

In Reply Refer To: MS 5231

May 4, 1993

Texaco Exploration and Production Inc.
Attention: Mr. R. J. Savoy
Post Office Box 61050
New Orleans, Louisiana 70161-1050

Gentlemen:

Reference is made to the following plan received April 20, 1993:

Type Plan - Supplemental Development Operations Coordination Document
Lease - OCS-G 6358
Block - 189
Area - Garden Banks
Activities Proposed - Wells A-18 through A-20

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-2949 and should be referenced in your communication and correspondence concerning this plan.

Sincerely,
(Orig. Sgd.) Kent E. Stauffer

For

D. J. Bourgeois
Regional Supervisor
Field Operations

MICROFILMED

bcc: Lease OCS-G 6358 POD File (MS 5032)
MS 5034 w/public info. copy of the plan
and accomp. info.

AGobert:cic:05/05/93:DOCDROM

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5/11/93

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SUPPLEMENTAL DEVELOPMENT OPERATIONS COORDINATION DOCUMENT

GULF OF MEXICO: OFFSHORE LOUISIANA

GARDEN BANKS AREA BLOCK 189

OCS-G 6358

TEXACO EXPLORATION AND PRODUCTION INC.

WELL NOS. "A-18" THROUGH "A-20"

APRIL 1993



PREPARED BY:

V. F. COTTONE, P.E.

TEXACO INC.

POST OFFICE BOX 60252

NEW ORLEANS, LA 70160

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**TEXACO EXPLORATION AND PRODUCTION INC.
SUPPLEMENTAL DEVELOPMENT OPERATIONS
COORDINATION DOCUMENT (DOCD)
GARDEN BANKS BLOCK 189
OCS-G 6358
OFFSHORE LOUISIANA**

DEVELOPMENT AND PRODUCTION ACTIVITY SCHEDULE

The Initial DOCD for Garden Banks Block 189 (Plan Control No. N-3552) was approved by the Minerals Management Service (MMS) on February 9, 1990. This approval was for the installation of the "A" Platform and the drilling/completion of Well Nos. "A-1" through "A-17".

Under this plan, Texaco proposes to drill up to three (3) additional development wells. Drilling of the wells proposed under this plan is scheduled to begin with the completion of the last well approved under the Initial DOCD (about July 1, 1993). Completion of work under this plan is expected about January 1, 1994.

DESCRIPTION OF DRILLING UNIT, PLATFORM AND OTHER FACILITIES

DRILLING UNIT

Texaco proposes to use the self contained platform drilling rig Dual 25 (the rig presently being used on Garden Banks Block 189 "A" Platform) to drill the additional development wells. The rig has the necessary diverter system, blowout preventer, auxiliary equipment, and mud testing and monitoring equipment. The Dual 25 has a rated drilling depth of 25,000 feet. Its drawworks consists of a 2,000 hp Oilwell SCR. The derrick is 160 feet by 30 feet with a rated load capacity of 1,300,000 pounds. Rig 25 has a 29-1/2 inch KFDJ, a 21-3/4 inch, 2,000 pound Diverter, and a 13-5/8 inch, 10,000 pound rated Blow-Out Preventer.

Drilling operations will be conducted in a manner so as to maximize pollution prevention in accordance with Title 30 CFR 250, Subpart C. The wells, when completed, will be equipped with the appropriate safety devices and valves in accordance with Title 30 CFR 250. All other safety and control equipment will be used in accordance with the applicable subparts of Title 30 CFR 250.

PLATFORM

The Garden Banks Block 189 "A" Platform is located in about 219 meters (720 feet) of water approximately two hundred and nine (209) kilometers (130 statute miles) offshore of the Louisiana coast south of Cameron Parish, Louisiana. It is a four (4) leg, eight (8) skirt pile, conventional steel tubular space frame jacket, secured to the sea floor with piles. It supports a three (3) level plate and girder design deck. The main deck is approximately 26 meters (85 feet) X 49 meters (160 feet), the cellar deck is approximately 26 meters (85 feet) X 49 meters (160 feet), and the two (2) section subcellar deck is approximately 12 meters

(40 feet) X 14 meters (45 feet) each. No change is necessary to the platform as a result of the work proposed under this plan.

OTHER FACILITIES

Other facilities on this platform, consist of a helicopter pad, a boat landing, production equipment, and two (2) pipelines. No change is proposed as a result of the work under this plan.

LOCATION OF PROPOSED WELLS

The Vicinity Map and Well Location Table, which are included in the Appendix, show the location of the proposed activities relative to the Louisiana coast, and provide the specific location of the proposed wells.

CURRENT STRUCTURE MAPS AND BATHYMETRY MAP

Included in the Appendix are a bathymetry map and structure maps for this prospect. The structure maps reflect the current subsurface interpretation of the geology in the area and are considered confidential data. They are submitted for use by authorized Minerals Management Service (MMS) personnel only. They are exempt from disclosure under the provisions of the Freedom of Information Act, 5 U.S.C. 552 and are not included in the Public Information copies of this document.

SHALLOW DRILLING HAZARD ASSESSMENT

The seismic data used to evaluate the surface location for the proposed wells consists of a multisensory engineering shallow hazard survey conducted by John E. Chance and Associates, Inc. during January 1984. The data collected from this survey included magnetometer, side scan sonar, sparker, and pinger profiles. Copies of this survey report have been previously furnished to the MMS.

These data along with available Common Depth Point (CDP) seismic and velocity profiles, and information obtained from previously drilled wells in the area, were used to evaluate the proposed well locations. Copies of the CDP data will be made available to the MMS upon request. Copies of the well data has been previously furnished. The wells are proposed at the existing platform, therefore no shallow drilling hazard assessment is included with this DOCD. No shallow drilling hazards have been encountered by the wells drilled to date and none are expected.

OIL SPILL CONTINGENCY PLAN AND TRAJECTORY SIMULATION

In accordance with Title 30 CFR Part 250.42, Texaco has on file with the MMS an Oil Spill Contingency Plan which has been approved on September 23, 1992. A revised plan was submitted to the MMS on February 17, 1993, but has not yet been approved. In addition, Texaco is a member of Clean Gulf Associates (CGA) and has access to a stockpile of oil spill containment and clean-up materials for use in the offshore and estuarine areas. There are several CGA bases which are strategically located along the Texas, Louisiana, Alabama, and Florida coast

lines of the Gulf of Mexico that have the material and equipment necessary to control and clean-up oil spills. The closest base, which is at Cameron, Louisiana, is a distance of two hundred and twenty six (226) kilometers (122 nautical miles) to the proposed site. Based on the distance from this CGA installation to the proposed site, the mobilization, travel, and deployment time is estimated at nineteen (19) hours and thirty (30) minutes.

This time is the estimated onsite deployment time of the Clean Gulf Associates Fast Response Skimming System installed onboard a utility boat at the base indicated above and deployed at the spill site, and was established using the following criteria:

1. Eight (8) hours procurement and load-out time for:
 - a. Initial notification.
 - b. Initial assessment.
 - c. Acquiring equipment transportation vessel, contract load-out crew, and contract operating personnel.
 - d. Equipment load-out on transportation vessel.
2. Eleven (11) hours travel time calculated as follows:
 - a. Estimated two (2) nautical miles of inland water travel time at five (5) knots.
 - b. Estimated one hundred and twenty (120) nautical miles of open water travel time at eleven (11) knots.
3. One-half (1/2) hour onsite equipment deployment time:

This deployment time will be used in assessing whether or not a quicker means of deployment is available by boat or aircraft, provided means are available near the spill site for installation of clean-up equipment on the required vessels. Also, Texaco owns considerable pollution control equipment in addition to the equipment available through the Clean Gulf Associates. This equipment is stored at the shore bases and at various locations in and around the Gulf of Mexico. This equipment will be deployed by Texaco using work boats. It would be transported to the spill site by either boat or helicopter. This equipment is immediately available, and in the event of a pollution incident, would be used as needed.

The Final Environmental Impact Statement (FEIS) for Gulf of Mexico Sales 142 and 143 for the Central and Western Planning Areas dated November 1992 discusses trajectory simulations. An oil spill for the proposed activity area (launch site W 19) would have less than a 0.5% chance of impacting any land segment within ten (10) days. Copies of the spill area map and probability table are included in the Appendix.

If a spill should occur from the proposed location, Texaco would activate its Oil Spill Response Team. Determine from the current conditions the probable location and time of landfall. Then using the Clean Gulf Operations Manual, Volume II, and contact with local wildlife agents, identify the biologically sensitive areas in the vicinity of the anticipated landfall and determine the appropriate response mode. Upon activation of the proper equipment, Texaco would deploy it as suggested by Section VI of Volume II of the Clean Gulf Operations Manual or as appropriate to effectively respond to site-specific circumstances.

NEW OR UNUSUAL TECHNOLOGY

No new or unusual technology is planned for use.

OPERATIONAL LEASE STIPULATIONS

Lease OCS-G 6358 dated effective October 1, 1983, contains Stipulation No. 1 - Cultural Resources. This stipulation requires the lessee to conduct a survey and submit a report concerning the probability and/or location of cultural resources within a particular lease, if subsequently required by the MMS Regional Manager. By letter the MMS informed lessees and operators that they determined that Stipulation No. 1 would not be invoked for this lease.

DISCHARGE RATES AND COMPOSITION

Since only one well is usually drilled on a lease at a time, the following discussion on discharge rates and composition are on a per well basis.

CUTTINGS

A typical well for this lease is estimated to have a 30 inch hole to 150 feet below the mudline (BML), a 26 inch hole to 1,000 feet BML, a 17-1/2 inch hole to 3,000 feet BML, a 12-1/4 inch hole to 6,500 feet BML, a 8-1/2 inch hole to 9,000 feet BML, and a 6-1/2 inch hole to a TD of approximately 11,000 feet BML. This drilling program would produce 0.8743 bbls per lineal foot (From B. J. Hughes Decimal Book) of cuttings for the first 150 feet of hole, 0.6567 bbls per foot for the next 850 feet of hole, 0.2975 bbls per foot for the next 2,000 feet of hole, and 0.1458 bbls per foot for the next 3,500 feet of hole, 0.0702 bbls per foot for the next 2,500 feet of hole, and 0.0410 bbls per foot for the remaining 2,000 feet of hole. Assuming a 50% increase in cuttings material because of hole erosion, washouts, etc., this would produce approximately 3,078* bbls of cutting.

$$*[(0.8743)(150)+(0.6567)(850)+(0.2975)(2,000)+(0.1458)(3,500)+(0.0702)(2,500)+(0.0410)(2,000)]1.5 = 3,078$$

Since drilling and well completion operations are expected to take about 60 days per well, approximately 51 bbls of cuttings per day, on the average, will be discharged overboard. During the initial part of the well, approximately 131 bbls of cuttings per day will be discharged. Also, periodically during the drilling and during completion operations, no cuttings will be discharged.

DRILLING MUD

The hole is expected to be drilled with low silt and freshwater lignosulfonate mud. After drilling, the total mud system of approximately 2500 bbls will be discharged overboard. The use of oil-based mud is not planned during drilling operations. Should it be approved for use, it will be collected, transported to shore and disposed of in an approved disposal site. Included in the Appendix is a listing of the drilling mud

components and mud additives which are normally used during drilling operations.

PRODUCED WATER

Produced water from the proposed wells will be cleaned up with equipment on the platform and discharged overboard in accordance with the EPA General NPDES Permit for the Gulf of Mexico.

EXCESS CEMENT

Theoretically, there should be no excess cement discharged following a casing cement job. In practice, however, this is not the case. Actual hole conditions and several other factors (e.g., channeling of the cement) determine the volume of cement returning over the shale shakers during a cement job. Normally, the deeper casing jobs result in less excess cement, as the last string of casing is cemented within the existing casing strings and the volume of cement required can be more accurately calculated. The following volumes of cement that might be discharged are based upon a ten percent excess rate.

<u>Size Casing Cemented</u>	<u>Excess Cement Discharged</u>
20 inch	35 barrels
13-3/8 inch	44 barrels

The remaining casing strings are not expected to be cemented back to the surface.

TEST FLUIDS

30 CFR 250 requires that blowout preventer stacks be tested at least once each week. Approximately 10 barrels of seawater will be discharged on a weekly basis as a result of this operation.

SANITARY AND DOMESTIC WASTES

a. Drilling Rig

Sanitary wastes are collected from commodes on board the drilling rig and are treated in a USCG approved sewerage treatment plant prior to discharge. The average daily discharge from the sewerage treatment plant will be approximately 600 gallons. Wastewater from sinks, showers, laundry, and the galley comprise the domestic wastes produced on the rig. No solids are included in this effluent. Approximately 2700 gallons of domestic waste are discharged daily.

b. Support Vessels

Sanitary and domestic wastes are treated on board the vessel prior to discharge. The amount of wastes discharged is dependent upon the number of people on board at any one time. The volume, however, is small and would have negligible impact on receiving waters.

c. Onshore Support Bases

Sanitary and domestic wastes produced at the onshore base will be processed by the local sewerage treatment system. The quantity of effluent involved is dependent upon the number of personnel at the support base at any one time. It is anticipated that crew change days will account for the largest volume of sanitary and domestic wastes, but these volumes should have negligible impact on existing treatment facilities.

FRESHWATER MAKER BLOWDOWN

The desalination unit on the platform and/or drilling rig is capable of producing 10,000 gallons of freshwater per day. The unit is cooled by heat exchange with incoming seawater which is then discharged. Approximately 460,000 gallons of seawater and desalination unit effluent are discharged from each unit daily.

SERVICE WATER AND FIRE SYSTEM TEST WATER

The non-contact cooling water for the EMD engines, air conditioner, air compressor, and the fire system test water are composed of seawater that is not exposed to any form of contaminant. These waters are discharged at a daily rate of 1,340,000 gallons.

DECK DRAINAGE

Two types of deck drainage effluent are produced on a platform and/or drilling rig. One is derived from decked areas that are not subject to hydrocarbon contamination. The volume of effluent discharged from these areas is dependent primarily upon rainfall and rig maintenance operations. Since no hydrocarbon contamination occurs in these areas, the effluent is discharged directly to receiving waters. The second type of effluent is derived from deck space contaminated by hydrocarbons. This effluent is routed through a settling tank where the hydrocarbon fraction is separated from the water. Water discharged from the settling tank contains no free oil. Approximately 50 gallons of oil per month is collected from the settling tank and shipped to the onshore base for proper disposal.

NON-HAZARDOUS SOLID WASTE

Solid wastes, in addition to the drill cuttings that are generated and discharged offshore, include mud sacks, paper, plastic, cloth, food scraps, and metal. All of these wastes, except for the metal, will be collected in multi-layer polypropylene sacks and transported to shore for disposal at an approved disposal facility. Scrap metal, casing and thread protectors, used drilling bits, and other metal wastes are classified as tangible items. These are either re-used or sold as scrap and are, therefore, not treated in the same manner as the solid waste discussed earlier. Solid wastes generated from the transportation vessels, normally just garbage, will be collected and returned to shore for disposal with the rig refuse. Supply base wastes, normally consisting of paper, plastic, and packing materials, will be collected and disposed of along with the other solid wastes generated by the proposed operation. The

volume of solid wastes generated by the proposed operation is dependent upon a variety of factors; however, it is not anticipated to exceed an average of 800 pounds per month.

CONTAMINATED LIQUID AND SOLID WASTES

All liquid and solid wastes contaminated by hydrocarbons or other hazardous substances will be collected and transported to an approved disposal site. Wastes included in this category are used engine oil, vessel bilge drainage, hydrocarbons collected from settling tanks on the rig, and hydrocarbon-contaminated solids such as rags and paper.

HYDROGEN SULFIDE AREA CLASSIFICATION AND CONTINGENCY PLAN

No Hydrogen Sulfide (H₂S) has been encountered in the development of the area to date and none is expected to be encountered in future development, therefore, no contingency plan is proposed. Based on our knowledge of the area to date, Texaco would classify this area as "Zones where the absence of H₂S has been confirmed". However, in accordance with Title 30 CFR Part 250, Section 250.67 Paragraph (c), Texaco hereby requests the Regional Supervisor make a determination of the area's classification of probability of encountering H₂S during operations.

CERTIFICATE OF COASTAL ZONE CONSISTENCY

In accordance with Notice to Lessees and Operators (NTL) 86-09 dated October 13, 1986, a Certificate of Consistency with Louisiana's Coastal Management Plan has been prepared. It is included in the Appendix of this DOCD. In accordance with Letter to Lessees and Operators (LTL) dated September 27, 1989, publication of a Public Notice for this activity is not required.

PROJECTED AIR EMISSIONS SUMMARY

The Projected Air Emissions Report, which is included in the Appendix, reflects the highest estimated emissions of total suspended particles (TSP), sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC) for a 180 day period of continuous lease operations. Upon comparison of the estimated emissions to the emissions calculated using the exemption formula, it was determined that the proposed activities were exempt from further air quality review. Based on these data, emissions from the proposed activities will not cause any significant effect on the air quality of the onshore areas.

ENVIRONMENTAL INFORMATION

In accordance with NTL No. 86-09 dated October 13, 1986, an Environmental Report (ER) is not required with this DOCD.

ONSHORE SUPPORT BASES

Two (2) existing onshore bases will be used to support the development activity proposed, the Cameron Offshore Services dock at Cameron, and the Texaco dock at Morgan City, both in Louisiana. Both bases are equipped with cranes, docking space, and 24-hour communications. No expansion of these bases will be required to support the proposed activity.

From the Cameron base, personnel and supplies will be transported by boat to the proposed activity site. From the Morgan City base, tubular goods, supplies and bulk materials will be transported by boat to the proposed drill site. It is estimated that the service boats will make three (3) to four (4) trips each week. Additionally, personnel may be transported by helicopter from Petroleum Helicopter Inc.'s facilities near Morgan City, Louisiana. Helicopter flights to the area will average two (2) trips per week.

It is anticipated that the transportation vessels will utilize the most direct routes from their points of origin. However, because a vessel supporting the proposed activities may be scheduled for other stops in the area, the exact route for each vessel on each particular trip cannot be predetermined. Included on the Vicinity Map in the appendix are the proposed transportation routes.

CHEMOSYNTHETIC ORGANISM SAFEGUARDS

Presently, an analysis of the evidence and consequences of geological phenomena (such as hydrocarbon charged sediments, seismic wipe-out zones, anomalous mounds, gas vents, or oil seeps) that could support chemosynthetic organisms is required when activities are proposed in water depths of greater than 400 meters (1312 feet). Since the activities proposed in this plan are in water depths of approximately 219 meters (720 feet), no analysis for chemosynthetic organisms has been conducted.

APPENDIX

Vicinity Map with Transportation Routes

Well Location Table

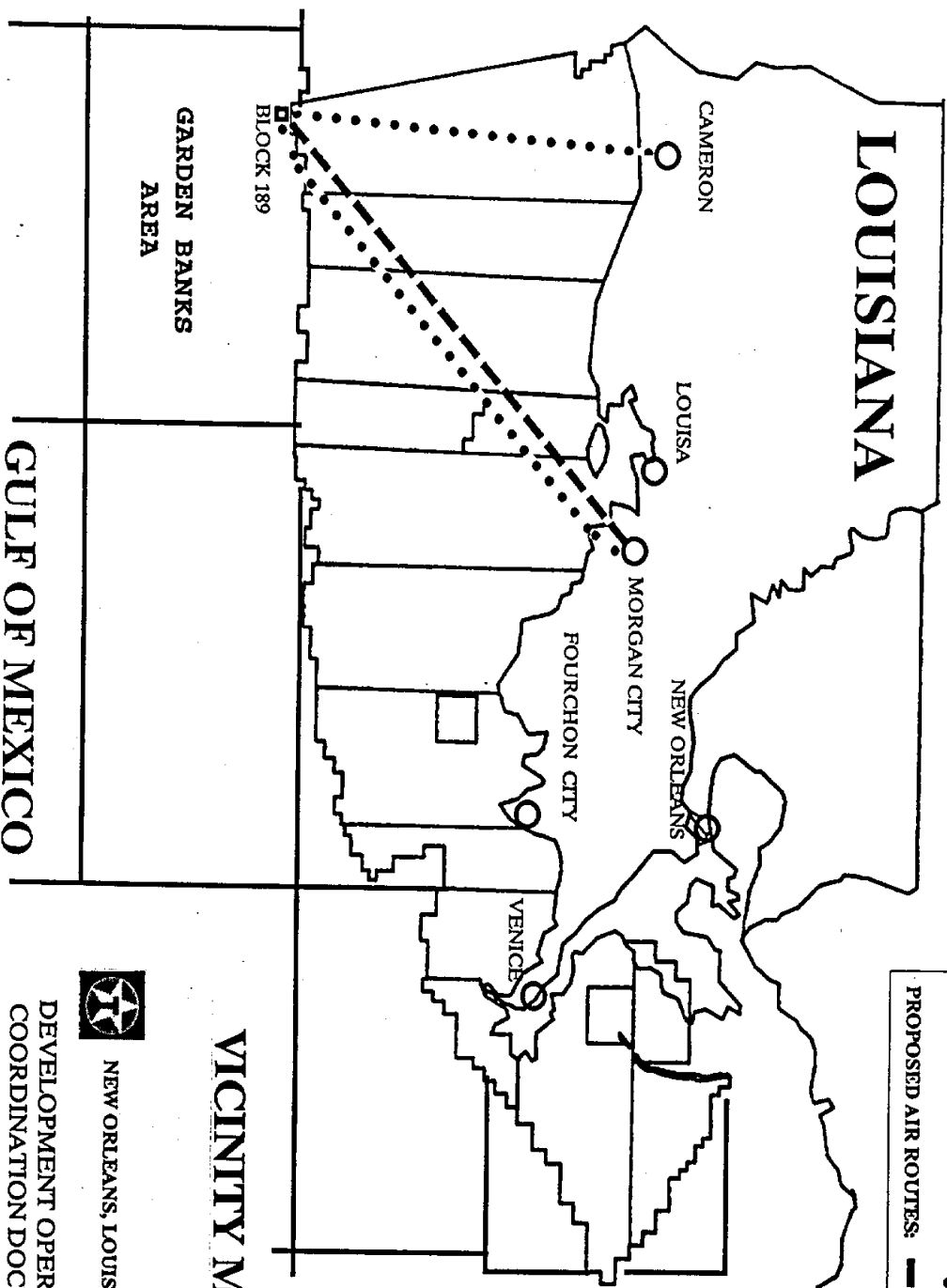
Bathymetry Map and Structure Maps

Trajectory Simulation

Drilling Mud Components and Mud Additives

Certificate of Coastal Zone Consistency

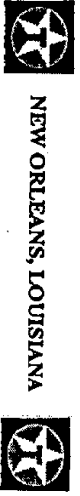
Projected Air Emissions Report



LEGEND

PROPOSED BOAT ROUTES:
 PROPOSED AIR ROUTES: - - - - -

VICINITY MAP



NEW ORLEANS, LOUISIANA

DEVELOPMENT OPERATIONS
 COORDINATION DOCUMENT
 GARDEN BANKS BLOCK 189

OCS-G-6358

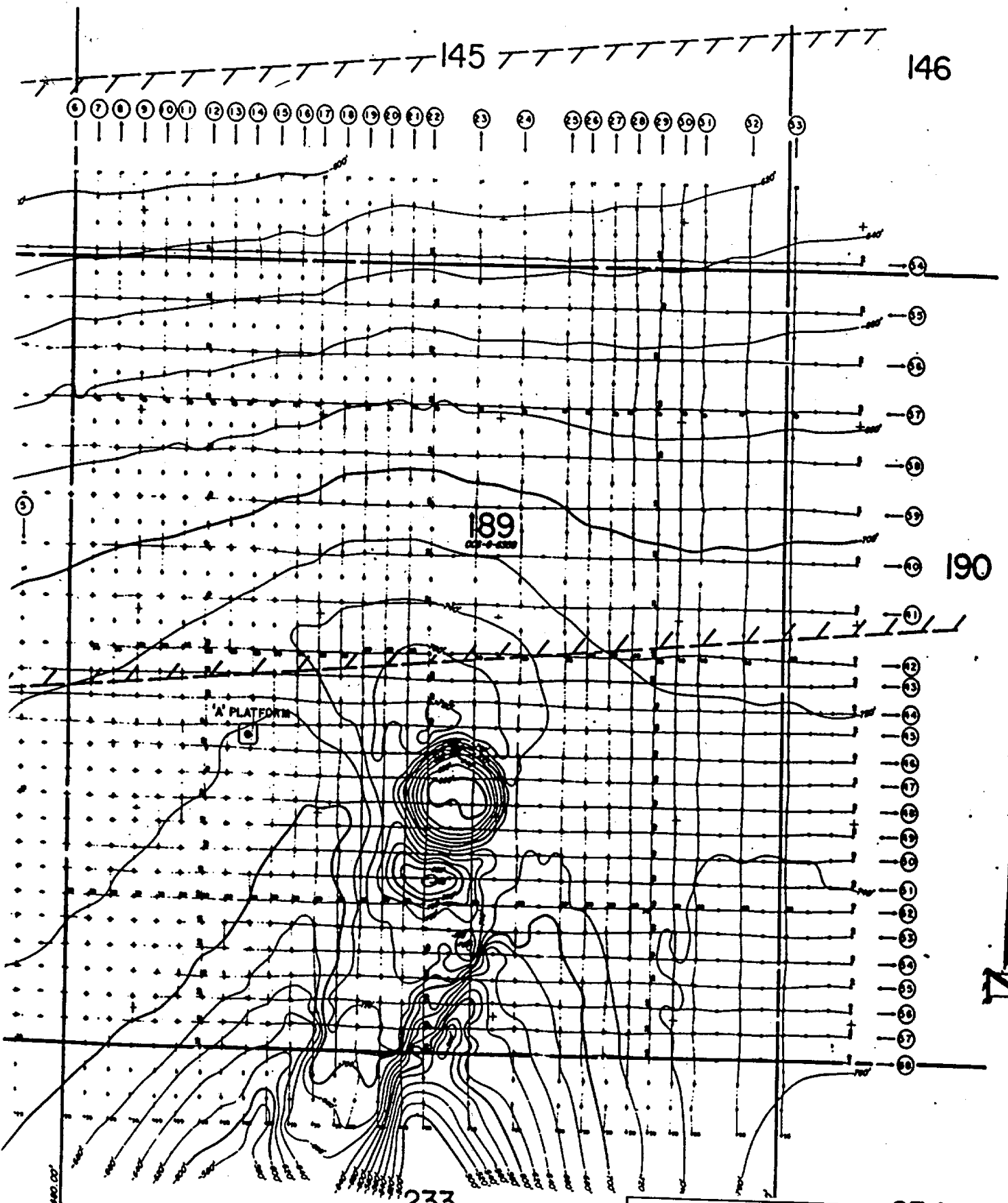
DRAWING NOT TO SCALE

WELL LOCATION TABLE

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GARDEN BANKS BLOCK 189 (OCS-G 6358)

WELL NO	SURFACE LOCATION		PROPOSED BHL		TRUE VERTICAL DEPTH (FT)	WATER DEPTH (FT.)
	FT. FSL	FT. FWL	FT. FSL	FT. FWL		
A-18	6261 X1540388	3908 Y10080501				720
A-19	"	"				"
A-20	"	"				"



—●— SHOT POINT & SHOT POINT No.
 —④— LINE No. & LINE DIRECTION
 ZERO DATUM - SEA LEVEL
 CONTOUR INTERVAL - 20'
 APPLIED VELOCITY - 5,000'/sec




 OFFSHORE EXPLORATION DIVISION
 OFFSHORE TEXAS
 

Exhibit 5 - Bathymetry Map
 Garden Banks Block 189

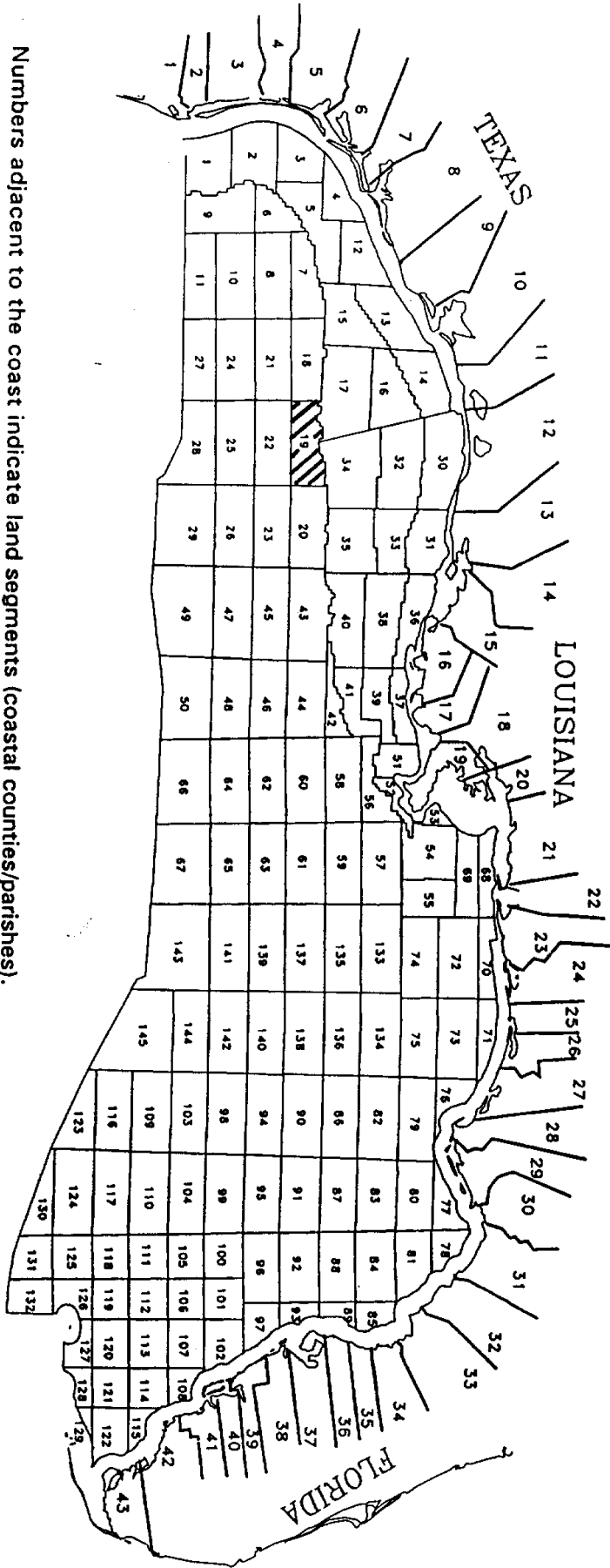
DATUM _____ C.I. 20'
 SCALE: 1" = 2816' DATE: 11/6/89
 EXPLORATIONIST: W. L. Keyser

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STRUCTURE MAP(S) DELETED FROM THIS PUBLIC INFORMATION COPY

OIL SPILL AREA MAP

Numbers adjacent to the coast indicate land segments (coastal counties/parishes).
 Numbers offshore indicate oil spill launch sites.



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Figure IV-7. Land Segments and Launch Sites Used in the Minerals Management Service Oil Spill Risk Analysis Model.

OIL SPILL PROBABILITIES TABLE

Table IV-20

Probabilities (expressed as percent chance) that an Oil Spill (greater than or equal to 1,000 bbl) Starting at a Particular Location Will Contact a Certain Land Segment Within 10 Days (Sales 142 and 143)

Land Segment ¹	Hypothetical Spill Location ²															
	W01	W02	W03	W04	W05	W06	W07	W12	W13	W14	W15	W16	W17	W18	W19	W20
1	13	1	n	n	n	n	n	n	n	n	n	n	n	n	n	n
2	5	2	n	n	n	n	n	n	n	n	n	n	n	n	n	n
3	8	17	2	n	n	n	n	n	n	n	n	n	n	n	n	n
4	1	12	8	n	n	n	n	n	n	n	n	n	n	n	n	n
5	n	5	17	1	n	n	n	n	n	n	n	n	n	n	n	n
6	n	2	22	4	n	n	n	n	n	n	n	n	n	n	n	n
7	n	n	12	41	8	2	n	n	n	n	n	n	n	n	n	n
8	n	n	n	23	7	n	n	38	1	n	n	n	n	n	n	n
9	n	n	n	n	n	n	n	9	12	n	n	n	n	n	n	n
10	n	n	n	n	n	n	n	n	26	11	1	1	1	1	1	1
11	n	n	n	n	n	n	n	n	n	16	n	n	n	n	n	n
12	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n

Land Segment	Hypothetical Spill Location									
	C30	C31	C32	C33	C36	C37	C38	C39	C41	C42
11	2	n	n	n	n	n	n	n	n	n
12	42	2	2	n	n	n	n	n	n	n
13	2	25	n	1	n	n	n	n	n	n
14	n	6	n	n	5	n	n	n	n	n
15	n	1	n	n	11	n	n	n	n	n
16	n	n	n	n	27	16	3	3	n	n
17	n	n	n	n	n	21	3	5	n	n
18	n	n	n	n	n	6	n	1	n	n
19	n	n	n	n	n	1	n	n	n	n

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OIL SPILL PROBABILITIES TABLE

Table IV-20. Probabilities (expressed as percent chance) that an Oil Spill (greater than or equal to 1,000 bbl) Starting at a Particular Location Will Contact a Certain Land Segment Within 10 Days (Sales 142 and 143) (continued)

Land Segment	Hypothetical Spill Location																		
	C51	C52	C53	C54	C55	C56	C57	C58	C59	C60	C61	C62	C63	C64	C65	C66	C67	C68	C69
17	3	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
18	6	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
19	34	65	32	5	n	29	1	12	1	2	n	n	n	n	n	n	n	n	n
20	n	n	10	1	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
21	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
22	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
23	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n

¹n = less than 0.5 percent.

²Some hypothetical spill locations showing less than 0.5 percent chance of contact are not shown.

Note: Rows with all values less than 0.5 percent are not shown.

DRILLING MUD COMPONENTS AND ADDITIVES

The following is a list of drilling mud components used during normal drilling operations in Texaco's Offshore Producing Division.

<u>Common Chemical or Chemical Trade Name</u>	<u>Description of Material</u>
Aluminum stearate	Aluminum stearate
"AKTAFLO-S"	Non-ionic surfactant
Barite	Barium sulfate (BaSO ₄)
Calcium carbonate	Aragonite (CaCO ₃)
Calcium chloride	Hydrophilite (CaCl ₂)
Calcium oxide	Lime (Quick)
Calcium sulfate	Anhydrite (CaSO ₄)
Carboxymethyl cellulose	Carboxymethyl cellulose
Caustic potash	Potassium hydrate
Caustic soda	Sodium hydroxide (NaOH)
Chrome lignite	Chrome lignite
Chrome lignosulfonate	Chrome lignosulfonate
Drilling detergent	Soap
"E-Pal"	Non-toxic, biodegradable defoamer
Ferrochrome lignosulfonate	Derived from wood pulp
Gel	Sodium montmorillonite, bentonite, attapulgit
Gypsum	CaSO ₄ -2H ₂ O
Lignite	Lignite
Lignosulfonate	Lignosulfonate
"Mud Sweep"	Cement pre-flush
"MOR-REX"	Hydrolyzed cereal solid
Sapp	Sodium acid pyrophosphate
Soda ash	Sodium carbonate
Sodium bicarbonate	NaHC ₃
Sodium carboxymethyl cellulose	Sodium carboxymethyl cellulose
Sodium chloride	NaCl
Sodium chromate	NaCrO ₄ -10H ₂ O
Starch	Corn starch

The following is a list of drilling mud additives anticipated for use in meeting special drilling requirements:

"Bit Wiser"	Biodegradable drilling lubricant
"Black Magic"	Oil-based mud concentrate
"Black Magic Supermix"	Sacked concentrated oil-based mud
Diesel	Diesel fuel used to mix some loss- circulation pills
Diesphalt	Mineral oil with asphalt
"Jelflake"	Plastic foil, shredded cellophane
MICA	Loss circulation material
"Pipe-Lax"	Surfactant mixed with diesel
Spotty	Mineral oil with gilsonite
"Shale-Trol"	Organo-aluminum complex
TDA-100	Water soluble, polyalkylene glycol synthetic lubricant
"Toro-Trim"	Biodegradable drilling lubricant
"TX-9010"	Biodegradable drilling lubricant
"Wall-Nut"	Ground walnut shells
Wood fibers	Loss circulation material

**COASTAL ZONE MANAGEMENT
CONSISTENCY CERTIFICATION**

Development
Type of Plan

Garden Banks Block 189
Area and Block

OCS-G 6358
Lease Number

The proposed activities described in detail in this Plan comply with Louisiana's approved Coastal Zone Management Program and will be conducted in a manner consistent with such Program.

In accordance with the Letter to Lessees and Operators dated September 27, 1989, publication of a public notice for the proposed activity is not required.

Texaco Exploration and Production Inc.
Lessee or Operator


Certifying Official

4-20-93
Date

PROJECTED AIR EMISSIONS REPORT
 GARDEN BANKS BLOCK 189
 OCS-G 6358
 WELL NOS. "A-18" - "A-20"

EMISSIONS IN POUNDS PER DAY

TEMPORARY SOURCES ¹	TSP	NO _x	CO	VOC	SO ₂
Drilling Equipment ²	23	325	70	26	22
Other Sources ³	<u>2</u>	<u>19</u>	<u>15</u>	<u>11</u>	<u>2</u>
TOTAL	25	344	85	37	24

EMISSIONS IN TONS PER YEAR

TEMPORARY SOURCES ¹	TSP	NO _x	CO	VOC	SO ₂
Drilling Equipment ²	2.1	29.3	6.3	2.3	1.9
Other Sources ³	<u>0.2</u>	<u>1.7</u>	<u>1.4</u>	<u>1.0</u>	<u>0.2</u>
TOTAL	2.3	31.0	7.7	3.3	2.1

Emission exemptions for NO_x, CO, VOC, TSP and SO₂ are calculated using the following formulas with a distance from shore of one hundred and thirty (130) statute miles.

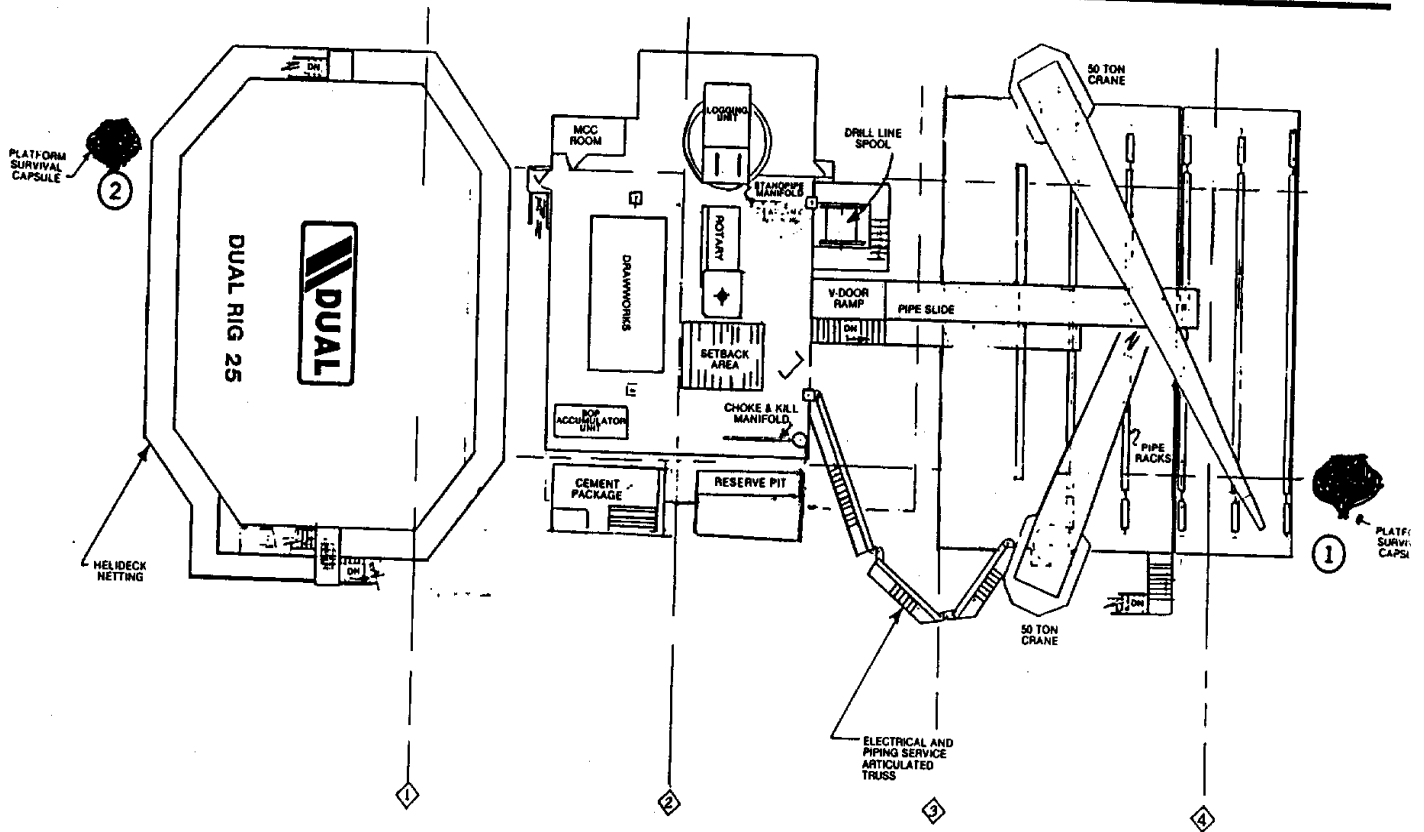
CO Exemption (E) in Tons Per Year.

$$E = 3400 \times (\text{distance from shore})^{2/3} = 3400 (130)^{2/3} = 87266$$

NO_x, VOC, TSP and SO₂ Exemption (E) in Tons Per Year.

$$E = 33.3 \times (\text{distance from shore}) = 33.3 (130) = 4329$$

- (1) Air emissions from temporary activities that occur in one location for less than three years are exempt from further air quality review. Temporary activities for this proposal will last approximately 180 days therefore, being within the limits of the definition of temporary activities.
- (2) Based on 60 hphr/ft from study, "Atmospheric Emissions From Offshore Oil and Gas Development and Production," EPA 450/3-77-026, June 1977.
- (3) Based on emission factors from "Compilation of Air Pollutant Emission Factors," Fourth Edition EPA Report AP-42, September, 1985 (Tables 3.2-1, 3.3-1 and 9.1-2). Included are helicopter landing and take off (avg. of 2 trips/wk); supply and/or crew boats, at dockside (avg. of 12 hrs/day, 2 days/wk); fuel storage and transfer; loading and unloading operations; and incineration of waste paper (avg. of 800 lb/mo) for duration of project.



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