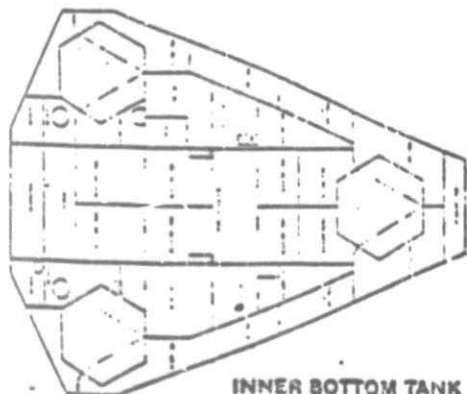
TOP PLAN LAY OUT



MAIN DECK LAY OUT

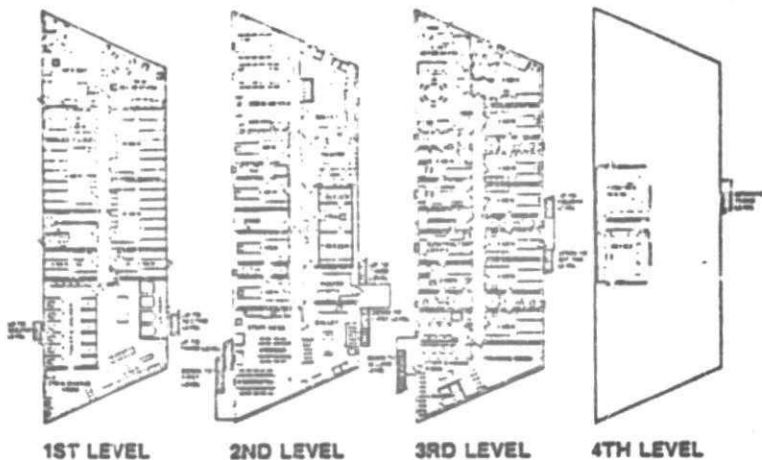


MACHINERY DECK LAY OUT



INNER BOTTOM TANK LAYOUT

QUARTERS



1ST LEVEL

2ND LEVEL

3RD LEVEL

4TH LEVEL

RIG DESCRIPTION

Barge Dimensions:

Length	207'
Width	176'
Depth of Hull	20'
Length of Legs	260'
Spud tank diameter	40'

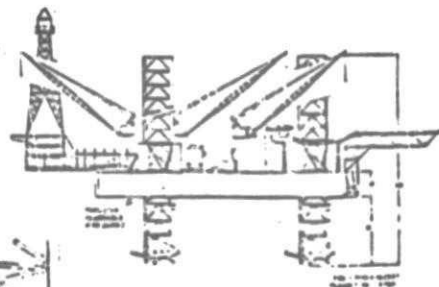
Operating Water Depth:

Maximum	250'
Minimum	13'
Hurricane (Gulf of Mexico)	203'

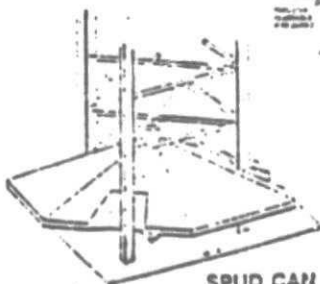
Drilling Depth: 20,000'

Cantilever:

Rotary can be located from 7'6" to 40' out from end of the barge and 10' on either side of center line for a 20' x 32' - 6" drilling pattern area.



OUTBOARD PROFILE



SPUD CAN

PLAN OF EXPLORATION
SOUTH MARSH ISLAND BLOCK 81 AREA

EXEMPTION FROM PUBLIC DISCLOSURE

CNG PRODUCING COMPANY, AS OPERATOR OF SOUTH MARSH ISLAND BLOCK 81 AREA BELIEVES THAT THE FOLLOWING DATA CONTAINED AND SUBMITTED WITH THIS PLAN IS EXEMPT FROM DISCLOSURE UNDER THE FREEDOM OF INFORMATION ACT AND SHOULD, THEREFORE, NOT BE MADE AVAILABLE TO THE PUBLIC OR PROVIDED TO ANY AFFECTED STATE OR TO THE EXECUTIVE OF ANY LOCAL GOVERNMENT:

PROPOSED BOTTOM HOLE LOCATIONS

PAGES 2, 4, 5, AND 6

GEOLOGICAL/GEOPHYSICAL

PAGES 7, 8, AND 9

CNG PRODUCING COMPANY
CANAL PLACE ONE - SUITE 3100



MAY 1, 1986

NEW ORLEANS LA
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ENVIRONMENTAL REPORT
FOR
OCS-G-6692 LEASE
SOUTH MARSH ISLAND BLOCK 81
OFFSHORE, LOUISIANA

1986

1986

ENVIRONMENTAL REPORT

A. PROJECT NAME:

PLAN OF EXPLORATION

B. AREA NAME (GENERAL OCS AREA):

OCS-G-6692 LEASE

C. BLOCK, NUMBER AND FIELD:

BLOCK 81, SOUTH MARSH ISLAND
OFFSHORE, LOUISIANA

D. OPERATOR OF LEASE:

CNG PRODUCING COMPANY

E. DATE OF PREPARATION OF ENVIRONMENTAL REPORT:

MAY 1, 1986

F. NAME, ADDRESS AND TELEPHONE NUMBER OF CONTACT PERSON:

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DESCRIPTION OF THE PROPOSED ACTION

THIS ENVIRONMENTAL REPORT ADDRESSES THE PROPOSED PLAN OF EXPLORATION FOR SOUTH MARSH ISLAND BLOCK 81 BY CNG PRODUCING COMPANY, LESSEE AND OPERATOR. A TOTAL OF TWO (2) WELLS WILL BE DRILLED FROM A JACK-UP RIG OVER A PERIOD OF 190 DAYS.

THE CENTER OF THE BLOCK IS LOCATED APPROXIMATELY 100 MILES SOUTHWEST OF HOUMA, LOUISIANA, AT WHICH IS LOCATED THE ONSHORE SUPPORT BASE FOR THE ACTIVITY. NEAREST SHORE IS APPROXIMATELY 60 MILES NORTH NEAR MARSH ISLAND. THE LOCATION OF SOUTH MARSH ISLAND BLOCK 81 IN RELATION TO THE LOUISIANA COASTAL ZONE IS SHOWN IN ATTACHED MAPS. THE LOCATIONS OF THE PROPOSED WELLS WITHIN THE BLOCK ARE SHOWN IN ATTACHED MAPS.

AS STATED IN THE PLAN OF EXPLORATION, THE DEPTHS OF THE TWO (2) WELLS WILL BE 12,600' FEET TOTAL VERTICAL DEPTH. THE COMBINED DEPTH OF THE TWO WELLS IS 25,200'TVD/29,244'MD. IT IS PROJECTED TO TAKE 190 DAYS TO COMPLETE THE TWO (2) WELLS. COMMENCEMENT OF DRILLING IS TENTATIVELY SCHEDULED FOR MAY, 1988, WITH THE LAST OF THE TWO WELLS TO BE COMPLETED BY THE END OF NOVEMBER, 1988. THE TOTAL VERTICAL DEPTH AND MEASURED DEPTH OF EACH WELL IS PRESENTED IN ATTACHED TABLE.

THE ONSHORE SUPPORT BASE FOR EXPLORATION ACTIVITIES IN SOUTH MARSH ISLAND BLOCK 81 WILL BE HOUMA, LOUISIANA. NO NEW ONSHORE FACILITIES WILL BE USED IN RELATION TO THIS ACTIVITY. EXISTING FACILITIES ARE ANTICIPATED TO BE SUFFICIENT FOR ALL SUPPORT ACTIVITIES. 80 TO 100 ADDITIONAL WORKERS ARE EXPECTED TO BE EMPLOYED FOR THIS ACTIVITY, CONSISTING OF THE DRILL RIG CREW AND SUPPORT PERSONNEL.

A. DESCRIPTION OF CNG PRODUCING COMPANY'S ONSHORE SUPPORT BASE FACILITY:

THE ONSHORE SUPPORT FOR THE SOUTH MARSH ISLAND BLOCK 81 IS LOCATED IN HOUMA, LOUISIANA. HOUMA IS LOCATED NEAR THE COASTLINE OF SOUTHEAST LOUISIANA ON THE GULF INTRACOASTAL WATERWAY (GIWW), ALLOWING EASY ACCESS TO THE GULF OF MEXICO. THE HOUMA BASE CONSISTS OF A 7500 SQUARE FOOT OFFICE BUILDING, WAREHOUSE, BOAT DOCK, HELIPORT, AND PARKING LOT. THE TOTAL FACILITY ENCOMPASSES 50 ACRES.

THE LOCATION OF SOUTH MARSH ISLAND BLOCK 81 TO THE SHORELINE IS APPROXIMATELY 60 MILES SOUTH OF IBERIA PARISH, LOUISIANA.

THE LOCATION MAP OF THE LEASE BLOCK RELATIVE TO THE SHORE LINE IS ATTACHED AS PART OF THIS PLAN.

NO UNUSUAL TECHNIQUES OR TECHNOLOGY THAT MAY AFFECT COASTAL WATERS WILL BE USED IN ANY OF THE PROPOSED ACTIVITIES.

B. DESCRIPTION OF ANY NEW TECHNOLOGIES AND TECHNIQUES WHICH MAY AFFECT COASTAL WATERS:

NO NEW OR UNUSUAL TECHNOLOGIES WILL BE USED FOR THE DRILLING OPERATIONS PROPOSED UNDER THIS PLAN WHICH WILL AFFECT COASTAL WATER.

NO SPECIAL LEASE STIPULATIONS EXIST FOR THIS BLOCK OTHER THAN REQUIREMENTS THAT OPERATOR PERFORM CULTURAL SURVEY SHOULD THE MMS DIRECT SAME. A CULTURAL SURVEY HAS NOT BEEN REQUIRED FOR THIS LEASE. HOWEVER, A HAZARDS STUDY PREPARED BY MARINE TECHNICAL SERVICES, INC. HAS BEEN ON FILE WITH THE MMS AS OF MARCH 14, 1986.

C. DESCRIPTION OF PROPOSED TRAVEL MODES & ROUTES - FREQUENCY FOR MOVING SUPPLIES AND PERSONNEL TO AND FROM OPERATIONS:

TRAVEL MODES:

HELICOPTERS, CREW BOATS, SUPPLY BOATS AND STANDBY BOATS WILL BE UTILIZED TO TRANSPORT PERSONNEL AND SUPPLIES TO SOUTH MARSH ISLAND BLOCK 81.

(TRAVEL MODES) CONTINUED:

CNG's ONSHORE SUPPORT BASE WHICH IS LOCATED IN HOUMA, LOUISIANA.

CREWBOAT - 105' IN SIZE WITH 1500 HP CAPACITY. ESTIMATE 3 ROUND TRIPS PER WEEK.

STANBY BOAT - 100' IN SIZE WITH 1400 HP. ESTIMATE 3 ROUND TRIPS PER WEEK.

SUPPLY BOAT - 180' IN SIZE WITH 300 HP. ESTIMATE 3 ROUND TRIPS PER WEEK.

BELL 206 HELICOPTER. ESTIMATE 14 ROUND TRIPS PER WEEK.

A SIKORSKY S-76 HELICOPTER MAKING 2 ROUND TRIPS PER WEEK.

THE SURFACE TRAVEL ROUTE BETWEEN THE PROPOSED WELL SITE AND SUPPORT BASE WILL BE BY THE HOUMA CANAL INTO THE GULF OF MEXICO. THE AIR ROUTE WILL BE A STRAIGHT LINE TO SOUTH MARSH ISLAND BLOCK 81 FROM HOUMA.

DESCRIPTION OF AFFECTED ENVIRONMENT

A. PHYSICAL ENVIRONMENT:

COMMERCIAL FISHING:

SOUTH MARSH ISLAND BLOCK 81 IS LOCATED IN COMMERCIAL FISHING ZONE 15. THE AVERAGE ANNUAL CATCH IN THIS ZONE IS 374.4 MILLION POUNDS WORTH 61.0 MILLION DOLLARS. TRAWLING AREA LOST TO COMMERCIAL FISHING BY PLACEMENT OF A RIG WOULD BE 1-2 HECTARES. DISCHARGES OF DRILL CUTTINGS AND USED DRILLING MUD WILL CAUSE A LOCALIZED DECREASE IN WATER CLARITY AND QUALITY RESULTING IN A FURTHER LOSS OF TRAWLING AREA. EFFLUENTS AND DISCHARGES THAT SHOULD NOT SIGNIFICANTLY AFFECT COMMERCIAL FISHING INCLUDE RIG WASH, TREATED SEWERAGE, DOMESTIC WASTE, DESALINIZATION WASTE AND COOLING WATER. THESE DISCHARGES ARE OF SUCH LOW VOLUME THAT DILUTION AND DISPERSION WILL BE VERY RAPID. MOST OF THE DISCHARGES ARE TEMPORARY FURTHER LIMITING THE ADVERSE EFFECTS.

RECREATION - SPORTFISHING - BOATING:

RECREATIONAL USE OF SOUTH MARSH ISLAND BLOCK 81 IS LIMITED BY DISTANCE FROM SHORE, 60 MILES, DEPTH OF WATER, 40 METERS, AND LACK OF FEATURES, SHIPWRECKS, BANKS, ETC. SOUTH MARSH ISLAND BLOCK 81 IS NOT A REPORTED HOOK AND LINE FISHING SECTION OF THE GULF OF MEXICO. PROPOSED WELLS ARE BEING DRILLED FROM A JACK-UP RIG AND WILL NOT PROVIDE A LONGTERM ARTIFICIAL REEF. THE FACILITY STRUCTURE COULD PROVE TO BE A RECREATIONAL BOATING HAZARD, HOWEVER, IT IS EQUIPPED WITH FULL NAVIGATIONAL AIDS.

PHYSICAL ENVIRONMENT (CONTINUED):

DISCHARGES FROM THE FACILITY WILL CAUSE AN INCREASE IN SUSPENDED SOLIDS, TURBIDITY, NUTRIENTS, CHLORINE AND BIOCHEMICAL OXYGEN DEMAND. THESE DISCHARGES WILL GENERALLY DECREASE WATER QUALITY IN A LOCALIZED AREA. THE NEAREST RECREATIONAL BEACHES ARE APPROXIMATELY 120 MILES AWAY AND SHOULD NOT BE AFFECTED BY ANY OF THE FACILITY DISCHARGES.

COMMERCIAL SHIPPING:

THE NEAREST COMMERCIAL WATERWAYS ARE APPROXIMATELY 60 MILES WEST AND 45 MILES SOUTH OF SOUTH MARSH ISLAND BLOCK 81. THESE DISTANCES AND THE NAVIGATIONAL AIDS, LIGHTS AND FOGHORNS MAKE THIS FACILITY A MINOR IMPACT OBSTACLE TO COMMERCIAL SHIPPING.

CULTURAL RESOURCES:

NO CULTURAL RESOURCE STIPULATION WAS PLACED ON SOUTH MARSH ISLAND BLOCK 81 WHEN IT WAS OFFERED FOR LEASE. VISUAL #11 FROM THE REIS FOR SALES 72, 74, 79 SHOWS SOUTH MARSH ISLAND BLOCK 81 TO BE INSIDE THE HISTORICAL AND PREHISTORICAL CULTURAL RESOURCE HIGH PROBABILITY AREA.

IF THE MMS GIVES THE LESSEE WRITTEN NOTICE THAT A "CULTURAL RESOURCE" EXISTS IN THE AREA, AN ARCHEOLOGICAL SURVEY MUST BE CONDUCTED AND A REPORT FILED WITH THE SURVEY.

ECOLOGICALLY SENSITIVE ENVIRONMENTS:

SIGNIFICANT BIOLOGICAL AREAS IN THE WESTERN-CENTRAL GULF OF MEXICO ARE GULFCOAST TIDAL MARSH - ESTUARINE ECOSYSTEMS, THE SEAGRASS BEDS AND THE HARDBOTTOM BANKS.

THE WETLAND, TIDAL MARSH, ESTUARINE AND SEAGRASS HABITATS PROVIDE BREEDING, NURSERY, FEEDING AND PROTECTIVE AREAS FOR COASTAL BIRDS AND A LARGE NUMBER OF COMMERCIALY VALUABLE FISH AND SHELLFISH.

THE NEAREST OF THESE HABITATS IS APPROXIMATELY 60 MILES FROM SOUTH MARSH ISLAND BLOCK 81 AND NORMAL DRILLING DISCHARGES WILL NOT BE A FACTOR TO THESE ENVIRONMENTS. THE MAJOR CONCERN OF EFFECTS OF DEVELOPMENT ON THESE ENVIRONMENTS WOULD BE A LARGE OIL SPILL. THIS IS AN UNLIKELY EVENT AND EVEN SHOULD A LARGE SPILL (1,000 BBLs) OCCUR THE PREDOMINANT CURRENT WOULD DIRECT IT AWAY FROM THESE ENVIRONMENTS MAKING THAT CONCERN LESS SIGNIFICANT.

PHYSICAL ENVIRONMENT (CONTINUED):

THE HARDBOTTOM BANKS ARE POTENTIALLY AFFECTED BY TURBIDITY AND OTHER LOCAL DISCHARGES. THE CLOSEST BANKS ARE FISHNET BANK APPROXIMATELY 30 MILES AWAY AND ALDERDICE BANK APPROXIMATELY 35 MILES AWAY. SOUTH MARSH ISLAND BLOCK 81 IS OUTSIDE THE 3 N MILES RADIUS FOR BIOLOGICAL STIPULATIONS OF THESE BANKS. DISCHARGES FROM THIS FACILITY SHOULD NOT PRESENT ANY PROBLEMS TO THESE BANKS.

EXISTING PIPELINES AND CABLES:

THERE IS ONE EXISTING PIPELINE IN SOUTH MARSH ISLAND BLOCK 81. NO EXPLORATORY ACTIVITY IS PLANNED THAT WOULD AFFECT THIS PIPELINE.

OTHER MINERALS:

SALT AND SULFUR ARE POTENTIAL MINERALS FOR OCS DEVELOPMENT. NEITHER SALT NOR SULFUR ARE KNOWN TO OCCUR IN ECONOMICALLY RECOVERABLE AMOUNTS WITHIN SOUTH MARSH ISLAND BLOCK 81. THERE ARE 5 ACTIVE BASES FOR OTHER MINERALS IN THE GULF OCS, NONE ARE CURRENTLY PRODUCTIVE.

OCEAN DUMPING:

NO NON-PERMITTED DISCHARGES WILL RESULT FROM THIS EXPLORATION ACTIVITY. ANTICIPATED DISCHARGES ARE DRILL CUTTINGS, DRILLING MUD, TREATED SEWAGE, COOLING WATER, DOMESTIC WASTES, ETC. THESE DISCHARGES ARE ALL COVERED BY THE GENERAL NPDES GENERAL PERMIT TX0085642.

THE TWO (2) WELLS WILL BE DISCHARGE SITES FOR A TOTAL OF APPROXIMATELY 1895 TONS OF DRILL CUTTINGS AND 220 TONS OF DRILLING FLUIDS.

AIR QUALITY:

CALCULATED EMISSIONS FOR THIS FACILITY AND ITS SUPPORT VEHICLES ARE GIVEN IN APPENDIX I.

AMBIENT AIR QUALITY IS A FUNCTION OF INDUSTRIALIZATION AND POPULATION. AIR QUALITY IS VARIANT WITH RESPECT TO EMISSION RATES, PROXIMITY TO SOURCE, METEOROLOGICAL CONDITIONS AND RATE OF DISPERSION. THE AMBIENT AIR QUALITY ALONG THE GULF COAST VARIES CONSIDERABLY BY LOCAL AREA, EVEN WITH SOME VIOLATIONS OF NAAQS IT IS CONSIDERED GOOD AND IN MANY AREAS BETTER THAN THE STANDARDS.

PHYSICAL ENVIRONMENT (CONTINUED):

THE LEVEL OF IMPACT WILL CAUSE LITTLE DEGRADATION OF ONSHORE AIR QUALITY WITH NO SIGNIFICANT EFFECT ON NON ATTAINMENT OR PSD CLASS I AREAS.

ENDANGERED SPECIES:

THERE ARE FIVE FEDERALLY LISTED ENDANGERED WHALE SPECIES IN THE CENTRAL-WESTERN GULF OF MEXICO. THE SPECIES ARE THE FIN, HUMPBACK, RIGHT, SEI, AND SPERM WHALES. THESE CETACEANS GENERALLY OCCUR IN THE CONTINENTAL SLOPE AND DEEP OCEANIC WATERS.

MARINE TURTLES ALSO INHABIT THE CENTRAL-WESTERN GULF. THREE SPECIES ARE FEDERALLY LISTED ENDANGERED., THE KEMPS RIDLEY, HAWKSBILL AND LEATHERBACK WHILE TWO SPECIES THE GREEN AND LOGGERHEAD ARE THREATENED.

POSSIBLE AFFECTS TO THESE ANIMALS ARE COLLISIONS WITH BOAT TRAFFIC, DISTURBANCES FROM ACTIVITIES, OIL SPILLS AND LOSS OF HABITAT AREA BY FACILITY LOCATION. THESE IMPACTS, EITHER THROUGH UNLIKELYHOOD OF OCCURANCE OR AREA INVOLVED WILL HAVE A VERY LOW LEVEL OF IMPACT ON THESE ANIMALS.

B. SOCIO-ECONOMICS:

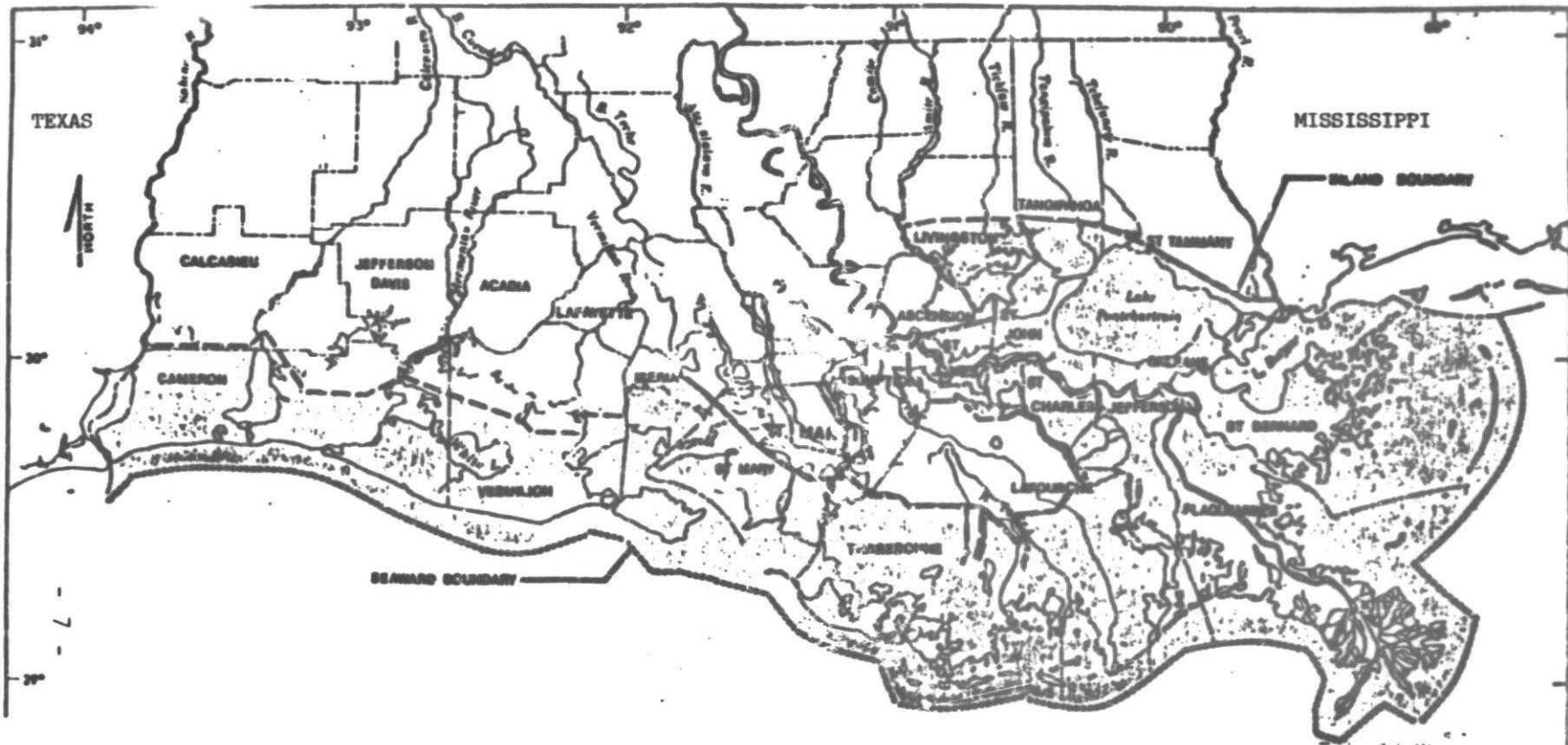
EXPLORATORY DRILLING OF SOUTH MARSH ISLAND BLOCK 81 WILL REQUIRE 80 TO 100 PEOPLE FOR RIG CREW AND SUPPORT PERSONNEL. ONSHORE SUPPORT WILL BE HANDLED OUT OF HOUMA, LOUISIANA AT THE CNG LAND BASE THERE.

UNAVOIDABLE ADVERSE IMPACTS:

DISCHARGES, SUPPORT VEHICLES AND THE PHYSICAL PRESENCE OF THIS FACILITY WILL ADVERSELY AFFECT SEVERAL ASPECTS OF THIS AREA. WATER AND AIR QUALITY WILL BE TEMPORARILY REDUCED, VEHICULAR TRAFFIC WILL INCREASE AND AN AREA OF FORMERLY OPEN SEA WILL HAVE OBSTRUCTIONS. THESE AND OTHER SHORT TERM INCONVENIENCES ARE ACCEPTED ASPECTS OF OIL AND GAS DEVELOPMENT.

THE MAJOR CONCERN IS OIL SPILLS. THESE SPILLS IF THEY OCCUR COULD BE SIGNIFICANT ADVERSE IMPACT. THE EXTENT OF IMPACT IS DEPENDENT ON MANY FACTORS INCLUDING; SIZE OF SPILL, TYPE OF OIL, DIRECTION OF SPILL DRIFT, WHAT THE SPILL CONTACTS AND OIL CLEAN-UP IMPLEMENTED.

SOUTH MARSH ISLAND BLOCK 81 IS FAR ENOUGH AWAY FROM SENSITIVE ENVIRONMENTS FOR ANYTHING BUT A LARGE SPILL TO BE A SERIOUS THREAT.



■ South Marsh Island Block 81

South Marsh Island 81
in relation to the Louisiana
Coast

APPROXIMATE COASTAL ZONE
BOUNDARY AS DEFINED BY ACT 361
AS AMENDED 1979, AND 1980

0 10 20 30 40 50
Miles

REFERENCES:

1. BUREAU OF LAND MANAGEMENT DEPARTMENT OF THE INTERIOR 1979
FINAL ENVIRONMENTAL IMPACT STATEMENT FOR THE PROPOSED 1979
OUTER CONTINENTAL SHELF OIL AND GAS LEASE SALE 58.
2. BUREAU OF LAND MANAGEMENT DEPARTMENT OF THE INTERIOR 1979
DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE PROPOSED 1980
OUTER CONTINENTAL SHELF OIL AND GAS LEASE SALES A62 AND 62.
3. BUREAU OF LAND MANAGEMENT DEPARTMENT OF THE INTERIOR 1980
FINAL ENVIRONMENTAL IMPACT STATEMENT FOR THE PROPOSED 1981
OUTER CONTINENTAL SHELF OIL AND GAS LEASE SALES A66 AND 66.
4. BUREAU OF LAND MANAGEMENT DEPARTMENT OF THE INTERIOR 1981
FINAL ENVIRONMENTAL IMPACT STATEMENT FOR THE PROPOSED 1982
OUTER CONTINENTAL SHELF OIL AND GAS LEASE SALES 67 AND 69.
5. MINERAL MANAGEMENT SERVICE DEPARTMENT OF THE INTERIOR 1983
FINAL REGIONAL ENVIRONMENTAL IMPACT STATEMENT FOR THE
PROPOSED 1983 OUTER CONTINENTAL SHELF OIL AND GAS LEASE SALES
72, 74 AND 79
6. MINERALS MANAGEMENT SERVICE DEPARTMENT OF THE INTERIOR 1984
FINAL REGIONAL ENVIRONMENTAL IMPACT STATEMENT FOR THE
PROPOSED 1984 OUTER CONTINENTAL SHELF OIL AND GAS LEASE SALES
CENTRAL AND WESTERN GULF OF MEXICO.
7. MINERALS MANAGEMENT SERVICE DEPARTMENT OF INTERIOR 1985 FINAL
REGIONAL ENVIRONMENTAL IMPACT STATEMENT FOR THE PROPOSED 1985
OUTER CONTINENTAL SHELF OIL AND GAS LEASE SALES 94, 98, AND
102.
8. EG&G, ENVIRONMENTAL CONSULTANTS 1982
A STUDY OF ENVIRONMENTAL EFFECTS OF EXPLORATORY DRILLING ON
THE MID-ATLANTIC OUTER CONTINENTAL SHELF - FINAL REPORT OF
THE BLOCK 684 MONITORING PROGRAM PREPARED FOR THE OFFSHORE
OPERATORS COMMITTEE UNDER THE SUPERVISION OF EXXON PRODUCTION
RESEARCH COMPANY.

CNG PRODUCING COMPANY GUARANTEES THE FOLLOWING COMPLIANCE DURING PROPOSED OPERATIONS IN SOUTH MARSH ISLAND BLOCK 81, AS OUTLINED IN THIS PLAN.

1. THE BEST AVAILABLE AND SAFEST TECHNOLOGIES WILL BE UTILIZED THROUGHOUT THE PROJECT. THIS INCLUDES MEETING ALL APPLICABLE REQUIREMENTS FOR EQUIPMENT TYPES, GENERAL PROJECT LAYOUT, SAFETY SYSTEMS AND EQUIPMENT AND MONITORING SYSTEMS.
2. ALL OPERATIONS WILL BE COVERED BY MMS APPROVED OIL SPILL CONTINGENCY PLAN.
3. ALL APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS REGARDING AIR EMISSIONS, WATER QUALITY AND WASTE DISCHARGE FOR THE PROPOSED ACTIVITIES, AS WELL AS ANY OTHER REGULATORY CONDITIONS, WILL BE COMPLIED WITH.

COASTAL ZONE MANAGEMENT

CONSISTENCY CERTIFICATION

PLAN OF EXPLORATION
TYPE OF PLAN

SOUTH MARSH ISLAND BLOCK 81
AREA AND BLOCK

OCS-G-6692
LEASE NUMBER

THE PROPOSED ACTIVITIES DESCRIBED IN DETAIL IN THIS PLAN COMPLY WITH LOUISIANA'S APPROVED COASTAL MANAGEMENT PROGRAM AND WILL BE CONDUCTED IN A MANNER CONSISTENT WITH SUCH PROGRAMS.

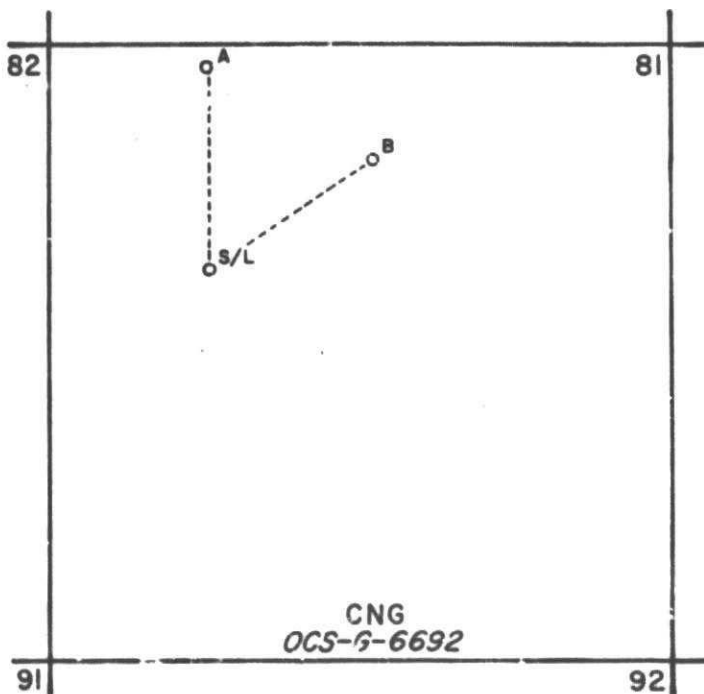
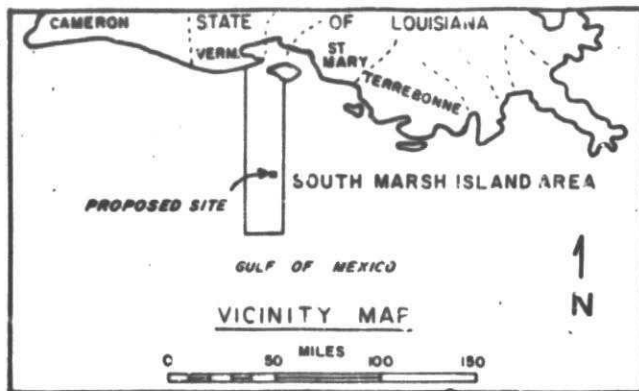
CNG PRODUCING COMPANY CERTIFIES THAT A REQUEST HAS BEEN SUBMITTED TO THE BATON ROUGE STATE TIMES FOR PUBLICATION OF A PUBLIC NOTICE OF THIS PROPOSED PLAN, AS A LEGAL AD, IN THE BATON ROUGE STATE TIMES ON MAY 29, 1986.

THIS PLAN PROPOSED COMMENCEMENT OF INITIAL OPERATIONS IN MAY, 1988.

CNG PRODUCING COMPANY
LESSEE AND OPERATOR


EUGENE R. BENTON, SR. VICE PRESIDENT
CERTIFYING OFFICIAL

May 6, 1986
DATE



VICINITY MAP
SOUTH MARSH ISLAND AREA
BLOCK 81
GULF OF MEXICO

APPENDIX I

AIR QUALITY

CALCULATED EMISSIONS FOR SOUTH MARSH ISLAND BLOCK 81.

SUPPORT VEHICLE SOURCE DESCRIPTION

- 1 - CREW BOAT. A 105 FOOT BOAT WITH APPROXIMATELY 1500 HP DIESEL POWER, MAKING 3 ROUND TRIPS PER WEEK.
- 1 - SUPPLY BOAT. A 180 FOOT BOAT WITH APPROXIMATELY 3000 HP DIESEL POWER, MAKING 3 ROUND TRIPS PER WEEK.
- 1 - STANDBY BOAT. A 100 FOOT BOAT WITH APPROXIMATELY 1400 HP DIESEL POWER LOCATED AT THE RIG SIGHT.
- 1 - TWIN ENGINE HELICOPTER. A SIKORSKY S-76 HELICOPTER MAKING 2 ROUND TRIPS PER WEEK.
- 1 - SINGLE ENGINE HELICOPTER. BELL 206 HELICOPTER MAKING 14 ROUND TRIPS/WEEK.

SOUTH MARSH ISLAND IS APPROXIMATELY 100 MILES FROM THE HOUMA, LOUISIANA SHORE BASE.

EMISSIONS FROM SUPPORT BOATS AT RIG SITE

	<u>CREW BOAT</u>			<u>SUPPLY BOAT</u>			<u>STANDBY BOATS</u>		
	LBS/DAY	TONS/190	DAYS	LBS/DAY	TONS/190	DAYS	LBS/DAY	TONS/190	DAYS
CO	.366	.01		1.794	.07		.732	.07	
SO ₂	.81	.03		.81	.03		1.62	.15	
NO _x	1.197	.04		12.588	.51		2.394	.23	
VHC	----	----		.678	.03		----	----	
TSP	1.013	.04		1.013	.04		2.025	.19	

ASSUMPTIONS

STANDBY BOAT AT RIG ONLY, OTHER VESSELS AT EACH SITE 50% OF THE TIME. SIXTY GALLONS OF FUEL PER DAY AT IDLE SPEED. THREE ROUND TRIPS PER WEEK FOR CREW AND SUPPLY BOATS.

VALUES FOR ALL POLLUTANTS EXCEPT SO₂ AND TSP WERE CALCULATED FROM TABLE 3.2.3-3 OF PART A OF U.S. EPA PUBLICATION AP-42, "COMPILATION OF AIR POLLUTANT EMISSION FACTOR". HORSEPOWER RATINGS OF VESSELS WERE MATCHED AS CLOSELY AS POSSIBLE TO AVAILABLE DATA.

SO₂ VALUES TAKEN FROM TABLE 3.2.3-1 OF THE SAME PUBLICATION. THESE EPA VALUES WERE CALCULATED RATHER THAN MEASURED AND ASSUMED THAT ALL SULPHUR IN FUEL WAS CONVERTED TO SO₂. THIS ASSUMPTION WAS APPLIED TO THE FUEL USED IN DIESEL VESSEL ENGINES DUE TO A LACK OF OTHER DATA. TSP VALUES WERE ASSUMED TO BE 1.25 OF THE SO₂ VALUES BASED ON A RATIO AVERAGED FROM SEVERAL TABLES FOR DIESEL ENGINES IN THE ABOVE MENTIONED EPA PUBLICATION, AP-42.

HELICOPTER EMISSIONS

	<u>BELL 206 L</u>		<u>SIKORSKY S-76</u>	
	LBS/DAY	TONS/190 DAYS	LBS/DAY	TONS/190 DAYS
CO	11.4	1.01	22.8	.31
SO ₂	.36	.03	.72	.01
NO _x	1.14	.11	2.28	.03
VHC	1.04	.10	2.08	.03
TSP	.50	.05	1.00	.01

CALCULATIONS MADE USING TABLE 3.2.1-3 OF U.S. EPA PUBLICATION AP-42 "COMPILATION OF AIR POLLUTANT EMISSION FACTORS".

DRILLING RIG EMISSIONS

TWO WELLS ARE PROPOSED FOR DRILLING IN THIS PLAN OF EXPLORATION.

THE PROPOSED WELLS INVOLVE 29,244' MD/25,200' TVD OF DRILLING. IT IS ANTICIPATED TO TAKE 190 DAYS TO DRILL THESE WELLS.

RIG EMISSIONS:

	<u>WELL "A"</u>		<u>WELL "B"</u>	
	<u>15,197' MD / 12,600' TVD</u>	<u>12,600' TVD</u>	<u>14,047' MD / 12,600' TVD</u>	<u>12,600' TVD</u>
	LBS/DAY	TONS/100 DAYS	LBS/DAY	TONS/90 DAYS
CO	37.99	1.90	39.02	1.76
SO ₂	17.49	.87	17.56	.81
NO _x	259.31	12.96	266.32	11.98
VHC	8.64	.43	8.88	.40
TSP	21.86	1.09	22.45	1.01

THESE CALCULATIONS WERE MADE USING THE U.S. EPA PUBLICATION 450/3-77-026 JUNE, 1977 ATMOSPHERIC EMISSIONS FROM OFFSHORE OIL AND GAS DEVELOPMENT AND PRODUCTION. TSP WAS ASSUMED TO BE 1.25 TIMES THE SO₂ VALUES.

EXEMPTION LEVELS WERE CALCULATED FROM THE FORMULAS LISTED IN 30 CFR 250.57-1(D).

EXEMPTION LEVELS:

$$\begin{array}{l}
 \text{CO} \quad \quad \quad E = 3400 D^{2/3} \\
 \quad \quad \quad 52109 = 3400 \times 60^{2/3} \\
 \text{ALL OTHERS} \quad E = 33.3 D \\
 \quad \quad \quad 1998 = 33.3 \times 60
 \end{array}$$

E = EXEMPTION LEVEL IN TONS PER YEAR
D = DISTANCE FROM SHORE IN MILES

SHORE BASE EMISSIONS

	<u>Tons/190 Days</u>				
	CO	SO ₂	NO _x	VHC	TSP
CREW BOAT	.01	.03	.04	---	.04
SUPPLY BOAT	.07	.03	.51	.03	.04
A-STAR 350D	1.08	.03	.11	.10	.05
SIKORSKY S-76	.31	.01	.03	.03	.01
TOTAL	1.47	.10	.69	.16	.14

OFFSHORE EMISSIONS

	<u>Tons/190 Days</u>				
	CO	SO ₂	NO _x	VHC	TSP
CREW BOAT	.01	.03	.04	---	.04
SUPPLY BOAT	.07	.03	.51	.03	.04
STANDBY BOAT	.07	.15	.23	---	.19
A-STAR 350D	1.08	.03	.11	.10	.05
SIKORSKY S-76	.31	.01	.03	.03	.01
RIG	3.66	1.68	24.95	.83	2.10
TOTAL	5.20	1.93	25.87	.99	2.43

EXEMPTION LEVELS TONS/YEAR	52109	1998	1998	1998	1998
TONS/190 DAYS	27125	1040	1040	1040	1040

THIS OPERATION IS EXEMPT.