UNITED STATES GOVERNMENT
MEMORANDUM

September 8, 2003

To: Public Information (MS 5034)

From: Plan Coordinator, FO, Plans Section (MS 5231)

Subject: Public Information copy of plan

- Control # - N-07879
- Type - Initial Development Operations Coordinations Document
- Lease(s) - OCS-G22228 Block - 20 High Island Area
- Operator - Union Oil Company of California
- Description - Caissons and Wells Nos. 1 and 2
- Rig Type - JACKUP

Attached is a copy of the subject plan.

It has been deemed submitted as of this date and is under review for approval.

Michelle Griffitt
Plan Coordinator

| Site Type/Name | Botm Lse/Area/Blk | Surface Location | Surf Lse/Area/Blk |
|---|---|---|---|
| CAIS/1 | | 4980 FSL, 1000 FEL | G22228/HI/20 |
| CAIS/2 | | 6880 FSL, 3656 FEL | G22228/HI/20 |
| WELL/1 | G22228/HI/20 | 4980 FSL, 1000 FEL | G22228/HI/20 |
| WELL/2 | G22228/HI/20 | 6880 FSL, 3656 FEL | G22228/HI/20 |

NOTED - SCHEXNAILDRE

ISS SEP 8'03PM 3:35

**Unocal Gulf Region USA**
14141 Southwest Freeway
Sugar Land, Texas 77478
P.O. Box 4551
Houston, Texas 77210-4551
Telephone (281) 491-7600

UNOCAL



August 27, 2003

U. S. Department of the Interior
Minerals Management Service
Gulf of Mexico OCS Region
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123

Attn: Plans Section, Office of Field Operations

Re: Initial Development Operations Coordination Document (DOCD), Block 20, OCS-G-22228, High Island Area

Dear Sir or Madam,

Attached are five proprietary and four public information copies of an Initial DOCD addressing our proposed activity in High Island Area Block 20. Should additional information be required, please contact Joe Morton, Tim Morton & Associates, Inc. at 337/234-5124 or by e-mail at jmorton@mortoninc.com.

Sincerely,

UNION OIL COMPANY OF CALIFORNIA

for Terry Cook
Attachments

CONTROL No. N-7879
REVIEWER: Michelle Griffitt
PHONE: (504) 736-2975

# INITIAL

# DEVELOPMENT OPERATIONS COORDINATION DOCUMENT

## UNION OIL COMPANY OF CALIFORNIA

## HIGH ISLAND AREA BLOCK 20

## OCS-G-22228

## OFFSHORE TEXAS

August 27, 2003

## LIST OF ATTACHMENTS

A. Vicinity Plat and Location Plat

B. Typical Caisson Schematic

C. Shallow Hazard Reports, Geologic Structure Map, Cross-Section Map and Bathymetry Map

D. Air Quality Report

E. Coastal Zone Consistency Certification and Environmental Impact Analysis

F. Waste Disposal Sites

INITIAL

DEVELOPMENT OPERATIONS COORDINATION DOCUMENT

HIGH ISLAND AREA BLOCK 20

OFFSHORE TEXAS

Pursuant to the requirements of 30 CFR 250 Subpart B, Union Oil Company of California (Unocal) submits the following Initial Development Operations Coordination Document for High Island Area Block 20.

## I. DESCRIPTION OF ACTIVITIES

Unocal proposes to utilize a jackup rig to drill two wells in High Island Area Block 20. Specific information regarding the surface location of the proposed caisson is as follows:

**SURFACE LOCATION**

| Well Name | Lease Line Calls | Lambert Coordinates | Geodetic Coordinates | Water Depth |
|---|---|---|---|---|
| 1 | 1000' FEL<br>4980' FSL | X = 3,617,356'<br>Y = 646,500' | Lat. 29° 30' 52.9"<br>Long. 93° 54' 47.3" | 42' |
| 2 | 3656' FEL<br>6880' FSL | X = 3,614,700'<br>Y = 648,400' | Lat. 29° 31' 12.8"<br>Long. 93° 55' 16.4" | 42' |

**BOTTOMHOLE LOCATION**

| Well Name | Lease Line Calls | Lambert Coordinates | Geodetic Coordinates | TVD/ MD |
|---|---|---|---|---|
| 1 | PROP. INFO. | PROP. INFO. | PROP. INFO. | PROP. INFO. |
| 2 | PROP. INFO. | PROP. INFO. | PROP. INFO. | PROP. INFO. |

Unocal proposes to spud Well No. 1 on October 15, 2003 and to spud Well No. 2 on April 1, 2004. It is expected to take approximately 50 days to drill and 20 days to complete each well. If the wells are successful, Unocal proposes to install single well caissons at the surface location of each well. Unocal also proposes to install a flowline from each caisson to their existing "A" platform located in High Island Area Block 37. Hydrocarbons would be transported from the "A" platform to shore via an existing pipeline gathering system.

Attachment A contains a vicinity map that depicts the relationship of High Island Area Block 20 to the Texas Coast and a location plat that depicts the proposed well locations in relation to the lease lines. The estimated time to complete the proposed development and production activity is approximately 5 years.

## II. PRODUCTION RATES AND LIFE OF RESERVES

| Type | Average Production Rate | Peak Production Rate | Life of Reserves |
|---|---|---|---|
| Oil | 161 BPD | 330 BPD | 5 Years |
| Gas | 16 MMCFD | 30 MMCFD | 5 Years |

## III. SCHEDULE OF ACTIVITIES

The proposed schedule for the development is:

| | |
|---|---|
| October 15, 2003 - December 23, 2003 | Drill and complete Well No. 1 |
| December 24, 2003 - March 31, 2004 | Fabricate and install caisson, deck and pipeline |
| April 1, 2004 | Produce Well No. 1 |
| April 1, 2004 - June 9, 2004 | Drill and complete Well No. 2 |
| June 10, 2004 - September 17, 2004 | Fabricate and install caisson, deck and pipeline |
| September 18, 2004 | Produce Well No. 2 |
| September 2009 | Remove equipment and P&A wells |

## IV. PLATFORM AND PIPELINES

Unocal proposes to utilize a derrick barge with an anchor radius of approximately 300 feet to install single well caissons at the surface location of Well Nos. 1 and 2. Unocal also proposes to install a 6-inch bulk flowline from each caisson the their existing "A" platform located in High Island Area Block 37. The lengths of the pipelines will be approximately 20,000 feet and 23,000 feet with a maximum flowrate of 330 barrels per day and 30 million cubic feet of natural gas per day. The estimated shut-in time is approximately two minutes. All production operations will be conducted in accordance with Minerals Management Service Operating Regulations and API RP 14C.

## V. GEOLOGICAL AND GEOPHYSICAL DATA

A geologic structure map, a cross-section map and a bathymetry map are provided with the confidential copies of this document in Attachment C. As stated in the shallow hazard reports, also included in Attachment C, Unocal does not anticipate any shallow hazards in the drilling of the proposed wells. The water depth at the proposed well locations is 42 feet.

## VI. OIL SPILL INFORMATION

Unocal is a member of Clean Gulf Associates (CGA), and would utilize CGA equipment in the event of an oil spill at High Island Area Block 20. CGA is an oil spill cooperative which owns a large inventory of oil spill clean-up equipment which is supported by Marine Spill Response Corporation (MSRC). MSRC is responsible for storing, inspecting, maintaining and dispatching CGA's equipment. An inventory of spill response equipment suitable for spills in the Gulf of Mexico is identified in Unocal's Oil Spill Response Plan (OSRP) which was approved on August 7, 2002. Unocal and Unocal Pipeline Company are the two entities covered under the OSRP. Unocal requests that the activities proposed in this DOCD be covered by the OSRP.

In the event of a spill, the primary location for the procurement of clean-up equipment and personnel would be the CGA stockpile at Galveston, Texas. Additional cleanup equipment and personnel could be mobilized from the Ingleside, Texas and the Lake Charles, Houma and Fort Jackson, Louisiana CGA stockpile areas. The Galveston, Texas stockpile area is located approximately 57 miles from the block.

As discussed in the Oil Spill Response Plan, mechanically recovered spilled oil will require additional handling. Portable tanks onboard recovery vessels or barges will be utilized to store oil prior to disposal onshore. Oiled debris will be placed in leak proof, sealable containers one the recovery vessels and transported to appropriate facilities for processing, recycling, or disposal. No safety, pollution prevention, or early spill detection measures beyond those required by 30 CFR 250 will be taken. Refer to Attachment F for a list of Unocal's approved waste disposal sites.

Procurement Time -It is estimated that 3 hours will be required to secure a support vessel for mobilization of the oil spill response equipment from the Galveston, Texas staging area.

Equipment Load Out Time - The time required to transfer the equipment to the transportation vessel will be approximately 2 hours.

Travel Time - Based on a transit speed of approximately 10 knots, it is estimated that 5.0 hours would be required to move the equipment to the deployment site.

Equipment Deployment - The time required to initiate clean up operations once the transportation vessel arrives at the spill site is estimated to be 1 hour.

**FACILITY TANKS/PRODUCTION VESSELS**

| Type of Storage Tank | Type of Facility | Tank Capacity (bbls) | No. of Tanks | Total Capacity (bbls) | Fluid Gravity (API) |
|---|---|---|---|---|---|
| Fuel Oil | Jackup Rig | 1,000 | 2 | 2,000 | No. 2 Diesel |

## DIESEL OIL SUPPLY VESSELS

| Size of Fuel Supply Vessel | Capacity of Fuel Supply Vessel | Frequency of Fuel Transfers | Route Fuel Supply Vessel Will Take |
|---|---|---|---|
| 180' | 1,500 bbls | Weekly | Cameron, Louisiana to High Island Area Block 20 |

## SUPPORT VESSELS FUEL STORAGE

| Type of Vessel | No. in Field Simultaneously | Estimated Max Fuel Tank Storage Capacity (bbls) |
|---|---|---|
| Tug Boats | 2 | 3000 |
| Supply Vessels | 2 | 1000 |
| Crew Vessels | 1 | 500 |

## BLOWOUT SCENARIO

| | |
|---|---|
| Estimated Spill Flow Rate | 330 BPD |
| Volume | 16,500 barrels |
| Time Frame | 50 days |
| Potential for Well to Bridge Over | Moderate Probability |
| Likelihood for Surface Intervention to Stop Blowout | Moderate Probability |
| Availability of Rig to Drill Relief Well | High Probability |
| Rig Package Constraints | None |
| Estimated Time to Drill Relief Well | 50 days |

## WORST-CASE SCENARIO COMPARISON

| Category | Regional OSRP | DOCD |
|---|---|---|
| Type of Activity | Pipeline | Wells, Caisson & P/L |
| Facility Location (area/block) | Ship Shoal Area Block 208 to Ship Shoal Area Block 28 | High Island Area Block 20 |
| Facility Designation | Segment 1196 | Well Nos. 1 & 2 |
| Distance to Nearest Shoreline (miles) | 20 miles | 11 miles |

| Category | Regional OSRP | DOCD |
|---|---|---|
| Volume<br>Storage tanks (total)<br>Flowlines (on facility)<br>Lease term pipelines<br>Uncontrolled blowout (volume per day)<br>Total Volume | 24,200 barrels | 5 barrels<br>804 barrels<br>330 barrels<br>1139 barrels |
| Type of oil(s) - (crude oil, condensate, diesel) | crude oil | condensate |
| API Gravity(s) | 38 | 45 |

Since Union Oil Company of California has the capability to respond to the worst-case spill scenario included in its regional Oil Spill Response Plan approved on August 7, 2002, and since the worst-case scenario determined for their DOCD does not replace the worst-case scenario in their regional OSRP, Union Oil Company of California hereby certifies that they have the capability to respond, to the maximum extent practicable, to a worst-case discharge, or a substantial threat of such a discharge, resulting from the activities proposed in their DOCD.

## VII. LEASE STIPULATIONS

There are no operational lease stipulations.

## VIII. WASTES AND DISCHARGES INFORMATION

| Type of Waste Approximate Composition | Amount to be Discharged (volume or rate) | Maximum Discharge Rate | Treatment and/or Storage, Discharge Location and Discharge Method |
|---|---|---|---|
| Water-based drilling fluids | 586 bbl/well | 200 bbl/hr | HI Block 20, discharge at surface |
| Drill cuttings associated with water-based fluids | 4,071 bbl/well | 1,000 bbl/hr | HI Block 20, discharge at surface |
| Well completion fluids | 300 bbl/well | 300 bbl/well every 3 years after initial completion | HI Block 20, discharge at surface, return excess to shore for credit |
| Sanitary wastes (drilling) | 20 gal/person/day | Not applicable | HI Block 20, chlorinated & discharged |
| Domestic wastes (drilling) | 30 gal/person/day | Not applicable | HI Block 20, remove floating solids & discharge |

| Type of Waste Approximate Composition | Amount to be Discharged (volume or rate) | Maximum Discharge Rate | Treatment and/or Storage, Discharge Location and Discharge Method |
|---|---|---|---|
| Deck drainage | 0-365 bbl/day dependent on rainfall | 1 bbl/day | HI Block 20, remove oil & grease and discharge |
| Uncontaminated fresh or seawater (drilling) | 37,000 bbl | Not applicable | HI Block 20, discharge at surface |
| Trash and debris | 420 $ft^3$ | 3 $ft^3$ | Storage bins transported by boat to Cameron, La. thence transported to municipal landfill by waste hauler |

## IX. $H_2S$ AREA CLASSIFICATION

Based on previous drilling, no $H_2S$ is known to occur in the project area. Union Oil Company of California, therefore, requests that High Island Area Block 20 be classified as a "Zone where the absence of $H_2S$ has been confirmed".

## X. BIOLOGICAL INFORMATION

Activities proposed in this DOCD will not impact any deepwater chemosynthetic communities as the water depth at the proposed surface locations is 42 feet. All proposed bottom-disturbing activities are outside the 3-mile zone of any identified topographic feature or within 100 feet of any pinnacle trend feature; therefore, no impacts to these features are anticipated.

## XI. NEW OR UNUSUAL TECHNOLOGY

Exploration and development activities in High Island Area Block 20 will not warrant utilizing any new or unusual technology that may affect coastal waters.

## XII. CERTIFICATE OF COASTAL ZONE CONSISTENCY

A Certificate of Coastal Zone Consistency is included in Attachment E.

## XIII. ENVIRONMENTAL IMPACT ANALYSIS

An Environmental Impact Analysis has been prepared for the proposed activity and is included in Attachment E.

## XIV. CALCULATION OF AIR EMISSIONS

An air quality report is included as Attachment D.

## XV. SUPPORT BASE

High Island Area Block 20 is located approximately 11 miles from the coast of Jefferson County, Texas. An existing facility in Cameron, Louisiana will serve as the onshore support base for the High Island Area Block 20 development activities. This shore base is located approximately 41 miles from High Island Area Block 20. Unocal anticipates using one helicopter, one supply boat, and one crew boat to support the activities in this block. The helicopter will travel to the location on an as needed basis. The supply boat and crew boat will travel to location a total of three times per week and two times per week, respectively. The shore base will serve the following functions: loading point for tools, equipment and machinery to be delivered to the well site, transportation base, and temporary storage area for materials and equipment. The base is equipped with cranes and loading docks necessary for safe operations. The existing onshore facilities and support personnel are sufficient to support the proposed operations without modification or expansion.

## XVI. SURETY BOND REQUIREMENTS

In accordance with the amendment of 30 CFR Part 256 surety bond requirements applicable to OCS lessees and operators, Union Oil Company of California submitted an area-wide bond in the amount of $3,000,000.00 to the Minerals Management Service, New Orleans, Louisiana.

## XVII. COMPANY CONTACT

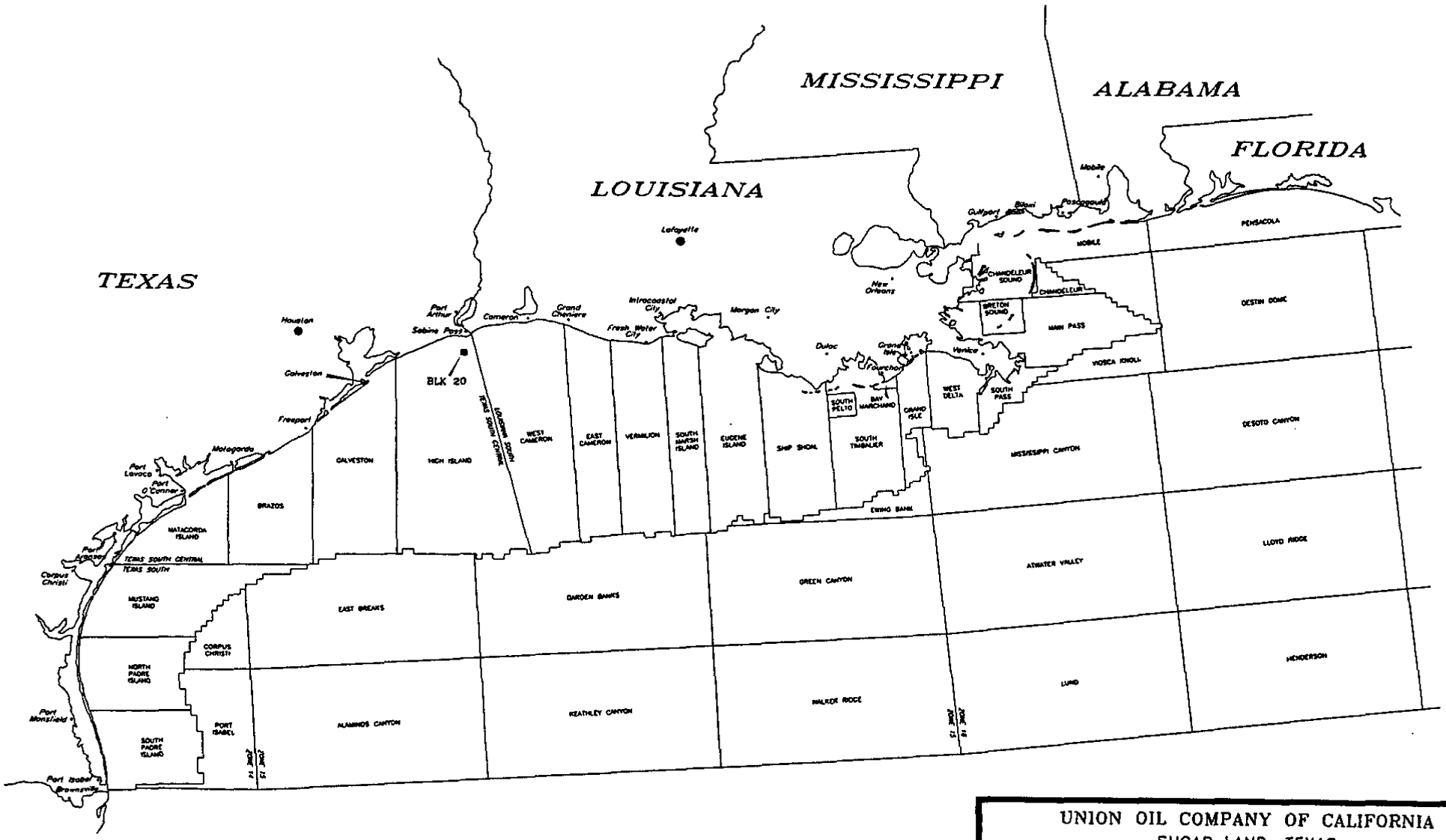
Any inquiries regarding this plan may be addressed to Mr. Terry Cook, 281/287-5538, Union Oil Company of California, 14141 Southwest Freeway, Sugar Land, Texas 77478.

**ATTACHMENT A**

**VICINITY PLAT**

**LOCATION PLAT**

# VICINITY MAP




BEST AVAILABLE COPY

UNION OIL COMPANY OF CALIFORNIA
SUGAR LAND, TEXAS

VICINITY MAP
BLOCK 20
HIGH ISLAND AREA

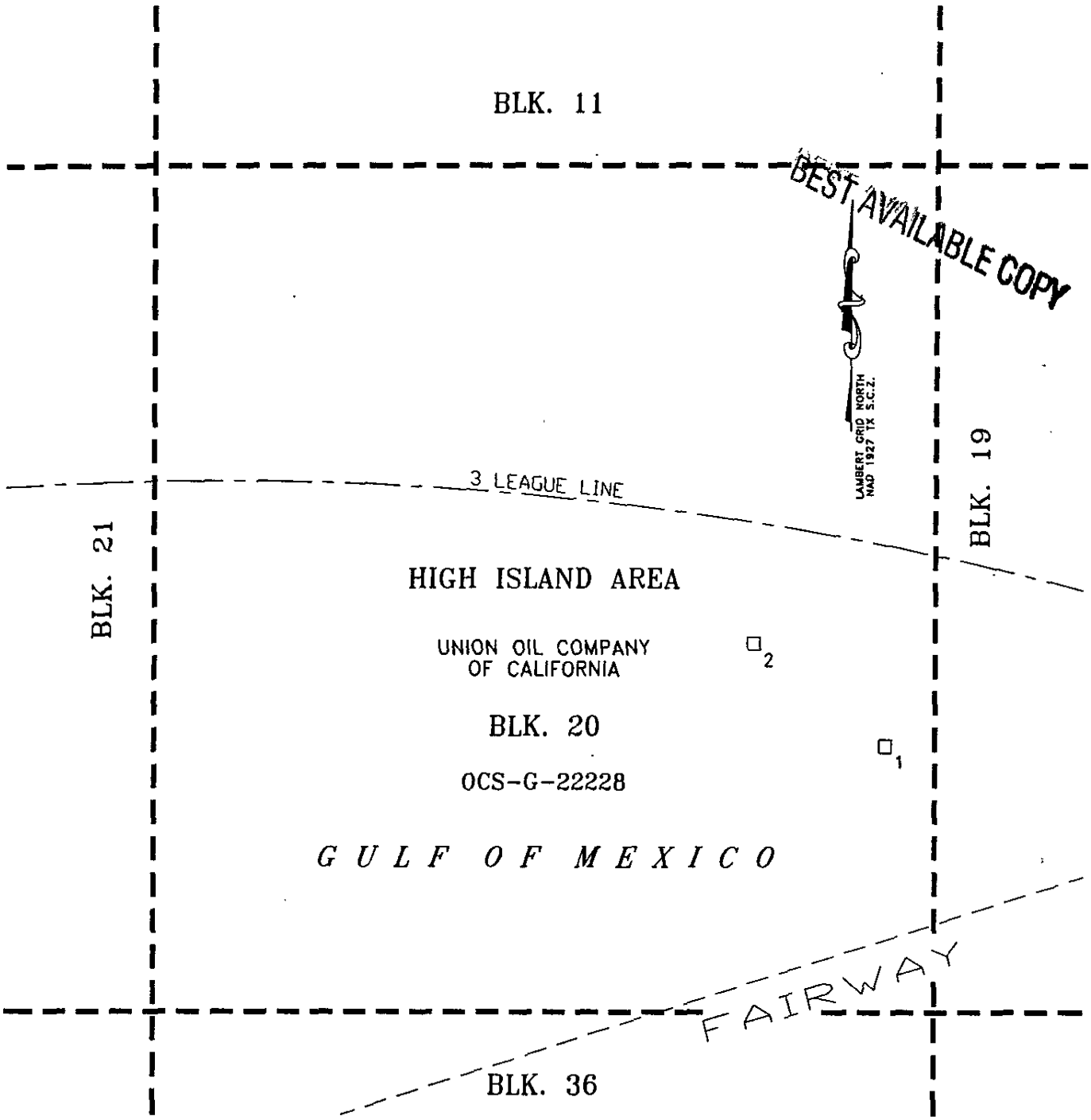
80 0 80 160

SCALE : 1" = 80 MILES

TIM MORTON & ASSOCIATES, INC.
REGULATORY & ENVIRONMENTAL CONSULTANTS
LAFAYETTE, LOUISIANA

JOB NO. 03-204 | DATE: 8/27/03

MAP NO. 03-204




## PROPOSED SURFACE LOCATION

| BLK. | WELL NO. | CALLS | | X | Y | LATITUDE | LONGITUDE |
|---|---|---|---|---|---|---|---|
| 20 | 1 | 1000' FEL | 4980' FSL | 3,617,356' | 646,500' | 29°30'52.9" | 93°54'47.3" |
| 20 | 2 | 3656' FEL | 6880' FSL | 3,614,700' | 648,400' | 29°31'12.8" | 93°55'16.4" |

UNION OIL COMPANY OF CALIFORNIA

14141 SOUTHWEST FREEWAY

SUGAR LAND, TEXAS 77478

*INITIAL DOCD*

HIGH ISLAND AREA- BLOCK 20

3000' 0' 3000' 6000'

SCALE IN FEET

TIM MORTON & ASSOCIATES, INC.
Regulatory & Environmental Consultants
337 / 234-5124

JOB # 03-204

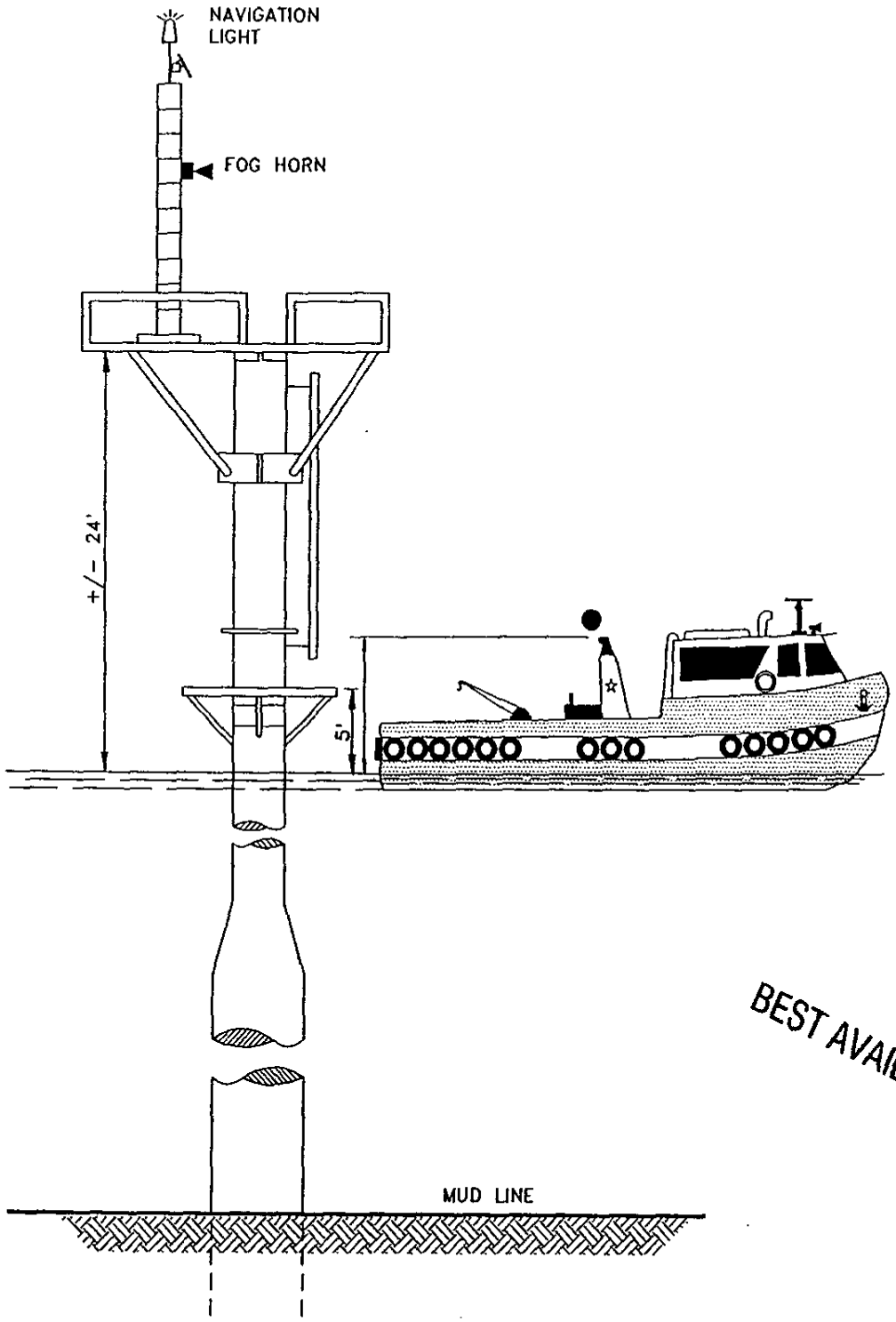
MAP NO. HI20

REVISED

DATE 8/26/03

**ATTACHMENT B**

**TYPICAL CAISSON SCHEMATIC**






TYPICAL CAISSON WELL PROTECTOR

**ATTACHMENT C**

**SHALLOW HAZARD REPORTS**

**GEOLOGIC STRUCTURE MAP**

**CROSS-SECTION MAP**

**BATHYMETRY MAP**

UNION OIL COMPANY OF CALIFORNIA
OCS-G-22228
HIGH ISLAND BLOCK 20
OFFSHORE TEXAS

# SHALLOW HAZARD REPORT

## High Island Block 20 Prospect

This memo was written in conclusion to my evaluation of High Island 20 for archaeological artifacts and subsurface geologic hazards at or near the following proposed well location.

High Island 20 1,000' FEL and 4,980' FSL Location #1

KC Offshore, L.L.C. conducted a high resolution survey during May-June 2001 using the following equipment.

1. Differential GPS/Sentinel navigation system.
2. Geometrics 801/803-G Proton precession total field magnetometer.
3. 100 kHZ EG&G SMS 260 dual channel side scan sonar.
4. 24 kHZ Innerspace Model 440 echo sounder.
5. 3.5 kHZ Edo Western 248E subbottom profiler.
6. EG&G 231/232 4.6kJ sparker.
7. EPC/9802 analog seismic recording system with single channel streamer.

## GEOPHYSICAL DISCUSSION

The seafloor of Block 20 is nearly flat, gently sloping towards the southwest. The seafloor does not exhibit any noticeable topographical variations and is interpreted to be a clayey silt. Water depths in the discussed location ranges between 42-43 feet. The proposed location shows no evidence of over-pressured gas zones but the presence of dispersed gas made seismic interpretation of amplitude anomalies and the examination of deeper structures very difficult. No near surface faulting is evident at the well location and there are no magnetic anomalies within 600 feet of this location.

The proposed location is in the vicinity of several buried channels. The location was chosen to avoid the terraces by at least 200 feet.

## CONCLUSION

In view of the above observations, we believe the proposed location can be drilled safely with minimum risk of disturbing any potential archaeological artifacts and encountering any drilling hazards.

BY: Tom Catlett

Tom Catlett
Consulting Geophysicist
August 13, 2003

UNION OIL COMPANY OF CALIFORNIA
OCS-G-22228
HIGH ISLAND BLOCK 20
OFFSHORE TEXAS

# SHALLOW HAZARD REPORT

## High Island Block 20 Prospect

This memo was written in conclusion to my evaluation of High Island 20 for archaeological artifacts and subsurface geologic hazards at or near the following proposed well location.

High Island 20 3,656' FEL and 6,880' FSL Location #2

KC Offshore, L.L.C. conducted a high resolution survey during May-June 2001 using the following equipment.

1. Differential GPS/Sentinel navigation system.
2. Geometrics 801/803-G Proton precession total field magnetometer.
3. 100 kHZ EG&G SMS 260 dual channel side scan sonar.
4. 24 kHZ Innerspace Model 440 echo sounder.
5. 3.5 kHZ Edo Western 248E subbottom profiler.
6. EG&G 231/232 4.6kJ sparker.
7. EPC/9802 analog seismic recording system with single channel streamer.

## GEOPHYSICAL DISCUSSION

The seafloor of Block 20 is nearly flat, gently sloping towards the southwest. The seafloor does not exhibit any noticeable topographical variations and is interpreted to be a clayey silt. The location is positioned above the edge of a deep channel (90-100') but should pose no problem for drilling. Water depths in the discussed location ranges between 42 - 43 feet. The proposed location shows no evidence of over-pressured gas zones but the presence of dispersed gas made seismic interpretation of amplitude anomalies and the examination of deeper structures very difficult. No near surface faulting is evident at the well location and there are no magnetic anomalies within 700 feet of this location. The anomaly at 700 feet is a 12" pipeline which should not present a hazard.

## CONCLUSION

In view of the above observations, we believe the proposed location can be drilled safely with minimum risk of disturbing any potential archaeological artifacts and encountering any drilling hazards.

BY: Tom Catlett

Tom Catlett
Consulting Geophysicist
August 11, 2003

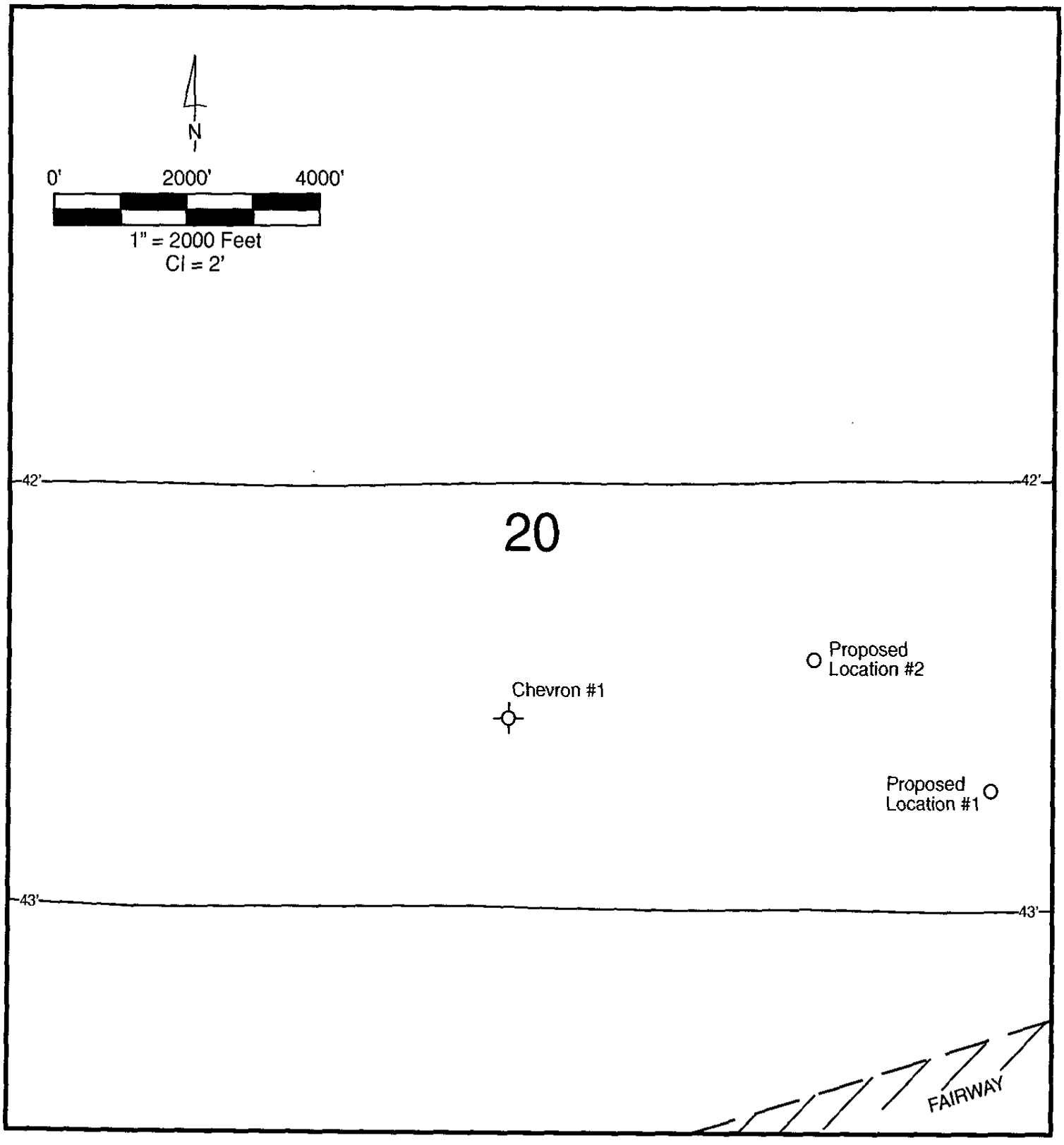
GEOLOGIC STRUCTURE MAP

PROPRIETARY INFORMATION

CROSS-SECTION MAP

PROPRIETARY INFORMATION

# OCS-G 22228




Union Oil Company of California
Bathymetry Map
High Island Area
Block 20

bk20.001 MK

**ATTACHMENT D**

**AIR QUALITY REPORT**

Control No. 1010-0049
September 30, 2003

# GULF OF MEXICO AIR EMISSION CALCULATIONS INSTRUCTIONS

## General

This document (DOCD_AQ.XLS) was prepared through the cooperative efforts of those in the oil industry including the API/OOC Gulf of Mexico Air Quality Task Force, and the Minerals Management service (MMS), who deal with air emission issues. This document is intended to standardize the way we estimate our potential air emissions for Development Operations Documents (DOCD) approved by the Minerals Management Service (MMS). It is intended to be thorough but flexible to meet the needs of different operators. This first file gives the basis for emission factors used in the emission spreadsheet as well as some general instructions. The following files, Title Sheet, Factors Sheet,Emissions Spreadsheet,and Summary Sheet will describe and calculate emissions from an activity.

## Title Sheet

1. The Title Sheet requires input of the company's name, area, block, OCS-G number, platform well(s) in the necessary lines. This data will automatically be transferred to the spreadsheet and summary sheet.

2. Answer the screening questions by indicating yes or no in the correct column. If all of the questions are answered no, fill in the information about your lease term pipelines in the block immediately below the screening questions and then submit just the title sheet with your DOCD; you do not need to complete the rest of the spreadsheets. If you answer yes to any of the screening questions, you need to prepare and subit a full set of spreadsheets. In either case you do not need to print and submit these instructions.

## Factor Sheet

The emission factors were compiled from the latest AP-42 references or from industry studies if no AP-42 reference was available. Factors can be revised as more data becomes available. A change to this Factor Sheet will be automatically changed in Emission Spreadsheet. A sulfur content table was added in 1996. A change in this table will automatically revise the SOx factor which will emissions.

The basis for the factors is as follows:

1. NG Turbines — Fuel usage scf/hr = HP X 9.524 (10,000 btu/HP-hr / 1050 btu/scf)

2. NG Engines — Fuel usage scf/hr = HP X 7.143 (7,500 btu/HP-hr / 1050 btu/scf)

3. Diesel — Fuel usage gals/hr = HP X 0.0483 (7,000 btu/HP-hr / 145,000 btu/gal)

## Emission Factors

*Natural Gas Prime Movers*

1. TNMOC refers to total non-methane organic carbon emissions and these can be assumed equivalent to VOC emissions.

2. The sulfur content assumed is 2000 grains /mmscf (3.33 ppm). If your concentration is then revise the ppm in the sulfur able immediately below the factors table.

*Diesel-Fired Prime Movers*

1. Diesel sulfur level 0.4% by wt. If your sulfur content is different change % wt. in the sulfur

2. For boats use > 600 HP factors based on AP-42 Vol. II, Table II-3-3. Those figures closely match the above values. Include the emissions from all vessels with your activities for their time of operation within a 25 mile radius of your facility.

3. For diesel engines <600 HP VOC emissions equal total HC emissions; for diesel engines>600 VOC emissions equal non-methane HC emissions.

*Heaters/Boilers/Firetubes/NG-Fired*

1. The assumed NG Sulfur content is 2000 gr. per mcf(3.33 ppm). You may revise the sulfur by changing the ppm in the sulfur table, if your content is different.

2. The VOCs emissions are based on total non-methane HCs.

*Gas Flares*

1. It is assumed that the flare is non-smoking.

2. A heating value of 1050 btu/cu. ft. for NG is assumed.

3. The sulfur content assumed is 2000 grains /mmscf (3.33 ppm). If your concentration is then revise the ppm in the sulfur table, or you may use the following formula:

   H2S flared (lbs/hr) = Gas flared (cu ft/hr) X ppm H2S X 34/(379X1000000)

   SOx emis (lbs/hr) = H2S flared (lbs/hr) X 64/34

*Liquid Flares*

1. Assumes 1% by wt Sulfur maximum in the crude oil. Revise the percent sulfur in the sulfur your value is different.

2. VOCs equal non-methane HCs

3. Particulate emissions assumes Grade 5 oil.

*Tanks*

1. Tank emissions assumes uncontrolled fixed roof tank.

2. The EPA TANKS model is an acceptable alternative. If you use TANKS you must provide information for MMS to verify your results.

*Fugitives*

1. Fugitives are based on the 1995 Star Environmental Report. It requires that you count or your components.The factor is based on average leak rate for light oil / gas facility.

*Glycol Dehydrator Vent*

1. The rate of the gas being dehydrated (throughput) in SCF/HR must be entered in the The emission factor is from the compilation of the Louisiana Survey and an average emissions gas rate.

*Gas Venting*

1.The emission factor is based on venting unburned natural gas of average weight.

**Emissions Spreadsheets (EMISSIONS1 through EMISSIONS5)**

The emissions from an operation should be presented for a calendar year (1999, 2000, etc.). The operation may include production only or production in conjunction with other activities such as or construction operations. For additional years the Emissions Spreadsheet is renamed Emissions 2, 3, etc. The different operating parameters for each year should entered to calculate revised for that year. The spreadsheet will calculate maximum fuel usage (UNIT/HR) using the known horsepower. It will assume maximum fuel usage is equal to actual fuel (UNIT/DAY) usage unless actual fuel usage is known. If so, insert actual fuel usage in appropriate column. The emissions calculated as follows:

Emission rate (lb/hr) = (HP or fuel rate) X Emission Factor (Potential to

Emissions (tpy) = Emission rate (lb/hr) X load factor( Act Fuel/Max Fuel) X hrsX daysX ton/2000 lbs (Actual

To customize the spreadsheet for your application it is possible to delete lines for non-applicable

Also, the production equipment can be customized further by adding the use of the equipment behind each type of engine, i.e.,

Turbine
Turbine - Gas Compressor

Burner
Burner - Line Heater

**Summary Sheet**

The Summary Sheet is designed to show a proposed estimate of emissions from an activity over a future period of time. In this example ten years was chosen. The first line (Row 7) of the summary sheet is linked to the yearly totals in the Emissions1 Spreadsheet. The second line (Row is referenced to Emissions2 Spreadsheet. The third line (Row 9) is referenced to Emissions3, Row to Emissions 4, Row 11 to Emissions 5. If more years of calculations are necessary to reach a constant then a spreadsheet can be copied and linked to the summary sheet for future years. Once emissions are constant the values are carried to the end of the ten year period.

The **Paperwork Reduction Act of 1995** (44 U.S.C. Chapter 35) requires us to inform you that MMS collects this information as part of an applicant's DOCD submitted for MMS approval. We use the information to facilitate our review and data entry for OCS plans. We will protect proprietary data according to the Freedom of Information Act and 30 CFR 250.196. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid Office of Management and Budget (OMB) control number. Responses are mandatory. The reporting burden for this form is included in the burden for preparing DOCDs. We estimate that burden to average 580 hours per response, including the time for reviewing instructions, gathering and maintaining the data, and completing and reviewing the form. Direct comments on the burden estimate or any other aspect of this form to the Information Collection Clearance Office, Mail Stop 4230, Minerals Management Service, 1849 C Street, N. W.,

DOCD AIR QUALITY SCREENING CHECKLIST

OMB Control No. 1010-0049
OMB Approval Expires: September 30, 2003

| | |
|---|---|
| COMPANY | Union Oil Company of California |
| AREA | High Island |
| BLOCK | 20 |
| LEASE | OCS-G-22228 |
| PLATFORM | Caissons |
| WELL | 1 & 2 |
| COMPANY CONTACT | Terry Cook |
| TELEPHONE NO. | 281/287-5538 |
| REMARKS | |

| "Yes" | "No" | Air Quality Screening Questions |
|---|---|---|
| Yes | | Is any calculated Complex Total (CT) Emission amount (in tons) associated with your proposed exploration activities more than 90% of the amounts calculated using the following formulas: CT = 3400D2/3 for CO, and CT = 33.3D for the other air pollutants (where D = distance to shore in miles)? |
| | No | Do your emission calculations include any emission reduction measures or modified emission factors? |
| | No | Does or will the facility complex associated with your proposed development and production activities process production from eight or more wells? |
| | No | Do you expect to encounter H2S at concentrations greater than 20 parts per million (ppm)? |
| | No | Do you propose to flare or vent natural gas in excess of the criteria set forth under 250.1105(a)(2) and (3)? |
| | No | Do you propose to burn produced hydrocarbon liquids? |
| Yes | | Are your proposed development and production activities located within 25 miles from shore? |
| | No | Are your proposed development and production activities located within 200 kilometers of the Breton Wilderness Area? |

If ALL questions are answered "No":
Fill in the information below about your lease term pipelines and submit only this coversheet with your plan.

If ANY question is answered "Yes":
Prepare and submit a full set of spreadsheets with your plan.

| LEASE TERM PIPELINE CONSTRUCTION INFORMATION: | | |
|---|---|---|
| YEAR | NUMBER OF PIPELINES | TOTAL NUMBER OF CONSTRUCTION DAYS |
| 2003 | | |
| 2004 | 2 | 60 |
| 2005 | | |
| 2006 | | |
| 2007 | | |
| 2008 | | |
| 2009 | | |
| 2010 | | |
| 2011 | | |
| 2012 | | |
| 2013 | | |

## AIR EMISSION CUMPUTATION FACTORS

| Fuel Usage Conversion Factors | Natural Gas Turbines | | Natural Gas Engines | | Diesel Recip. Engine | | REF. | DATE |
|---|---|---|---|---|---|---|---|---|
| | SCF/hp-hr | 9.524 | SCF/hp-hr | 7.143 | GAL/hp-hr | 0.0483 | AP42 3.2-1 | 4/76 & 8/84 |

| Equipment/Emission Factors | units | PM | SOx | NOx | VOC | CO | REF. | DATE |
|---|---|---|---|---|---|---|---|---|
| NG Turbines | gms/hp-hr | | 0.00247 | 1.3 | 0.01 | 0.83 | AP42 3.2-1& 3.1-1 | 10/96 |
| NG 2-cycle lean | gms/hp-hr | | 0.00185 | 10.9 | 0.43 | 1.5 | AP42 3.2-1 | 10/96 |
| NG 4-cycle lean | gms/hp-hr | | 0.00185 | 11.8 | 0.72 | 1.6 | AP42 3.2-1 | 10/96 |
| NG 4-cycle rich | gms/hp-hr | | 0.00185 | 10 | 0.14 | 8.6 | AP42 3.2-1 | 10/96 |
| | | | | | | | | |
| Diesel Recip. < 600 hp. | gms/hp-hr | 1 | 1.468 | 14 | 1.12 | 3.03 | AP42 3.3-1 | 10/96 |
| Diesel Recip. > 600 hp. | gms/hp-hr | 0.32 | 1.468 | 11 | 0.33 | 2.4 | AP42 3.4-1 | 10/96 |
| Diesel Boiler | lbs/bbl | 0.084 | 2.42 | 0.84 | 0.008 | 0.21 | AP42 1.3-12,14 | 9/98 |
| | | | | | | | | |
| NG Heaters/Boilers/Burners | lbs/mmscf | 7.6 | 0.593 | 100 | 5.5 | 84 | 42 1.4-1, 14-2, & 1 | 7/98 |
| NG Flares | lbs/mmscf | | 0.593 | 71.4 | 60.3 | 388.5 | AP42 11.5-1 | 9/91 |
| Liquid Flaring | lbs/bbl | 0.42 | 6.83 | 2 | 0.01 | 0.21 | AP42 1.3-1 & 1.3-3 | 9/98 |
| Tank Vapors | lbs/bbl | | | | 0.03 | | E&P Forum | 1/93 |
| Fugitives | lbs/hr/comp. | | | | 0.0005 | | API Study | 12/93 |
| Glycol Dehydrator Vent | lbs/mmscf | | | | 6.6 | | La. DEQ | 1991 |
| Gas Venting | lbs/scf | | | | 0.0034 | | | |

| Sulfur Content Source | Value | Units |
|---|---|---|
| Fuel Gas | 3.33 | ppm |
| Diesel Fuel | 0.4 | % weight |
| Produced Gas( Flares) | 3.33 | ppm |
| Produced Oil (Liquid Flaring) | 1 | % weight |

## AIR EMISSION CALCULATIONS - FIRST YEAR

| COMPANY | AREA | BLOCK | LEASE | PLATFORM | WELL | | CONTACT | PHONE | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| Union Oil Company of California | High Island | 20 | OCS-G-22228 | Caissons | 1 & 2 | | Terry Cook | 281/287-5538 | |

| OPERATIONS | EQUIPMENT | RATING | MAX. FUEL | ACT. FUEL | RUN TIME | | MAXIMUM POUNDS PER HOUR | | | | | ESTIMATED TONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Diesel Engines | HP | GAL/HR | GAL/D | | | | | | | | | | | | |
| | Nat. Gas Engines | HP | SCF/HR | SCF/D | | | | | | | | | | | | |
| | Burners | MMBTU/HR | SCF/HR | SCF/D | HR/D | DAYS | PM | SOx | NOx | VOC | CO | PM | SOx | NOx | VOC | CO |
| DRILLING | Transocean - RBF 202 Jack-up | | | | | | | | | | | | | | | |
| | Total Rig > 600hp diesel | 7870 | 380.121 | 9122.90 | 24 | 70 | 5.55 | 25.45 | 190.68 | 5.72 | 41.60 | 4.66 | 21.38 | 160.17 | 4.81 | 34.95 |
| | VESSELS > 600hp diesel(crew) | 2000 | 96.6 | 2318.40 | 6 | 20 | 1.41 | 6.47 | 48.46 | 1.45 | 10.57 | 0.08 | 0.39 | 2.91 | 0.09 | 0.63 |
| | VESSELS > 600hp diesel(supply) | 2500 | 120.75 | 2898.00 | 8 | 30 | 1.76 | 8.08 | 60.57 | 1.82 | 13.22 | 0.21 | 0.97 | 7.27 | 0.22 | 1.59 |
| | VESSELS > 600hp diesel(tugs) | 10800 | 521.64 | 12519.36 | 24 | 6 | 7.61 | 34.92 | 261.67 | 7.85 | 57.09 | 0.55 | 2.51 | 18.84 | 0.57 | 4.11 |
| | 2003 YEAR TOTAL | | | | | | 16.33 | 74.92 | 561.39 | 16.84 | 122.48 | 5.50 | 25.25 | 189.19 | 5.68 | 41.28 |
| EXEMPTION CALCULATION | DISTANCE FROM LAND IN MILES | | | | | | | | | | | 352.98 | 352.98 | 352.98 | 352.98 | 16406.51 |
| | 10.6 | | | | | | | | | | | | | | | |

## AIR EMISSIONS CALCULATIONS - SECOND YEAR

| COMPANY | AREA | BLOCK | LEASE | PLATFORM | WELL | | CONTACT | | | PHONE | REMARKS | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Union Oil Company of California | High Island | 20 | OCS-G-22228 | Caissons | 1 & 2 | | Terry Cook | | | 281/287-5638 | | | | | | |
| OPERATIONS | EQUIPMENT | RATING | MAX. FUEL | ACT. FUEL | RUN TIME | | MAXIMUM POUNDS PER HOUR | | | | | ESTIMATED TONS | | | | |
| | Diesel Engines | HP | GAL/HR | GAL/D | | | | | | | | | | | | |
| | Nat. Gas Engines | HP | SCF/HR | SCF/D | | | | | | | | | | | | |
| | Burners | MMBTU/HR | SCF/HR | SCF/D | HR/D | DAYS | PM | SOx | NOx | VOC | CO | PM | SOx | NOx | VOC | CO |
| DRILLING | Transocean - RBF 202 Jack-up | | | | | | | | | | | | | | | |
| | Total Rig > 600hp diesel | 7870 | 380.121 | 9122.90 | 24 | 70 | 5.55 | 25.45 | 190.68 | 5.72 | 41.60 | 4.66 | 21.38 | 160.17 | 4.81 | 34.95 |
| | VESSELS > 600hp diesel(crew) | 2000 | 96.6 | 2318.40 | 6 | 20 | 1.41 | 6.47 | 48.46 | 1.45 | 10.57 | 0.08 | 0.39 | 2.91 | 0.09 | 0.63 |
| | VESSELS > 600hp diesel(supply) | 2500 | 120.75 | 2898.00 | 8 | 30 | 1.76 | 8.08 | 60.57 | 1.82 | 13.22 | 0.21 | 0.97 | 7.27 | 0.22 | 1.59 |
| | VESSELS > 600hp diesel(tugs) | 10800 | 521.64 | 12519.36 | 24 | 6 | 7.61 | 34.92 | 261.67 | 7.85 | 57.09 | 0.55 | 2.51 | 18.84 | 0.57 | 4.11 |
| PIPELINE INSTALLATION | PIPELINE LAY BARGE diesel | 3600 | 173.88 | 4173.12 | 24 | 30 | 2.54 | 11.64 | 87.22 | 2.62 | 19.03 | 0.91 | 4.19 | 31.40 | 0.94 | 6.85 |
| | SUPPORT VESSEL diesel | 2500 | 120.75 | 2898.00 | 24 | 30 | 1.76 | 8.08 | 60.57 | 1.82 | 13.22 | 0.63 | 2.91 | 21.81 | 0.65 | 4.76 |
| | PIPELINE BURY BARGE diesel | 3600 | 173.88 | 4173.12 | 24 | 30 | 2.54 | 11.64 | 87.22 | 2.62 | 19.03 | 0.91 | 4.19 | 31.40 | 0.94 | 6.85 |
| | SUPPORT VESSEL diesel | 2500 | 120.75 | 2898.00 | 24 | 30 | 1.76 | 8.08 | 60.57 | 1.82 | 13.22 | 0.63 | 2.91 | 21.81 | 0.65 | 4.76 |
| | VESSELS > 600hp diesel(crew) | 2000 | 96.6 | 2318.40 | 6 | 9 | 1.41 | 6.47 | 48.46 | 1.45 | 10.57 | 0.04 | 0.17 | 1.31 | 0.04 | 0.29 |
| | VESSELS > 600hp diesel(supply) | 2500 | 120.75 | 2898.00 | 8 | 9 | 1.76 | 8.08 | 60.57 | 1.82 | 13.22 | 0.06 | 0.29 | 2.18 | 0.07 | 0.48 |
| FACILITY INSTALLATION | DERRICK BARGE diesel | 5600 | 270.48 | 6491.52 | 24 | 14 | 3.95 | 18.11 | 135.68 | 4.07 | 29.60 | 0.66 | 3.04 | 22.79 | 0.68 | 4.97 |
| | MATERIAL TUG diesel | 4500 | 217.35 | 5216.40 | 24 | 14 | 3.17 | 14.55 | 109.03 | 3.27 | 23.79 | 0.53 | 2.44 | 18.32 | 0.55 | 4.00 |
| | VESSELS > 600hp diesel(crew) | 2000 | 96.6 | 2318.40 | 6 | 2 | 1.41 | 6.47 | 48.46 | 1.45 | 10.57 | 0.01 | 0.04 | 0.29 | 0.01 | 0.06 |
| | VESSELS > 600hp diesel(supply) | 2500 | 120.75 | 2898.00 | 8 | 2 | 1.76 | 8.08 | 60.57 | 1.82 | 13.22 | 0.01 | 0.06 | 0.48 | 0.01 | 0.11 |
| PRODUCTION | SUPPORT VESSEL diesel | 2000 | 96.6 | 2318.40 | 6 | 39 | 1.41 | 6.47 | 48.46 | 1.45 | 10.57 | 0.16 | 0.76 | 5.67 | 0.17 | 1.24 |
| | MISC. | BPD | SCF/HR | COUNT | | | | | | | | | | | | |
| | FUGITIVES- | | | 200.0 | | 275 | | | | 0.10 | | | | | 0.33 | |
| 2004 YEAR TOTAL | | | | | | | 39.80 | 182.59 | 1368.22 | 41.15 | 298.52 | 10.08 | 46.26 | 346.65 | 10.73 | 75.63 |
| EXEMPTION CALCULATION | DISTANCE FROM LAND IN MILES | | | | | | | | | | | 352.98 | 352.98 | 352.98 | 352.98 | 16406.51 |
| | 10.6 | | | | | | | | | | | | | | | |

## AIR EMISSIONS CALCULATIONS - THIRD YEAR

| COMPANY | AREA | BLOCK | LEASE | PLATFORM | WELL | | CONTACT | PHONE | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| Union Oil Company of California | High Island | 20 | OCS-G-2222B | Caissons | 1 & 2 | | Terry Cook | 281/287-5538 | #REF! |

| OPERATIONS | EQUIPMENT | RATING | MAX. FUEL | ACT. FUEL | RUN TIME | | MAXIMUM POUNDS PER HOUR | | | | | ESTIMATED TONS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Diesel Engines | HP | GAL/HR | GAL/D | | | | | | | | | | | | |
| | Nat. Gas Engines | HP | SCF/HR | SCF/D | | | | | | | | | | | | |
| | Burners | MMBTU/HR | SCF/HR | SCF/D | HR/D | DAYS | PM | SOx | NOx | VOC | CO | PM | SOx | NOx | VOC | CO |
| PRODUCTION | SUPPORT VESSEL diesel | 2000 | 96.6 | 2318.40 | 6 | 39 | 1.41 | 6.47 | 48.46 | 1.45 | 10.57 | 0.16 | 0.76 | 5.67 | 0.17 | 1.24 |
| | MISC. | BPD | SCF/HR | COUNT | | | | | | | | | | | | |
| | FUGITIVES- | | | 200.0 | | 275 | | | | 0.10 | | | | | 0.33 | |
| 2005 YEAR TOTAL | | | | | | | 1.41 | 6.47 | 48.46 | 1.55 | 10.57 | 0.16 | 0.76 | 5.67 | 0.50 | 1.24 |
| EXEMPTION CALCULATION | DISTANCE FROM LAND IN MILES | | | | | | | | | | | 352.98 | 352.98 | 352.98 | 352.98 | 16406.51 |
| | 10.6 | | | | | | | | | | | | | | | |

## AIR EMISSION CALCULATIONS

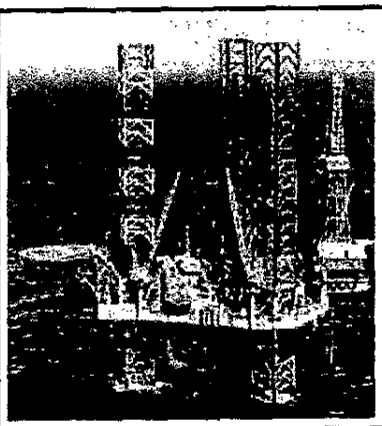
OMB Control No. xxxx-xxxx
Expiration Date: Pending

| COMPANY | AREA | BLOCK | LEASE | PLATFORM | WELL |
|---|---|---|---|---|---|
| Union Oil Company of California | High Island | 20 | OCS-G-22228 | Caissons | 1 & 2 |

| Year | Emitted Substance | | | | |
|---|---|---|---|---|---|
| | PM | SOx | NOx | VOC | CO |
| 2003 | 5.50 | 25.25 | 189.19 | 5.68 | 41.28 |
| 2004 | 10.08 | 46.26 | 346.65 | 10.73 | 75.63 |
| 2005 | 0.16 | 0.76 | 5.67 | 0.50 | 1.24 |
| 2006 | 0.16 | 0.76 | 5.67 | 0.50 | 1.24 |
| 2007 | 0.16 | 0.76 | 5.67 | 0.50 | 1.24 |
| 2008 | 0.16 | 0.76 | 5.67 | 0.50 | 1.24 |
| 2009 | 0.16 | 0.76 | 5.67 | 0.50 | 1.24 |
| Allowable | 352.98 | 352.98 | 352.98 | 352.98 | 16406.51 |

# Fleet Specifications

Report Updated

| RBF 202 | | |
|---|---|---|
| | | |
| **Rig Type** | Other Jackups |  |
| **Design** | Beth JU-200 MC | |
| **Builder** | Bethlehem Steel Corporation | |
| **Year Built** | 1981 | |
| **Classification** | Water Depth - 200' non-hurricane, 175' hurricane | |
| **Flag** | | |
| **Accommodation** | 48 persons | |
| **Helideck** | 60' x 70' designed for Sikorsky S-61 | |
| **Max Drill Depth** | 20,000 ft / 6,096 m | |
| **Max Water Depth** | 200 ft / 61 m | |
| **Operating Conditions** | | |
| **Storm Conditions** | | |

## Technical Dimensions

| | | |
|---|---|---|
| **Length** | 157 ft | 48 m |
| **Breadth** | 132 ft | 40 m |
| **Depth** | 18 ft | 5 m |
| **Ocean Transit Draft** | 0 ft | 0 m |
| **VDL - Operating** | 0 st | 0 mt |

## Capacities

| | | | |
|---|---|---|---|
| **Liquid Mud** | 1,500 bbls | 8,422 cu ft | 238 cu m |
| **Drill Water** | 4,200 bbls | 23,581 cu ft | 667 cu m |
| **Potable Water** | 1,000 bbls | 5,615 cu ft | 159 cu m |
| **Fuel Oil** | 2,000 bbls | 11,229 cu ft | 318 cu m |
| **Bulk Mud** | | 7,280 cu ft | 206 cu m |
| **Bulk Cement** | | 7,280 cu ft | 206 cu m |
| **Sack Material** | 0 sacks | | |

## Drilling Equipment

| | |
|---|---|
| **Derrick** | Continental Emsco 20-R 160' high x 30' base rated at 1,000,000 pounds with 12 lines strung |
| **Drawworks** | Continental Emsco Model C-2 rated at 2,000 hp driven by two EMD DC motors each rated at 1000 hp |
| **Top Drive** | Continental Emsco Model T-4950 |
| **Rotary** | Continental Emsco Model T-4950 |
| **Pipe Handling** | |
| **Mud Pumps** | |
| **Shale Shakers** | |
| **Desander** | |
| **Desilter** | |
| **Mud Cleaner** | |
| **BOP** | 13 ⅝ in., 10,000 psi |
| **Diverter** | |
| **Control System** | |
| **Choke & Kill** | |
| **Cementing** | |

## Machinery

| | |
|---|---|
| **Main Power** | Two EMD SR16-645-E1 DC generating sets |
| **Emergency Power** | |
| **Power Distribution** | |
| **Deck Cranes** | Two Link Belt 218A with 90' boom, rated at 71,900# at 20' or 52,900# at 40' |

## Jackup Specifications

| | |
|---|---|
| **Legs** | |
| **Leg Spacing** | |
| **Spud Cans** | |
| **Jacking System** | |
| **Cantilever/Slot** | |

## Mooring Equipment

| | |
|---|---|
| **Winches** | |
| **Wire/Chain** | |
| **Anchors** | |

**ATTACHMENT E**

**COASTAL ZONE CONSISTENCY CERTIFICATION**

**ENVIRONMENTAL IMPACT ANALYSIS**

# COASTAL ZONE MANAGEMENT CONSISTENCY CERTIFICATE

# DEVELOPMENT OPERATIONS COORDINATION DOCUMENT

# GULF OF MEXICO

FOR

HIGH ISLAND AREA BLOCK 20

OCS-G-22228

SUBMITTED TO:

MR. TERRY COOK

UNION OIL COMPANY OF CALIFORNIA

14141 SOUTHWEST FREEWAY

SUGAR LAND, TEXAS 77478

(281/287-5538)

AUGUST 27, 2003

PREPARED BY:

TIM MORTON & ASSOCIATES, INC.

REGULATORY & ENVIRONMENTAL CONSULTANTS

PROJECT NO. 03-204

COASTAL ZONE MANAGEMENT

CONSISTENCY CERTIFICATION

DEVELOPMENT/PRODUCTION

Type of Plan

HIGH ISLAND AREA BLOCK 20

Area and Block

OCS-G-22228

Lease Number

The proposed activities described in detail in the attached Plan comply with Louisiana's approved Coastal Management Program and all relevant enforceable policies and will be conducted in a manner consistent with such Program.

UNION OIL COMPANY OF CALIFORNIA

Lessee or Operator

Certifying Official

8/27/03

Date

COASTAL ZONE MANAGEMENT CONSISTENCY CERTIFICATE

DEVELOPMENT OPERATIONS COORDINATION DOCUMENT

GULF OF MEXICO

FOR

HIGH ISLAND AREA BLOCK 20

OCS-G-22228

SUBMITTED TO:

MR. TERRY COOK

UNION OIL COMPANY OF CALIFORNIA

14141 SOUTHWEST FREEWAY

SUGAR LAND, TEXAS 77478

(281/287-5538)

AUGUST 27, 2003

PREPARED BY:

TIM MORTON & ASSOCIATES, INC.

REGULATORY & ENVIRONMENTAL CONSULTANTS

PROJECT NO. 03-204

COASTAL ZONE MANAGEMENT

CONSISTENCY CERTIFICATION

DEVELOPMENT/PRODUCTION

Type of Plan

HIGH ISLAND AREA BLOCK 20

Area and Block

OCS-G-22228

Lease Number

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

UNION OIL COMPANY OF CALIFORNIA

Lessee or Operator

Certifying Official

8/27/03

Date

# TEXAS COASTAL MANAGEMENT PROGRAM (TCMP)
# STATEMENT OF FINDINGS REGARDING RELEVANT ENFORCEABLE POLICIES

## POLICY CATEGORY 2 - CONSTRUCTION, OPERATION, AND MAINTENANCE OF OIL AND GAS EXPLORATION AND PRODUCTION FACILITIES

1. **Oil and gas exploration and production on submerged lands shall comply with the policies in this subsection.**

   A. **In or near critical areas, facilities shall be located and operated and geophysical and other operations shall be located and conducted in such a manner as to avoid and otherwise minimize adverse effects, including those from the disposal of solid waste and disturbance resulting from the operation of vessels and wheeled or tracked vehicles, whether on areas under lease, easement, or permit or on or access routes thereto. Where practicable, buffer zones for critical areas shall be established and directional drilling or other methods to avoid disturbance, such as pooling or unitization, shall be employed.**

   Proposed activities will not have any adverse impacts to any critical areas within the Texas Coastal Zone.

   B. **Lessees, easement holders, and permittees shall construct facilities in a manner that avoids impoundment or draining of coastal wetlands, if practicable, and shall mitigate any adverse effects on coastal wetlands impounded or drained in accordance with the sequencing requirements in 31 TAC 501.14(h) (relating to Development in Critical Areas).**

   Proposed activities will not result in impoundment or draining of coastal wetlands.

   C. **Upon completion or cessation of operations, lessees, easement holders, and permittees shall remove facilities and restore any significantly degraded areas to pre-project conditions as closely as practicable, unless facilities can be used for maintenance or enhancement of coastal natural resource areas (CNRA) or unless restoration activities would further degrade CNRAs.**

   Proposed activities will not result in any significant degraded CNRAs.

2. **To the extent applicable to the public beach, these policies are supplemental to any further restrictions or requirements relating to the beach access and use rights of the public.**

   Proposed activities will be conducted in High Island Area Block 20 which is located approximately 11 miles from the coast of Jefferson County, Texas. Due to the available oil spill response capabilities, no adverse impacts to beaches are anticipated as a result of the proposed activities. Activities proposed in the EP will be covered by Stone's Oil Spill Response Plan (OSRP).

## POLICY CATEGORY 3 - DISCHARGES OF WASTEWATER AND DISPOSAL OF WASTE FROM OIL AND GAS EXPLORATION AND PRODUCTION ACTIVITIES

1. **Disposal of oil and gas waste in the coastal zone shall comply with the policies in this category.**

   A. **No new commercial oil and gas waste disposal pits shall be located in any CNRA.**

      Proposed activities will not warrant the construction of a commercial oil and gas waste disposal pit.

   B. **Oil and gas waste disposal pits shall be designed to prevent releases of pollutants that adversely affect coastal waters or critical areas.**

      Proposed activities will not warrant the construction of a commercial oil and gas waste disposal pit.

2. **Discharge of oil and gas exploration and production wastewater in the coastal zone shall comply with the following policies.**

   A. **All discharges shall comply with all provisions of surface water quality standards established by the Texas Natural Resource Conservation Commission (TNRCC) under Policy Category 6.**

      Discharging from drill sites is inevitable during Outer Continental Shelf (OCS) operations, particularly during exploration. Any materials that may contain oil or other hazardous materials, and therefore would have a much greater adverse impact on the environment, will not be discharged intentionally. Any discharging will be done pursuant to all TNRCC and EPA regulations. The discharges to be disposed overboard as a result of the exploration activity will include domestic waste and sewage that is treated on the rig before discharging, drill cuttings, and excess water-based mud.

   B. **To the greatest extent practicable, new wastewater outfalls shall be located where the discharge will not adversely affect critical areas. Existing wastewater outfalls that adversely affect critical areas shall be either discontinued or relocated so as not to adversely affect critical areas within two years of the effective date of these rules.**

      Any discharging will be done pursuant to all TNRCC and EPA regulations. The discharges to be disposed overboard as a result of the exploration activity will include domestic waste and sewage that is treated on the rig before discharging, drill cuttings, and excess water-based mud.

   C. **The Railroad Commission (RRC) shall notify the TNRCC and the Texas Parks and Wildlife Department (TPWD) upon receipt of an application for a new permit to discharge produced waters to waters under tidal influence. In determining compliance with these policies, the RRC shall consider the effects of salinity from the discharge.**

      There will be no produced water discharges as a result of the proposed activity.

## POLICY CATEGORY 4 - CONSTRUCTION AND OPERATION OF SOLID WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES

1. **Construction and operation of solid waste facilities in the coastal zone shall comply with the policies in this category.**

   A. **A landfill at which hazardous waste is received for a fee shall not be located in a critical area, a critical dune area, a critical erosion area, or the 100-year floodplain of a perennial stream delineated on a flood map adopted by the Federal Emergency Management Agency after September 1, 1985, as zone A1-99, VO, or V1-30. this policy shall not apply to any facility for which either an application or a notice of intent to file an application was filed with the TNRCC as of September 1, 1985.**

   Wastes generated as a result of the proposed activities will be disposed of in existing landfills.

   B. **Except as provided in paragraphs A and B of this policy category, a hazardous waste landfill shall not be located in a special hazard area existing before site development except in an area with a flood depth of less than three feet. Any hazardous waste landfill within a special hazard area must be designed, constructed, operated, and maintained to prevent washout of any hazardous waste by a 100-year flood.**

      i. **The areal expansion of a landfill in a special hazard area may be allowed if the applicant demonstrates that the facility design will prevent the physical transport of any hazardous waste by a 100-year flood.**

      ii **A new commercial hazardous waste management facility landfill unit may not be located in a special hazard area unless the applicant demonstrates that the facility design will prevent the physical transport of any hazardous waste by a 100-year flood.**

   Wastes generated as a result of the proposed activities will be disposed of in existing landfills.

   C. **Hazardous waste storage or processing facilities, land treatment facilities, waste piles, and storage surface impoundments shall not be located in special hazard areas unless they are designed, constructed, operated, and maintained to prevent washout of any hazardous waste by a 100-year flood.**

   Wastes generated as a result of the proposed activities will be disposed of in existing landfills.

   D. **Hazardous waste land treatment facilities, waste piles, storage surface impoundments, and landfills shall not be located within 1,000 feet of an area subject to active coastal shoreline erosion, if the area is protected by a barrier island or peninsula, unless the design, construction, and operational features of the facility will prevent adverse effects resulting from storm surge and erosion or scouring by water. On coastal shorelines which are subject to active shoreline erosion and which are unprotected by a barrier island or peninsula, a separation distance from the shoreline to the facility must be at least 5,000 feet, unless the design, construction, and operational features of the facility will prevent adverse effects resulting from storm surge and erosion or scouring by water.**

   Wastes generated as a result of the proposed activities will be disposed of in existing landfills.

E. **Hazardous waste storage or processing facilities, land treatment facilities, waste piles, storage surface impoundments, and landfills shall not be located in coastal wetlands or in any CNRA that is the critical habitat of an endangered species of plant or animal unless the design, construction, and operation features of the facility will prevent adverse effects on the critical habitat of the endangered species.**

Wastes generated as a result of the proposed activities will be disposed of in existing landfills.

F. **Hazardous waste land treatment facilities, waste piles, storage surface impoundments, and landfills shall not be located on coastal barriers.**

Wastes generated as a result of the proposed activities will be disposed of in existing landfills.

G. **Hazardous waste landfills are prohibited if there is a practicable alternative to such a landfill that is reasonably available to manage the types and classes of hazardous waste which might be disposed of at the landfill.**

Wastes generated as a result of the proposed activities will be disposed of in existing landfills.

H. **The TNRCC shall not issue a permit for a new hazardous waste management facility or the areal expansion of an existing hazardous waste facility unless it finds that the proposed site, when evaluated in light of proposed design, construction, and operational features, reasonably minimizes possible contamination of coastal wastes.**

Wastes generated as a result of the proposed activities will be disposed of in existing landfills.

I. **New solid waste facilities and areal expansion of existing solid waste facilities shall be sited, designed, constructed, and operated to prevent releases of pollutant that may adversely affect CNRAs and, at a minimum, shall comply with standards established under the Solid Waste Disposal Act (42 U.S.C.A. 6901 et seq.).**

Wastes generated as a result of the proposed activities will be disposed of in existing landfills.

## POLICY CATEGORY 5 - PREVENTION, RESPONSE, AND REMEDIATION OF OIL SPILLS

1. **The General Land Office (GLO) regulations governing prevention of, response to, and remediation of coastal oil spills shall provide for measures to prevent coastal oil spills and to ensure adequate response and removal actions. The GLO regulations for certification of vessels and facilities that handle oil shall be designed to ensure that vessels and facilities are capable of prompt response and adequate removal of unauthorized discharges of oil. The GLO regulations adopted pursuant to the Oil Spill Prevention and Response Act (OSPRA) (TEX. NAT. RES. CODE, Ch. 40), shall be consistent with the State Coastal Discharge Contingency Plan, adopted pursuant to OSPRA, and the National Contingency Plan, adopted pursuant to the Federal Water Pollution Control Act (33 U.S.C.A. 26).**

   High Island Area Block 20 is located approximately 11 miles from the coast of Jefferson County, Texas. Due to the available oil spill response capabilities, no adverse impacts to coastal Texas are anticipated as a result of the proposed activities. Activities proposed in the EP will be covered by Stone's Oil Spill Response Plan (OSRP).

2. **GLO rules under OSPRA governing the assessment of damages to natural resources injured as the result of an unauthorized discharge of oil into coastal waters shall provide for reasonable and rational procedures for assessing damages and shall take into account the unique circumstances of the spill incident. The costs of assessing the damages shall not be disproportionate to the value of the injured resources. Plans for restoration, rehabilitation, replacement, or acquisition of equivalent resources shall provide for participation by the public and shall be designed to promote the restoration of the injured resources with all deliberate speed. The GLO rules shall be consistent with other applicable state rules and policies and with the TCMP goals and policies.**

   High Island Area Block 20 is located approximately 11 miles from the coast of Jefferson County, Texas. Due to the available oil spill response capabilities, no adverse impacts to coastal Texas are anticipated as a result of the proposed activities. Activities proposed in the EP will be covered by Stone's Oil Spill Response Plan (OSRP).

## POLICY 6 - DISCHARGE OF MUNICIPAL AND INDUSTRIAL WASTEWATER TO COASTAL WATERS

1. **TNRCC rules shall:**

   A. **comply with the requirements of the Clean Water Act, 33 United States Code Annotated, 1251 et seq., and implementing regulations at Code of Federal Regulations, Title 40, which include establishing surface water quality standards in order to protect designated uses of coastal waters, including the protection of uses for water supply, recreational purposes, and propagation and protection of terrestrial and aquatic life, and establishing water-quality-based effluent limits, including toxicity monitoring and specific toxicity or chemical limits as necessary to protect designated uses of coastal waters;**

   B. **provide for the assessment of water quality on a coastal watershed basis once every two years, as required by the Texas Water Code, Section 26.0135 (d);**

   C. **to the greatest extent practicable, provide that all permits for the discharge of wastewater within a given watershed or region of a single watershed contain the same expiration date in order to evaluate the combined effects of permitted discharges on water quality within that watershed or region;**

   D. **identify and rank waters that are not attaining designated uses and establish total maximum daily pollutant loads in accordance with those rankings; and**

   E. **require that increases in pollutant loads to coastal waters shall not:**

      i. **impair designated uses of coastal waters; or**
      ii. **result in degradation of coastal waters that exceed fishable/swimmable quality except in cases where lowering coastal water quality is necessary for important economic or social development.**

2. **Discharge of municipal and industrial wastewater in the coastal zone shall comply with the following policies.**

   A. **Discharge shall comply with water-quality-based effluent limits.**

   B. **Discharges that increase pollutant loadings to coastal waters shall not impair designated uses of coastal waters and shall not significantly degrade coastal water quality unless necessary for important economic or social development.'**

   C. **To the greatest extent practicable, new wastewater outfalls shall be located where they will not adversely affect critical areas.**

3. **The TNRCC shall consult with the Texas Department of Health when reviewing permit applications for wastewater discharges that may significantly adversely affect oyster reefs.**

No discharges of wastewater will occur in coastal waters.

## POLICY CATEGORY 8 - DEVELOPMENT IN CRITICAL AREAS

1. **Dredging and construction of structures in, or the discharge of dredged or fill material into, critical areas shall comply with the policies in this category. In implementing this policy, cumulative and secondary adverse effects of these activities will be considered.**

   A. **These policies shall be applied in a manner consistent with the goal of achieving no net loss of critical area functions and values.**

   B. **Persons proposing development in critical areas shall demonstrate that no practicable alternative with fewer adverse effects is available.**

      i. **The person proposing the activity shall demonstrate that the activity is water-dependent. If the activity is not water-dependent, practicable alternatives are presumed to exist, unless the person clearly demonstrates otherwise.**

      ii. **The analysis of alternatives shall be conducted in light of the activity's overall purpose.**

      iii. **Alternatives may include different operation or maintenance techniques or practices or a different location, design, configuration, or size.**

   C. **In evaluating practicable alternatives, the following sequence shall be applied:**

      i. **Adverse effects on critical areas shall be avoided to the greatest extent practicable.**

      ii. **Unavoidable adverse effects shall be minimized to the greatest extent practicable by limiting the degree or magnitude of the activity and its implementation.**

      iii. **Appropriate and practicable compensatory mitigation shall be required to the greatest extent practicable for all adverse effects that cannot be avoided or minimized.**

   D. **Compensatory mitigation includes restoring adversely affected critical areas or replacing adversely affected critical areas by creating new critical areas. Compensatory mitigation should be undertaken, when practicable, in areas adjacent or contiguous to the affected critical areas (on-site). If on-site compensatory mitigation is not practicable, compensatory mitigation should be undertaken in close physical proximity to the affected critical areas if practicable and in the same watershed if possible (off-site). Compensatory mitigation should also attempt to replace affected critical areas with critical areas with characteristics identical to or closely approximating those of the affected critical areas (in-kind). The preferred order of compensatory mitigation is:**

      i. **on-site, in-kind;**
      ii. **off-site, in-kind;**
      iii. **on-site, out-of-kind; and**
      iv. **off-site, out-of-kind.**

   E. **Mitigation banking is acceptable compensatory mitigation if use of the mitigation bank has been approved by the agency authorizing the development and mitigation credits are available for withdrawal. Preservation through acquisition for public ownership of unique**

critical areas or other ecologically important areas may be acceptable compensatory mitigation in exceptional circumstances. Examples of this include areas of high priority for preservation or restoration, areas whose functions and values are difficult to replicate, or areas not adequately protected by regulatory programs. Acquisition will normally be allowed only in conjunction with preferred forms of compensatory mitigation.

F. In determining compensatory mitigation requirements, the impaired functions and values of the affected critical area shall be replaced on a one-to-one ratio. Replacement of functions and values on a one-to-one ratio may require restoration or replacement of the physical area affected on a ratio higher that one-to-one. While no net loss of critical area functions and values is the goal, it is not required in individual cases where mitigation is not practicable or would result in only inconsequential environmental benefits. It is also important to recognize that there are circumstances where the adverse effects of the activity are so significant that, even if alternatives are not available, the activity may not be permitted regardless of the compensatory mitigation proposed.

G. Development in critical areas shall not be authorized if significant degradation of critical areas will occur. Significant degradation occurs if:

i. the activity will jeopardize the continued existence of species listed as endangered or threatened, or will result in likelihood of the destruction or adverse modification of a habitat determined to be a critical habitat under the Endangered Species Act, 16 United States Code Annotated, 1531-1544;

ii. the activity will cause or contribute, after consideration of dilution and dispersion, to violation of any applicable surface water quality standards established under Policy Category 6;

iii. the activity violates any applicable toxic effluent standard or prohibition established under Policy Category 6;

iv. the activity violates any requirement imposed to protect a marine sanctuary designated under the Marine Protection, Research, and Sanctuaries Act of 1972, 33 United States Code Annotated, Chapter 27; or

v. taking into account the nature and degree of all identifiable adverse effects, including their persistence, permanence, areal extent, and the degree to which these effects will have been mitigated pursuant to subparagraphs (C) and (D) of this paragraph, the activity will, individually or collectively, cause or contribute to significant adverse effects on:

I. human health and welfare, including effects on water supplies, plankton, benthos, fish shellfish, wildlife, and consumption of fish and wildlife;
II. the life stages of aquatic life and other wildlife dependent on aquatic ecosystems, including the transfer, concentration, or spread of pollutants or their byproducts beyond the site, or their introduction into an ecosystem, through biological, physical, or chemical processes;

III. ecosystem diversity, productivity, and stability, including loss of fish and wildlife habitat or loss of the capacity of a coastal wetland to assimilate nutrients, purify water, or reduce wave energy; or

IV. generally accepted recreational, aesthetic or economic values of the critical area which are of exceptional character and importance.

2. Agencies required to comply with this policy will coordinate with one another and with federal agencies when evaluating alternatives, determining appropriate and practicable mitigation, and assessing significant degradation. Those agencies' rule governing authorizations for development in critical areas shall require a demonstration that the requirements of paragraph (1)(A)-(G) of this policy have been satisfied.

3. For any dredging or construction of structures in, or discharge of dredged or fill material into, critical areas that is subject to the requirements of 501.15 of this title (relating to Policy for Major Actions), data and information on the cumulative and secondary adverse affects of the project need not be produced or evaluated to comply with this policy if such data and information is produced and evaluated in compliance with 501.15(b)-(c) of this title (relating to Policy for Major Actions).

No development in critical areas is proposed.

## POLICY CATEGORY 9 - CONSTRUCTION OF WATERFRONT FACILITIES AND OTHER STRUCTURES ON SUBMERGED LANDS

1. Development on submerged lands shall comply with the policies in this category.

   A. Marinas shall be designed and, to the greatest extent practicable, sited so that tides and currents will aid in flushing of the site or renew its water regularly.

   B. Marinas designed for anchorage of private vessels shall provide facilities for the collection of waste, refuse, trash, and debris.

   C. Marinas with the capacity for long-term anchorage of more that ten vessels shall provide pump-out facilities for marine toilets, or other such measures or facilities that provide an equal or better level of water quality protection.

   D. Marinas, docks, piers, wharves and other structures shall be designed and, to the greatest extent practicable, sited to avoid and otherwise minimize adverse effects on critical areas form boat traffic to and from those structures.

   E. Construction of docks, piers, wharves, and other structures shall be preferred instead of authorizing dredging of channels or basins or filling of submerged lands to provide access to coastal waters if such construction is practicable, environmentally preferable, and will not interfere with commercial navigation.

   F. Piers, docks, wharves, bulkheads, jetties, groins, fishing cabins, and artificial reefs (including artificial reefs for compensatory mitigation) shall be limited to the minimum necessary to serve the project purpose and shall be constructed in a manner that:

      i. does not significantly interfere with public navigation;

      ii. does not significantly interfere with the natural coastal processes which supply sediments to shore areas or otherwise exacerbate erosion of shore areas;

      iii. avoids and otherwise minimizes shading of critical areas and other adverse effects.

   G. Facilities shall be located at sites or designed and constructed to the greatest extent practicable to avoid and otherwise minimize the potential for adverse effects from:

      i. construction and maintenance or other development associated with the facility;

      ii. direct release to coastal waters and critical areas of pollutants form oil or hazardous substance spills or stormwater runoff; and

      iii. deposition of airborne pollutants in coastal waters and critical areas.

   H. Where practicable, pipelines, transmission lines, cables, roads, causeways, and bridges shall be located in existing rights-of-way or previously disturbed areas if necessary to avoid or minimize adverse effects and if it does not result in unreasonable risks to human health, safety, and welfare.

I. To the greatest extent practicable, construction of facilities shall occur at sites and times selected to have the least adverse effects on recreational uses of CNRAs and on spawning or nesting seasons or seasonal migrations of terrestrial and aquatic wildlife.

J. Facilities shall be located at sites which avoid the impoundment and draining of coastal wetlands. If impoundment or draining cannot be avoided, adverse effects to the impounded or drained wetlands shall be mitigated in accordance with the sequencing requirements of Policy Category 8. To the greatest extent practicable, facilities shall be located at sites at which expansion will not result in development in critical areas.

K. Where practicable, piers docks, wharves, bulkheads, jetties, groins, fishing cabins, and artificial reefs shall be constructed with materials that will not cause any adverse effects on coastal waters or critical areas.

L. Developed sites shall be returned as closely as practicable to pre-project conditions upon completion or cessation of operations by the removal of facilities and restoration of any significantly degraded areas, unless:

i. the facilities can be used for public purposes or contribute to the maintenance or enhancement of coastal water quality, critical areas, beaches, submerged lands, or shore areas; or

ii. restoration activities would further degrade CNRAs.

M. Water-dependent uses and facilities shall receive preference over those uses and facilities that are not water-dependent.

N. Nonstructural erosion response methods such as beach nourishment, sediment bypassing, nearshore sediment berms, and planting of vegetation shall be preferred instead of structural erosion response methods.

O. Major residential and recreational waterfront facilities shall to the greatest extent practicable accommodate public access to coastal waters and preserve the public's ability to enjoy the natural aesthetic values of coastal submerged lands.

P. Activities on submerged land shall avoid and otherwise minimize any significant interference with the public's use of and access to such lands.

Q. Erosion of Gulf beaches and coastal shore areas caused by construction or modification of jetties, breakwaters, groins, or shore stabilization projects shall be mitigated to the extent the costs of mitigation are reasonably proportionate to the benefits of mitigation. Factors that shall be considered in determining whether the costs of mitigation are reasonably proportionate to the cost of construction or modification and benefits include, but are not limited to, environmental benefits, recreational benefits, flood or storm protection benefits, erosion prevention benefits, and economic development benefits.

2. **To the extent applicable to the public beach, these policies are supplemental to any further restriction or requirements relating to the beach access and use rights of the public.**

   No construction of waterfront facilities and/or other structures on submerged lands is proposed.

## POLICY CATEGORY 10 - DREDGING AND DREDGED MATERIAL DISPOSAL AND PLACEMENT

1. Dredging and the disposal and placement of dredged material shall avoid and otherwise minimize adverse effects to coastal waters, submerged lands, critical areas, coastal shore areas, and Gulf beaches to the greatest extent practicable. The policies in this category are supplemental to any further restrictions or requirements relating to the beach access and use rights of the public. In implementing this policy category, cumulative and secondary adverse effects of dredging and the disposal and placement of dredged material and the unique characteristics of affected sites shall be considered.

   A. Dredging and dredged material disposal and placement shall not cause or contribute, after consideration of dilution and dispersion, to violation of any applicable surface water quality standards established under Policy Category 6.

   B. Except as otherwise provided in subparagraph (D) of this paragraph, adverse effects on critical areas from dredging and dredged material disposal or placement shall be avoided and otherwise minimized, and appropriate and practicable compensatory mitigation shall be required, in accordance with Policy Category 8.

   C. Except as provided in subparagraph (D) of this paragraph, dredging and the disposal and placement of dredged material shall not be authorized if:

      i. there is a practicable alternative that would have fewer adverse effects on coastal waters, submerged lands, critical areas, coastal shore areas, and Gulf beaches, so long as that alternative does not have other significant adverse effects;

      ii. all appropriate and practicable steps have not been taken to minimize adverse effects on coastal waters, submerged lands, critical areas, coastal shore areas, and Gulf beaches; or

      iii. significant degradation of critical areas under Policy Category 8 would result.

   D. A dredging or dredged material disposal or placement project that would be prohibited solely by application of subparagraph (C) of this paragraph may be allowed if it is determined to by of overriding importance to the public and national interests in light of economic impacts on navigation and maintenance of commercially navigable waterways.

2. Adverse effects from dredging and dredged material disposal and placement shall be minimize as required in paragraph (1) of this policy. Adverse effects can be minimized by employing the techniques in this paragraph where appropriate and practicable.

   A. Adverse effects from dredging and dredged material disposal and placement can be minimized by controlling the location and dimensions of the activity. Some of the ways to accomplish this include:

      i. locating and confining discharges to minimize smothering of organisms;

ii. locating and designing projects to avoid adverse disruption of water inundation patterns, water circulation, erosion and accretion processes, and other hydrodynamic processes;

iii. using existing or natural channels and basins instead of dredging new channels or basins, and discharging materials in areas that have been previously disturbed or used for disposal or placement of dredged material;

iv. limiting the dimensions of channels, basins, and disposal and placement sites to the minimum reasonably required to serve the project purpose, including allowing for reasonable overdredging of channels and basins, and taking into account the need for capacity to accommodate future expansion without causing additional adverse effects;

v. discharging materials at sites where the substrate is composed of material similar to that being discharged;

vi. locating and designing discharges to minimize the extent of any plume and otherwise control dispersion of material; and

vii. avoiding the impoundment or drainage of critical areas.

B. Dredging and disposal and placement of material to be dredged shall comply with applicable standards for sediment toxicity. Adverse effects from constituents contained in materials discharged can be minimized by treatment of or limitations on the material itself. Some ways to accomplish this include:

i. disposal or placement of dredged material in a manner that maintains physiochemical conditions at discharge sites and limits or reduces the potency and availability of pollutants;

ii. limiting the solid, liquid, and gaseous components of material discharged;

iii. adding treatment substances to the discharged material; and

iv. adding chemical flocculants to enhance the deposition of suspended particulates in confined disposal areas.

C. Adverse effects from dredging and dredged material disposal or placement can be minimized through control of the materials discharged. Some ways of accomplishing this include:

i. use of containment levees and sediment basins designed, constructed, and maintained to resist breaches, erosion, slumping, or leaching;

ii. use of lined containment areas to reduce leaching where leaching of chemical constituents from to material is expected to be a problem;

iii. capping in-place contaminated material or, selectively discharging the most contaminated material first and the capping it with the remaining material;

iv. properly containing discharged material and maintaining discharge sites to prevent point and nonpoint pollution; and

v. timing the discharge to minimize adverse effects from unusually high water flows, wind, and tidal actions.

D. Adverse effects from dredging and dredged material disposal or placement can be minimized by controlling the manner in which material is dispersed. Some ways of accomplishing this include:

i. where environmentally desirable, distributing the material in a thin layer;

ii. orienting material to minimize undesirable obstruction of the water current or circulation patterns;

iii. using silt screens or other appropriate methods to confine suspended particulates or turbidity to a small area where settling or removal can occur;

iv. using currents and circulation patterns to mix, disperse, dilute, or otherwise control the discharge;

v. minimizing turbidity by using a diffuser system or releasing material near the bottom;

vi. selecting sites or managing discharges to confine and minimize the release of suspended particulates and turbidity and maintain light penetration for organisms; and

vii. setting limits on the amount of material to be discharged per unit of time or volume of receiving waters.

E. Adverse effects from dredging and dredged material disposal or placement operations can be minimized by adapting technology to the needs of each site. Some ways of accomplishing this include:

i. using appropriate equipment, machinery, and operating techniques for access to sites and transport of material, including those designed to reduce damage to critical areas;

ii. having personnel on site adequately trained in avoidance and minimization techniques and requirements; and

iii. designing temporary and permanent access roads and channel spanning structures using culverts, open channels, and diversions that will pass both low and high water flows, accommodate fluctuating water levels, and maintain circulation and faunal movement.

F. Adverse effects on plant and animal populations from dredging and dredged material disposal or placement can be minimized by:

i. avoiding changes in water current and circulation patterns that would interfere with the movement of animals;

ii. selecting sites or managing discharges to prevent or avoid creating habitat conducive to the development of undesirable predators or species that have a competitive edge ecologically over indigenous plants or animals;

iii. avoiding sites having unique habitat or other value, including habitat of endangered species;

iv. using planning and construction practices to institute habitat development and restoration to produce an new modified environmental state of higher ecological value by displacement of some or all of the existing environmental characteristics;

v. using techniques that have bee demonstrated to by effective in circumstances similar to those under consideration whenever possible and , when proposed development stage, initiating their use on a small scale to allow corrective action if unanticipated adverse effects occur;

vi. timing dredging and dredged material disposal or placement activities to avoid spawning or migration seasons and other biologically critical time periods; and

vii. avoiding the destruction of remnant natural sites within areas already affected by development.

G. Adverse effects on human use potential from dredging and dredged material disposal or placement can be minimized by:

i. selecting sites and following procedures to prevent or minimize any potential damage to the aesthetically pleasing features of the site, particularly with respect to water quality;

ii. selecting sites which are not valuable as natural aquatic areas;

iii. timing dredging and material disposal or placement activities to avoid the seasons or periods when human recreational activity associated with the site is most important; and

iv. selecting sites that will not increase incompatible human activity or require frequent dredge or fill maintenance activity in remote fish and wildlife areas.

H. Adverse effects from new channels and basins can be minimized by locating them at sites:

i. that ensure adequate flushing and avoid stagnant pockets; or

ii. that will create the fewest practicable adverse effects on CNRAs from additional infrastructure such as roads, bridges, causeways, piers, docks, wharves, transmission line crossing, and ancillary channels reasonably likely to be constructed as a result of the project; or

iii. with the least practicable risk that increased vessel traffic could result in navigation hazards, spills, or other forms of contamination which could adversely affect CNRAs.

iv. providing that, for any dredging of new channels or basins subject to the requirements of Policy Category 20, data and information on minimization of secondary adverse effects need not be produced or evaluated to comply with this subparagraph if such data and information is produced and evaluated in compliance with Policy Category 20.

3. Disposal or placement of dredged material in existing contained dredge disposal sites identified and actively used as described in an environmental assessment or environmental impact statement issued prior to the effective date of this chapter shall be presumed to comply with the requirements of paragraph (1) of this policy category unless modified in design, size, use, or function.

4. Dredged material from dredging projects in commercially navigable waterways is a potentially reusable resource and must be used beneficially in accordance with this policy.

   A. If the costs of the beneficial use of dredged material are reasonably comparable to the costs of disposal in a non-beneficial manner, the material shall be used beneficially.

   B. If the costs of the beneficial use of dredged material are significantly greater than the costs of disposal in a non-beneficial manner, the material shall be used beneficially unless it is demonstrated that the costs of using the material beneficially are not reasonably proportionate to the costs of the project and benefits that will result. Factors that shall be considered in determining whether the costs of the beneficial use are not reasonably proportionate to the benefits include, but are not limited to:

      i. environmental benefits, recreational benefits, flood or storm protection benefits, erosion prevention benefits, and economic development benefits;

      ii. the proximity of the beneficial use site to the dredge site; and

      iii. the quantity and quality of the dredged material and its suitability for beneficial use.

   C. Examples of the beneficial use of dredged material include, but are not limited to:

      i. projects designed to reduce or minimize erosion or provide shoreline protection;

      ii. projects designed to create or enhance public beaches or recreational areas;

      iii. projects designed to benefit the sediment budget or littoral system;

      iv. projects designed to improve or maintain terrestrial or aquatic wildlife habitat;

      v. projects designed to create new terrestrial or aquatic wildlife habitat, including the construction of marshlands, coastal wetlands, or other critical areas;

      vi. projects designed and demonstrated to benefit benthic communities or aquatic vegetation;

vii. projects designed to create wildlife management areas, parks, airports, or other public facilities;

viii. projects designed to cap landfills or other waste disposal areas;

ix. projects designed to fill private property or upgrade agricultural land, if cost-effective public beneficial uses are not available; and

x. projects designed to remediate past adverse impacts on the coastal zone.

5. If dredged material cannot be used beneficially as provided in paragraph (4)(B) of this policy, to avoid and otherwise minimize adverse effects as required in paragraph (1) of this policy, preference will be given to the greatest extent practicable to disposal in:

   A. contained upland sites;

   B. other contained sites; and

   C. open water areas of relatively low productivity or low biological value.

6. For new sites, dredged materials shall not be disposed of or placed directly on the boundaries of submerged lands or at such location so as to slump or migrate across the boundaries of submerged lands in the absence of an agreement between the affected public owner and the adjoining private owner or owners that defines the location of the boundary or boundaries affected by the deposition of the dredged material.

7. Emergency dredging shall be allowed without a prior consistency determination as required in the applicable consistency rule when:

   A. there is an unacceptable hazard to life or navigation;

   B. there is an immediate threat of significant loss of property; or

   C. an immediate and unforeseen significant economic hardship is likely if corrective action is not taken within a time period less than the normal time needed under standard procedures. The Council secretary shall be notified at least 24 hours prior to commencement of any emergency dredging operation by the agency or entity responding to the emergency. The notice shall include a statement demonstrating the need for emergency action. Prior to initiation of the dredging operations the project sponsor or permit-issuing agency shall, if possible, make all reasonable efforts to meet with Council's designated representatives to ensure consideration of and consistency with applicable policies in this category. Compliance with all applicable policies in this category shall be required at the earliest possible date. The permit-issuing agency and the applicant shall submit a consistency determination within 60 days after the emergency operation is complete.

8. Mining of sand, shell, marl, gravel, and mudshell on submerged lands shall be prohibited unless there is an affirmative showing of no significant impact on erosion within the coastal

**zone and no significant adverse effect on coastal water quality or terrestrial and aquatic wildlife habitat within any CNRA.**

No dredging and/or dredged material disposal or placement is proposed.

## POLICY CATEGORY 11 - CONSTRUCTION IN THE BEACH/DUNE SYSTEM

1. **Construction in critical dune areas and adjacent to Gulf beaches shall comply with the policies in this category.**

   A. **Construction within a critical dune area that results in the material weakening of dunes and material damage to dune vegetation shall be prohibited.**

   B. **Construction within critical dune areas that does not materially weaken dunes or materially damage dune vegetation shall be sited, designed, constructed, maintained, and operated so that adverse "effects" (as defined in 31 TAC 15.2, relating to Coastal Area Planning) on the sediment budget and critical dune areas are avoided to the greatest extent practicable. Practicability shall be determined by considering the effectiveness, scientific feasibility, and commercial availability of the technology or technique. Cost of the technology or technique shall also be considered. Adverse effects (as defined in 31 TAC Chapter 15, relating to Coastal Area Planning) that cannot be avoided shall be:**

      i. **minimized by limiting the degree or magnitude of the activity and its implementation;**

      ii. **rectified by repairing, rehabilitating, or restoring the adversely affected dunes and dune vegetation; and**

      iii. **compensated for on-site or off-site by replacing the resources lost or damaged seaward of the dune protection line.**

   C. **Rectification and compensation for adverse effects that cannot be avoided or minimized shall provide at least a one-to-one replacement of the dune volume and vegetative cover, and preference shall be given to stabilization of blowouts and breaches and on-site compensation.**

   D. **The ability of the public, individually and collectively, to exercise its rights of use of and access to and from public beaches shall be preserved and enhanced.**

   E. **Nonstructural erosion response methods such as beach nourishment, sediment bypassing, nearshore sediment berms, and planting of vegetation shall be preferred instead of structural erosion response methods. Subdivisions shall not authorize the construction of a new erosion response structure within the beach/dune system, except for a retaining wall located more than 200 feet landward of the line of vegetation. Subdivisions shall not authorize the enlargement, improvement, repair or maintenance of existing erosion response structures on the public beach. Subdivisions shall not authorize the repair or maintenance of existing erosion response structures within 200 feet landward of the line of vegetation except as provided in 31 TAC 15.6(d) of this title (relating to Concurrent Dune Protection and Beachfront Construction Standards).**

No construction in the beach/dune system is proposed.

## POLICY CATEGORY 15 - ALTERATION OF COASTAL HISTORIC AREAS

1. **Development affecting a coastal historic area shall avoid and otherwise minimize alteration or disturbance of the site unless the site's excavation will promote historical, archaeological, educational, or scientific understanding.**

   No alteration of coastal historic areas is proposed.

## POLICY CATEGORY 16 - TRANSPORTATION

1. **Transportation construction projects and maintenance programs within the coastal zone shall comply with the policies in this category.**

   A. **Pollution prevention procedures shall be incorporated into the construction and maintenance or transportation projects to minimize pollutant loading to coastal waters from erosion and sedimentation, use of pesticides and herbicides for maintenance of rights-of-way, and other pollutants from stormwater runoff.**

   B. **Transportation projects shall be located at sites that to the greatest extent practicable avoid and otherwise minimize the potential for adverse effects from construction and maintenance of additional roads, bridges, causeways, and other development associated with the project; and direct release to CNRAs of pollutants from oil or hazardous substance spills, contaminated sediments or stormwater runoff.**

   C. **Where practicable, transportation projects shall be located in existing rights-of-way or previously disturbed areas if necessary to avoid or minimize adverse effects.**

   D. **Where practicable, transportation projects shall be located at sites at which future expansion will not require development in coastal wetlands except where such construction is determined to be essential for evacuation in the case of a natural disaster.**

   E. **Construction and maintenance of transportation projects shall avoid the impoundment and draining of coastal wetlands. If impoundment or draining cannot be avoided, adverse effects to the impounded or drained wetlands shall be mitigated in accordance with the sequencing requirements of Policy Category 8.**

   F. **Construction of transportation projects shall occur at sites and times selected to have the least adverse effects practicable on recreational uses of CNRAs and on spawning or nesting seasons or seasonal migrations of terrestrial or aquatic species.**

   G. **Beach-quality sand from maintenance of roadways adjacent to Gulf beaches shall be beneficially used by placement on Gulf beaches where practicable. Where placement on Gulf beaches is not practicable, the material shall be placed on critical dune areas.**

No transportation construction projects and/or maintenance programs within the coastal zone are proposed.

## POLICY CATEGORY 17 - EMISSIONS OF AIR POLLUTANTS

**TNRCC rules under Texas Health and Safety Code, Chapter 382, governing emissions of air pollutants, shall comply with regulations at Code of Federal Regulations, Title 40, adopted pursuant to the Clean Air Act, 42 United States Code Annotated, 7401 et seq., to protect and enhance air quality in the coastal area so as to protect CNRAs and promote the public health, safety, and welfare.**

Estimated air emissions associated with the proposed activities have been calculated and were determined to be below the MMS exemption levels for particulates, sulfur oxides, nitrogen oxides, volatile organic compounds and carbon monoxide. There would be a limited degree of air quality degradation in the immediate vicinity of the proposed activities; however, the emissions associated with the proposed activities are not projected to have significant effects on onshore air quality.

## POLICY CATEGORY 18 - APPROPRIATIONS OF WATER

1. **Impoundments and diversion of state water within 200 stream miles of the coast, to commence from the mouth of the river thence inland, shall comply with the policies in this category.**

   A. **The TNRCC shall administer the law so as to promote the judicious use and maximum conservation and protection of the quality of the environment and the natural resources of the state. It is the public policy of the state to provide for the conservation and development of the state's natural resources, including:**

      i. **the control, storage, preservation, and distribution of the state's storm and floodwaters and the waters of its rivers and streams for irrigation, power, and other useful purposes;**

      ii. **the reclamation and irrigation of the state's arid, semiarid, and other land needing irrigation;**

      iii. **the reclamation and drainage of the state's overflowed land and other land needing drainage;**

      iv. **the conservation and development of its forest, water, and hydroelectric power;**

      v. **the navigation of the state's inland and coastal waters; and**

      vi. **the maintenance of a proper ecological environment of the bays and estuaries of Texas and the health of related living marine resources.**

   B. **In this policy category, "beneficial inflows" means a salinity, nutrient, and sediment loading regime adequate to maintain an ecologically sound environment in the receiving bay and estuary system that is necessary for the maintenance of productivity of economically important and ecologically characteristic sport or commercial fish and shellfish species and estuarine life upon which such fish and shellfish are dependent.**

   C. **In its consideration of an application for a permit to store, take, or divert water, the TNRCC shall assess the effects, if any, of the issuance of the permit on the bays and estuaries of Texas. For permits issued within and area that is within 200 river miles of the coast, to commence from the mouth of the river thence inland, the TNRCC shall include in the permit, to the greatest extent practicable when considering all public interests, those conditions considered to maintain beneficial inflows to any affected bay and estuary system.**

   D. **For the purposes of making a determination under paragraph (C), the TNRCC shall consider among other factors:**

      i. **the need for periodic freshwater inflows to supply nutrients and modify salinity to preserve the sound environment of the bay or estuary, using any available information, including studies and plans specified in and other studies considered by the TNRCC to be reliable; together with existing circumstances, natural or otherwise, that might prevent the conditions imposed from producing benefits;**

ii. the ecology and productivity of the affected bay and estuary system;

iii. the expected effects on the public welfare of not including in the permit some or all of the conditions considered necessary to maintain the beneficial inflows to the affected bay or estuary;

iv. the quantity of water requested and the proposed use of water by the applicant, as well as the needs of those who would be served by the applicant;

v. the expected effects on the public welfare of the failure to issue all or part of the permit being considered; and

vi. for the purposes of this policy, the declarations as to preferences for competing uses of water as found in Texas Water Code, 11.024 and 11.033, as well as the public policy statement in paragraph (A).

E. In its consideration of an application to store, take, or divert water, the TNRCC shall consider the effect, if any, of the issuance of the permit on existing instream uses and water quality of the stream or river to which the application applies. The TNRCC shall also consider the effect, if any, of the issuance of the permit on fish and wildlife habitats.

F. On receipt of an application for a permit to store, take, or divert water, the TNRCC shall send a copy of the permit application and any subsequent amendments to the TPWD. In information, evidence, and testimony presented, shall consider all information, evidence or testimony presented by the TPWD and the Texas Water Development Board (TWDB).

G. Permit conditions relating to beneficial inflows to affected bays and estuaries and instream uses may be suspended by the TNRCC if the TNRCC finds that an emergency exists and cannot practically be resolved in other ways. Before the TNRCC suspends a permit, it must give written notice to the TPWD of the proposed suspension. The TNRCC shall give the TPWD an opportunity to submit comments on the proposed suspension within 72 hours from such time and the TNRCC shall consider those comments before issuing its order imposing and suspension.

H. In its consideration of an application for a permit under this policy, the TNRCC shall assess the effects, if any, of the issuance of the permit on water quality in coastal waters. In its consideration of an application for a permit to store, take, or divert water in excess of 5,000 acre-feet per year, the commission shall assess the effects, if any, of the issuance reasonable actions to mitigate adverse effects on such habitat. In determining whether to require an applicant to mitigate adverse effects on a habitat, the TNRCC may consider any net benefit to habitat produced by the project. The TNRCC shall offset against any mitigation required by the United States Fish and Wildlife Service pursuant to Code of Federal Regulations, Title 33, 320-330, any mitigation authorized by this policy.

I. Unappropriated water and other water of the state stored in any facility acquired by and under the control of the TWDB may be released without charge to relieve any emergency condition arising from drought, severe water shortage, or other calamity, if the TNRCC

**first determines the existence of the emergency and requests the TWDB to release the water.**

J. **Five percent of the annual firm yield of water in any reservoir and associated works constructed with state financial participation within 200 river miles of the coast, to commence from the mouth of the river thence inland, is appropriated to the TPWD for use to make releases to bays and estuaries and for instream uses, and the TNRCC shall issue permits for this water to the TPWD under procedures adopted by the TNRCC. This applies only to reservoirs and associated works on which construction begins on or after September 1, 1985. This policy does not limit or repeal any other authority of or law relating to the TPWD or the TNRCC.**

K. **The TWDB, in coordination with the TNRCC and TPWD, shall identify ways to assist in providing flows to meet instream needs, including protection of water quality, protection of terrestrial or aquatic wildlife habitat, and bay and estuary inflow needs, in the implementation of the Texas water Bank, Texas Water Code, Chapter 15, Subchapter K. This may include, but not limited to, the purchase by the TPWD and/or the TWDB of water tights deposited in the Texas Waster Bank in order to provide for existing instream uses and beneficial inflows to bays and estuaries if funds are available and such purchase is not prohibited by law. The TNRCC shall facilitate the approval of any necessary permit amendments to achieve this purpose.**

L. **An applicant for a new or amended water right permit shall submit a water conservation plan in accordance with 30 TAC 295.9 (relating to Conservation Plan). The TNRCC shall consider the information contained in the conservation plan in determining whether any feasible alternative to the proposed appropriation exists, whether the proposed amount to by appropriated as measured at the point of diversion is reasonable and necessary for the proposed use, the term and other conditions of the water tight and to ensure that reasonable diligence will be used to avoid waste and achieve water conservation. Based upon its review, the TNRCC may deny or grant, in whole or in part, the requested appropriation.**

No impoundments and/or diversion of state water within 200 stream miles of the coast are proposed.

## POLICY CATEGORY 20 - POLICY FOR MAJOR ACTIONS

1. **For purposes of these policy categories, "major action" means an individual agency or subdivision action listed in Section 505.11 of this title (relating to Actions and Rules Subject to the Coastal Management Program), or Section 505.60 of this title (relating to Federal Actions Subject to the Coastal Management Program), or Section 505.60 of this title (relating to Local Government Actions Subject to the Coastal Management Program), relating to an activity for which a federal environmental impact statement under the National Environmental Policy Act, 42 United States Code Annotated, Section 4321 et seq. is required.**

2. **Prior to taking a major action, the agencies and subdivisions having jurisdiction over the activity shall meet and coordinate their major actions relating to the activity. The agencies and subdivisions shall, to the greatest extent practicable, consider the cumulative and secondary adverse effects, as described in the federal environmental impact assessment process, of each major action relating to the activity.**

3. **No agency or subdivision shall take a major action that is inconsistent with the goals and policies of this chapter. In addition, an agency or subdivision shall avoid and otherwise minimize the cumulative adverse effects to CNRAs of each of its major actions relating to the activity.**

Not applicable.

## POLICY CATEGORY 21 - ADMINISTRATIVE POLICIES

1. **Agency and subdivision rules and ordinances subject to the TCMP goals and policies, as provided in 31 TAC 501.10 (relating to Compliance with Goals and Policies), shall:**

   A. **Require applicants to provide information necessary for an agency or subdivision to make an informed decision on a proposed action listed in 31 TAC 505.11 (relating to Action and Rules Subject to the Coastal management Program) or 31 TAC 505.60 (relating to Local Government Actions Subject to the Coastal Management Program);**

   B. **Identify the monitoring established to ensure activities authorized by actions listed in 31 TAC 505.11 (relating to Actions and Rules Subject to the Coastal Management Program) or 31 TAC 505.60 (relating to Local Government Actions Subject to the Coastal Management Program) comply with all applicable requirements;**

   C. **Identify circumstances in which agencies and subdivisions have the authority to issue variances from standards or requirements for the protection of CNRAs, including the grounds for granting variances; and**

   D. **Take into account the national interest as defined in the Texas Submission Document, Chapter Nine.**

2. **A threshold for referral adopted by an agency under the provisions of 31 TAC Chapter 505 (relating to Council procedures for consistency reviews) of this title shall be set at a level that is reasonably calculated to ensure that actions that may have unique and significant adverse effects on CNRAs are above the threshold for referral.**

Not applicable.

# Environmental Impact Analysis

*High Island Area*
*Block 20*
*OCS-G-22228*

August 27, 2003

Prepared for Union Oil Company of California
by Tim Morton & Associates, Inc.

Filename: C:\2003\Unocal\High Island\204-Blk20\EIAHI20.wpd

# Table of Contents

# I. Description of the Proposed Activity

This environmental impact analysis addresses the activity proposed by Union Oil Company of California (Unocal) for High Island Area Block 20 (OCS-G-22228). The approximate location of the activity is presented on a general vicinity map of the Outer Continental Shelf (OCS) lease areas off the coast of Texas (Figure 1).

Unocal proposes to utilize a jackup rig to drill two wells in High Island Area Block 20. If the wells are successful, Unocal proposes to install a single well caisson at the surface location of each well. Unocal would also install a bulk flowline from each caisson to their existing "A" platform located in High Island Area Block 37. Hydrocarbons would be transported from the "A" platform to shore via an existing pipeline gathering system. More specific information can be found in the attached Development Operations Coordination Document (DOCD).

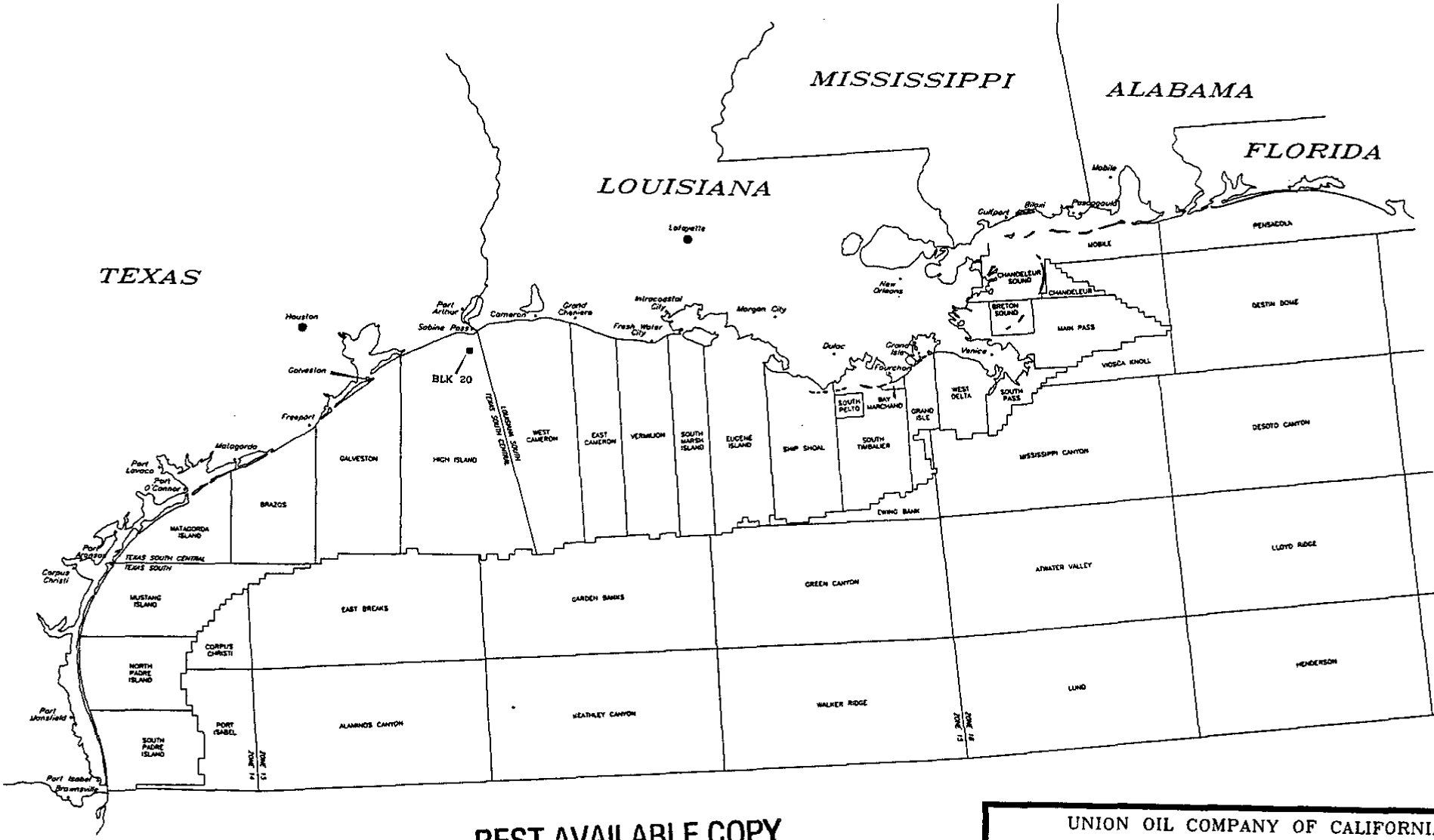
The proposed activities will be carried out by Unocal with a guarantee of the following:

- The best available and safest technologies will be utilized throughout the projects. This includes meeting all applicable requirements for equipment types, general project layout, safety systems, equipment and monitoring systems.

- All operations will be covered by a Minerals Management Service (MMS) approved Oil Spill Response Plan.

- All applicable Federal, State, and local requirements regarding air emissions, water quality, and discharge for the proposed activities, as well as any other permit conditions, will be complied with.

# VICINITY MAP






GULF OF MEXICO

UNION OIL COMPANY OF CALIFORNIA
SUGAR LAND, TEXAS

VICINITY MAP
BLOCK 20
HIGH ISLAND AREA

80 0 80 160

SCALE : 1" = 80 MILES

TIM MORTON & ASSOCIATES, INC.
REGULATORY & ENVIRONMENTAL CONSULTANTS
LAFAYETTE, LOUISIANA

JOB NO. 03-204 | DATE: 8/27/03

MAP NO. 03-204

# II. Impact-Producing Factors

| Environmental Resources | Impact Producing Factors (IPF's) Categories and Examples<br>Refer to a recent GOM OCS Lease Sale EIS for a more complete list of IPF's | | | | | |
|---|---|---|---|---|---|---|
| | Emissions (air, noise, light, etc.) | Effluents (muds, cuttings, other discharges to the water column or seafloor) | Physical disturbances to the seafloor (rig or anchor emplacements, etc.) | Wastes sent to shore for treatment or disposal | Accidents (e.g., oil spills, chemical spills, H2S releases) | Other IPF's you identify |
| **Site-specific at Offshore Location** | | | | | | |
| Designated topographic features | | | | | | |
| Pinnacle Trend area live bottoms | | | | | | |
| Eastern Gulf live bottoms | | | | | | |
| Chemosynthetic communities | | | | | | |
| Water quality | | X | | | X | |
| Fisheries | | | | | X | |
| Marine mammals | X | | | | X | |
| Sea turtles | X | | | | X | |
| Air quality | X | | | | | |
| Shipwreck sites (known or potential) | | | X | | | |
| Prehistoric archaeological sites | | | X | | | |
| | | | | | | |
| **Vicinity of Offshore Location** | | | | | | |
| Essential fish habitat | | | | | X | |
| Marine and pelagic birds | | | | | X | |
| Public health and safety | | | | | | |
| | | | | | | |
| **Coastal and Onshore** | | | | | | |
| Beaches | | | | | X | |
| Wetlands | | | | | X | |
| Shore birds and coastal nesting birds | X | | | | X | |
| Coastal wildlife refuges | | | | | X | |
| Wilderness areas | | | | | X | |
| | | | | | | |
| **Other Resources You Identify** | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

# III. Analysis of Impact-Producing Factors

## A. Site-specific at Offshore Location

### 1. Designated Topographic Features

After a review of impact-producing factors (including effluents, physical disturbances to the seafloor, and accidents) resulting from activities proposed in the DOCD, there will be no adverse impacts to topographic features. High Island Area Block 20 is located approximately 82 miles north of Claypile Bank, the nearest known topographic feature.

The following discussion of topographic features is summarized from the Final Environmental Impact Statement (USDOI, OCS EIS/EA MMS 2002-052). The Topographic Lease Stipulation has been used on leases since 1973, and this experience shows conclusively that the stipulation effectively prevents damage to the biota of these banks from routine oil and gas activities. In the unlikely event of an accidental surface or subsurface oil spill, concentrated oil is not expected to impact sessile biota on topographic features. Crests of designated topographic features in the northern Gulf of Mexico are found below 10 meters; therefore, concentrated oil from a surface spill is not likely to reach sessile biota. Subsurface spills could result in the formation and settling of oil-saturated material, and oil-sediment particles could come into contact with living coral tissue; however, a subsurface spill should rise to the surface, and any oil remaining at depth would probably be swept clear of the banks by currents moving around the banks (Rezak et al., 1983). Activities proposed in the DOCD will be covered by Unocal's Oil Spill Response Plan (OSRP).

### 2. Pinnacle Trend Area Live Bottoms

After a review of impact-producing factors (including effluents, physical disturbances to the seafloor, and accidents) resulting from activities proposed in the DOCD, there will be no adverse impacts to pinnacle trend live bottoms. High Island Area Block 20 is located approximately 328 miles from Main Pass Area Block 290, the nearest block protected by the pinnacle trend live bottom stipulation.

The following discussion of pinnacle trend area live bottoms is summarized from the Final Environmental Impact Statement (USDOI, OCS EIS/EA MMS 2002-052). By identifying the individual pinnacles present at the activity site, the lessee would be directed to avoid placement of the drilling rig and anchors on the sensitive areas. Thus, mechanical damage to the pinnacles is eliminated when measures required by the stipulation are imposed. The stipulation does not address the discharge of effluents near the pinnacles because the pinnacle trend is subjected to heavy natural sedimentation and is at considerable depths. The rapid dilution of drill cuttings and muds will minimize the potential of significant concentration of effluents on the pinnacles.

In the unlikely event of an accidental surface or subsurface oil spill, concentrated oil is not expected to impact biota of the pinnacle trend. Any surface oil spill resulting from a proposed action would likely have no impact on the biota of the pinnacle trend because the crests of these features are much deeper than 20 meters. All evidence to date indicates that accidental oil discharges that occur at the seafloor from a pipeline or blowout would rise in the water column, surfacing almost directly over the source

location, and thus not impact pinnacles. Activities proposed in the DOCD will be covered by Unocal's Oil Spill Response Plan (OSRP).

### 3. Eastern Gulf Live Bottoms

After a review of impact-producing factors (including effluents, physical disturbances to the seafloor, and accidents) resulting from activities proposed in the DOCD, there will be no adverse impacts to eastern gulf live bottoms. High Island Area Block 20 is located approximately 370 miles west of the nearest block protected by the eastern gulf live bottom stipulation.

The following discussion of eastern gulf live bottoms is summarized from the Final Environmental Impact Statement (USDOI, OCS EIS/EA MMS 2000-077). Through detection and avoidance, the eastern gulf live bottom lease stipulation minimizes the likelihood of mechanical damage from OCS activities associated with rig and anchor emplacement to the sessile and pelagic communities associated with the crest and flanks of such features. Since this area is subject to heavy natural sedimentation, this stipulation does not include and specific measures to protect the pinnacles from the discharge of effluents.

In the unlikely event of an accidental surface or subsurface oil spill, concentrated oil is not expected to impact eastern gulf live bottoms because of the depth of the features and dilution of spills by currents and/or quickly rising oil. Activities proposed in the DOCD will be covered by Unocal's Oil Spill Response Plan (OSRP).

### 4. Chemosynthetic Communities

After a review of impact-producing factors (including effluents, physical disturbances to the seafloor, and accidents) resulting from activities proposed in the DOCD, there will be no adverse impacts to chemosynthetic communities. Bottom-disturbing activities proposed in this DOCD will not impact any deepwater chemosynthetic communities as the water depth at the proposed surface locations is 42 feet.

The following discussion of chemosynthetic communities is summarized from the Final Environmental Impact Statement (USDOI, OCS EIS/EA MMS 2002-052). Impacts to chemosynthetic communities from any oil released would be a remote possibility. Release of hydrocarbons associated with a blowout should not present a possibility for impact to chemosynthetic communities located a minimum of 457 meters (1,500 feet) from well sites. High Island Area Block 20 is located approximately 132 miles west of East Breaks Area Block 375, the nearest block with a known chemosynthetic community. Activities proposed in the DOCD will be covered by Unocal's Oil Spill Response Plan (OSRP).

### 5. Water Quality

After a review of impact-producing factors (including effluents and accidents) resulting from activities proposed in the DOCD, there are potential impacts to water quality. The discharges generated as a result of drilling and production activities associated with this DOCD will be discharged upon successful bioassay test as per NPDES discharge guidelines. Solids wastes; typically paper, plastic, cloth, and metal, will be collected and transported to shore for disposal at an approved disposal facility. Solid wastes generated from the transportation vessels, normally just garbage, will be collected and returned to

shore for disposal with the drilling rig refuse. Scrap metal and other metal wastes will be recycled or sold as scrap and will not be shipped to a disposal facility with the other refuse. Sanitary wastes will be treated in approved marine sanitation devices as required by the Clean Water Act. All biodegradable wastes, such as kitchen food scraps, will be comminuted or ground and discharged in accordance with Annex V of MARPOL 73/78. Hazardous wastes from the drilling rig, such as paint, or paint thinner, will be collected in sealed metal containers and transported to an approved disposal site in accordance with RCRA guidelines. All applicable Federal, State, and local requirements regarding water quality and discharge for the proposed activities, as well as any other permit conditions, will be complied with.

The following discussion of potential impacts to water quality is summarized from the Final Environmental Impact Statement (USDOI, OCS EIS/EA MMS 2002-052). In the unlikely event of an accidental surface or subsurface oil spill, a variety of physical, chemical, and biological processes act to disperse the oil slick, such as spreading, evaporation of the more volatile constituents, dissolution into the water column, emulsification of small droplets, agglomeration sinking, microbial modification, photochemical modification, and biological ingestion and excretion. The water quality would be temporarily affected by the dissolved components and small oil droplets that do not rise to the surface or are mixed down by surface turbulence. Dispersion by currents and microbial degradation would remove the oil from the water column or dilute the constituents to background levels. Activities proposed in the DOCD will be covered by Unocal's Oil Spill Response Plan (OSRP).

### 6. Fisheries

After a review of impact-producing factors (including accidental oil spills) resulting from activities proposed in the DOCD, there are potential impacts to fisheries. In the unlikely event of an accidental surface or subsurface oil spill, there is the potential for some detrimental effects to fisheries.

The following discussion of potential impacts to fisheries is summarized from the Final Environmental Impact Statement (USDOI, OCS EIS/EA MMS 2002-052). The Gulf sturgeon (Ancipenser oxyrincus desotoi) is the only listed threatened fish species in the Gulf of Mexico. The Gulf sturgeon could be impacted by oil spills. Contact with spilled oil could cause irritation of gill epithelium and disturbance of liver function in Gulf sturgeon. The likelihood of spill occurrence and contact to the Gulf sturgeon is very low.

Should a spill occur in the area of mobile adult finfish or shellfish, the effects would likely be sublethal and the extent of the damage would be reduced to the capability of adult fish and shellfish to avoid a spill, to metabolize hydrocarbons, and to excrete both metabolites and parent compounds. Activities proposed in the DOCD will be covered by Unocal's Oil Spill Response Plan (OSRP).

### 7. Marine Mammals

After a review of impact-producing factors (including vessel traffic, noise, accidental oil spills, and loss of trash and debris) resulting from activities proposed in the DOCD, there are potential impacts to marine mammals. Endangered or threatened marine mammal species which might occur in the Gulf of Mexico are West Indian manatee (Trichechus

manatus), northern right whale (Eubalaena glacialis), fin whale (Balaenoptera physalus), humpback whale (Megaptera novaeangliae), sei whale (B. borealis), sperm whale (Physeter macrocephalus), and blue whale (B. musculus)(USDOI, OCS EIS/EA MMS 2002-052). Several non-endangered and non-threatened mammal species of whales and dolphins also occur in the Gulf of Mexico.

The following discussion of potential impacts to marine mammals is summarized from the Final Environmental Impact Statement (USDOI, OCS EIS/EA MMS 2002-052). Small numbers of marine mammals could be killed or injured by chance collision with service vessels and by eating indigestible debris, particularly plastic items, lost from service vessels, drilling rigs, and fixed and floating platforms. Sperm whales are one of the 11 whale species that are hit commonly by ships (Laist et al., 2001). Collisions between OCS vessels and cetaceans within the project area are expected to be unusual events.

Deaths due to structure removals are not expected due to existing mitigation measures or those being developed for structures placed in oceanic waters. There is no conclusive evidence whether anthropogenic noise has or has not caused long-term displacements of, or reductions in, marine mammal populations. Contaminants in waste discharges and drilling muds might indirectly affect marine mammals through food-chain biomagnification, although the scope of effects and their magnitude are not known.

Chronic and sporadic sublethal effects could occur that may stress and/or weaken individuals of a local group or population and make them more susceptible to infection from natural or anthropogenic sources. Few lethal effects are expected from oil spills, chance collisions with service vessels and ingestion of plastic material. Oil spills of any size are estimated to be aperiodic events that may contact cetaceans. Disturbance (e.g. noise) may stress animals, weaken their immune systems, and make them more vulnerable to parasites and diseases that normally would not be fatal.

The net result of any disturbance would depend on the size and percentage of the population affected, ecological importance of the disturbed area, environmental and biological parameters that influence an animal's sensitivity to disturbance and stress, and the accommodation time in response to prolonged disturbance (Geraci and St. Aubin, 1980). Routine oil and gas activities are not expected to have long-term adverse effects on the size and productivity of any marine mammal species or population stock endemic to the northern Gulf of Mexico.

### 8. Sea Turtles

After a review of impact-producing factors (including vessel traffic, noise, accidental oil spills, and loss of trash and debris) resulting from activities proposed in the DOCD, there are potential impacts to sea turtles. Endangered or threatened sea turtle species which might occur in the Gulf of Mexico are Kemp's ridley turtle (Lepidochelys kempii), green turtle (Chelonia mydas), hawksbill turtle (Eretmochelys imbricata), leatherback turtle (Dermochelys coriacea), and loggerhead turtle (Caretta caretta) (USDOI, Region IV Endangered Species Notebook).

The following discussion of potential impacts to sea turtles is summarized from the Final Environmental Impact Statement (USDOI, OCS EIS/EA MMS 2002-052). Routine

activities resulting from a proposed action have the potential to harm individual sea turtles. These animals could be impacted by the degradation of water quality resulting from operational discharges; noise generated by helicopter and vessel traffic, platforms, and drillships; brightly-lit platforms; explosive removals of offshore structures; vessel collisions; and jetsam and flotsam generated by service vessels and OCS facilities. Lethal effects are most likely to be from chance collisions with OCS service vessels and ingestion of plastic materials. "Takes" due to explosive removals are expected to be rare due to mitigation measures already established (e.g. National Marine Fisheries Service (NMFS) Observer Program) and in development. Most OCS activities are expected to have sublethal effects. Contaminants in waste discharges and drilling muds might indirectly affect sea turtles through food-chain biomagnification; there is uncertainty concerning the possible effects. Chronic sublethal effects (e.g. stress) resulting in persistent physiological or behavioral changes and/or avoidance of impacted areas could cause declines in survival or fecundity, and result in either population declines, however, such declines are not expected. The routine activities of a proposed action are unlikely to have significant adverse effects on the size and recovery of any sea turtle species or population in the Gulf of Mexico.

In the unlikely event of an accidental surface or subsurface oil spill, sea turtles could be adversely impacted. Oil spills and oil-spill-response activities are potential threats that could have lethal effects on turtles. Contact with oil, consumption of oil particles, and oil-contaminated prey could seriously affect individual sea turtles. Oil-spill-response planning and the habitat protection requirements of the Oil Pollution Act of 1990 should mitigate these threats.

### 9. Air Quality

Estimated air emissions associated with the proposed activities have been calculated and are detailed in the Air Quality Report (AQR) included in the DOCD. The emissions were determined to be below the MMS exemption levels for particulates, sulfur oxides, nitrogen oxides, volatile organic compounds and carbon monoxide. There would be a limited degree of air quality degradation in the immediate vicinity of the proposed activities; however, the emissions associated with the proposed activities are not projected to have significant effects on onshore air quality.

### 10. Shipwreck Sites (known or potential)

After a review of impact-producing factors (including physical disturbances to the seafloor) resulting from activities proposed in the DOCD, there are potential impacts to known or potential shipwreck sites. The area of proposed activities falls within the zone designated as an area with a high probability of historic shipwrecks. A Geophysical Survey Report was prepared in July 2001 by KC Offshore, LLC. The following was extracted from that report.

Side scan sonar records did not highlight any seafloor obstructions or shipwrecks in the southern portion Block 20, High Island Area. The cluster of anomalies #20, 21, 23, 24, and 28 should be considered a concentration of ferrous material that should be avoided as possible buried shipwreck components. The cluster is 1,300 feet northeast of the OCS-G-13791 No. 1 Well (P&A) and several hundred feet north of the Fairway boundary, therefore the ferrous sources simply could be modern debris from previous drilling or ship traffic. The anomalies remain unidentified from the available reference

data and should be avoided when selecting drill sites and placing anchors during construction.

### 11. Prehistoric Archaeological Sites

After a review of impact-producing factors (including physical disturbances to the seafloor) resulting from activities proposed in the DOCD, there are potential impacts to prehistoric archaeological sites. The area of proposed activities falls within the zone designated as an area with a high probability of pre-historic archeological resources. A Geophysical Survey Report was prepared in July 2001 by KC Offshore, LLC. The following was extracted from that report.

The subbottom profiles indicated that formerly exposed river terraces are preserved within five (5) to 20 feet of the seafloor. While the Beaumont horizon outside the channel system may have been inhabited by Paleo-Indians, the probability for site preservation along the weathered Beaumont terrace is extremely low. The zones of highest probability for the occurrence and preservation of archaeological sites are the plotted margins of the river terraces draped by estuarine deposits. These plotted boundaries represent exposed river banks from early, middle, and late phases of the last low sea level cycle. Most of the plotted terraces exhibit a moderate degree of preservation, and archaeological material could be buried beneath the gently deposited estuarine fill. All these terraces should be avoided by 200 feet when selecting jack-up rig locations for drilling or platform locations. The margins generally are buried too deeply to be impacted by pipeline entrenchment or anchor deployment in Block 20.

## B. Vicinity of Offshore Location

### 1. Essential Fish Habitat

After a review of impact-producing factors (including accidental oil spills) resulting from activities proposed in the DOCD, there are potential impacts to essential fish habitat. In the unlikely event of an accidental surface or subsurface oil spill, there is the potential for some detrimental effects to essential fish habitat.

The following discussion of potential impacts to essential fish habitat is summarized from the Final Environmental Impact Statement (USDOI, OCS EIS/EA MMS 2002-052). Should a spill occur in the area of a mobile adult finfish or shellfish, the effects would likely be sublethal and the extent of the damage would be reduced to the capability of adult fish and shellfish to avoid a spill, to metabolize hydrocarbons, and to excrete both metabolites and parent compounds. Activities proposed in the DOCD will be covered by Unocal's Oil Spill Response Plan (OSRP).

### 2. Marine and Pelagic Birds

After a review of impact-producing factors (including vessel traffic, noise, accidental oil spills, and loss of trash and debris) resulting from activities proposed in the DOCD, there are potential impacts to marine and pelagic birds.

The following discussion of potential impacts to marine and pelagic birds is summarized from the Final Environmental Impact Statement (USDOI, OCS EIS/EA MMS 2002-052). The majority of effects on endangered/threatened and non-endangered/non-threatened marine birds are expected to be sublethal: behavioral effects, sublethal

exposure to or intake of OCS-related contaminants or discarded debris, temporary disturbances, and displacement of localized groups from impacted habitats. Chronic sublethal stress, however, is often undetectable in birds. As a result of stress, individuals may weaken, facilitating infection and disease; then migratory species may not have the strength to reach their destination. No significant habitat impacts are expected to occur directly from routine activities resulting from a proposed action.

Oil spills pose the greatest potential direct and indirect impacts to marine birds. Birds that are heavily oiled are usually killed. If physical oiling of individuals or local groups of birds occurs, some degree of both acute and chronic physiological stress associated with direct and secondary uptake of oil would be expected. Lightly oiled birds can sustain tissue and organ damage from oil ingested during feeding and grooming or from oil that is inhaled. Stress and shock enhance the effects of exposure and poisoning. Low levels of oil could stress birds by interfering with food detection, feeding impulses, predator avoidance, territory definition, homing of migratory species, susceptibility to physiological disorders, disease resistance, growth rates, reproduction, and respiration. Reproductive success can be affected by the toxins in oil. Indirect effects occur by fouling of nesting habitat, and displacement of individuals, breeding pairs, or populations to less favorable habitats. Dispersants used in spill cleanup activity can have toxic effects similar to oil on the reproductive success of marine birds. Activities proposed in the DOCD will be covered by Unocal's Oil Spill Response Plan (OSRP).

### 3. Public Health and Safety

After a review of impact-producing factors (including an accidental $H_2S$ release) resulting from activities proposed in the DOCD, there will be no adverse impacts to public health and safety. High Island Area Block 20 has been classified as an area where the absence of $H_2S$ has been confirmed.

## C. Coastal and Onshore

### 1. Beaches

After a review of impact-producing factors (including accidental oil spills) resulting from activities proposed in the DOCD, there are potential impacts to beaches. High Island Area Block 20 is located approximately 11 miles from the coast of Jefferson County, Texas.

The following discussion of potential impacts to beaches is summarized from the Final Environmental Impact Statement (USDOI, OCS EIS/EA MMS 2002-052). It is unlikely that a spill would be a major threat to recreational beaches because any impacts would be short-term and localized. Should a spill contact a recreational beach, short-term displacement of recreational activity from the areas directly affected would occur. Beaches directly impacted would be expected to close for periods of 2-6 weeks, or until the cleanup operations were complete. Should a spill result in a large volume of oil contacting a beach or a large recreational area being contacted by an oil slick, visitation to the area could be reduced by as much as 5-15 percent for as long as one season, but such an event should have no long-term effect on tourism. Tarballs can lessen the enjoyment of the recreational beaches by should have no long-term effect on the overall use of beaches. Activities proposed in the DOCD will be covered by Unocal's Oil Spill Response Plan (OSRP).

## 2. Wetlands

After a review of impact-producing factors (including accidental oil spills) resulting from activities proposed in the DOCD, there are potential impacts to wetlands. High Island Area Block 20 is located approximately 11 miles from the coast of Jefferson County, Texas.

The following discussion of potential impacts to beaches is summarized from the Final Environmental Impact Statement (USDOI, OCS EIS/EA MMS 2002-052). Offshore oil spills resulting from a proposed action are not expected to significantly damage inland wetlands. Activities proposed in the DOCD will be covered by Unocal's Oil Spill Response Plan (OSRP).

## 3. Shore Birds and Coastal Nesting Birds

After a review of impact-producing factors (including vessel traffic, noise, accidental oil spills, and loss of trash and debris) resulting from activities proposed in the DOCD, there are potential impacts to shore birds and coastal nesting birds. High Island Area Block 20 is located approximately 11 miles from the coast of Jefferson County, Texas. Due to the available oil spill response capabilities, no adverse impacts to shore birds and coastal nesting birds are anticipated as a result of the proposed activities.

The following discussion of potential impacts to shore birds and coastal nesting birds is summarized from the Final Environmental Impact Statement (USDOI, OCS EIS/EA MMS 2002-052). The majority of effects on endangered/threatened and non-endangered/non-threatened shore birds and coastal nesting birds are expected to be sublethal: behavioral effects, sublethal exposure to or intake of OCS-related contaminants or discarded debris, temporary disturbances, and displacement of localized groups from impacted habitats. Chronic sublethal stress, however, is often undetectable in birds. As a result of stress, individuals may weaken, facilitating infection and disease; then migratory species may not have the strength to reach their destination. No significant habitat impacts are expected to occur directly from routine activities resulting from a proposed action. Secondary impacts to coastal habitats will occur over the long-term and may ultimately displace species from traditional sites to alternative sites.

Oil spills pose the greatest potential direct and indirect impacts to shore birds and coastal nesting birds. Birds that are heavily oiled are usually killed. If physical oiling of individuals or local groups of birds occurs, some degree of both acute and chronic physiological stress associated with direct and secondary uptake of oil would be expected. Small coastal spills, pipeline spills, and spills from accidents in navigated waterways can contact and affect the different groups of coastal birds, most commonly marsh birds, waders, waterfowl, and certain shorebirds. Lightly oiled birds can sustain tissue and organ damage from oil ingested during feeding and grooming or from oil that is inhaled. Stress and shock enhance the effects of exposure and poisoning. Low levels of oil could stress birds by interfering with food detection, feeding impulses, predator avoidance, territory definition, homing of migratory species, susceptibility to physiological disorders, disease resistance, growth rates, reproduction, and respiration. Reproductive success can be affected by the toxins in oil. Indirect effects occur by fouling of nesting habitat, and displacement of individuals, breeding pairs, or populations to less favorable habitats. Dispersants used in spill cleanup activity can have

toxic effects similar to oil on the reproductive success of marine birds. Activities proposed in the DOCD will be covered by Unocal's Oil Spill Response Plan (OSRP).

**4. Coastal Wildlife Refuges**

After a review of impact-producing factors (including accidental oil spills) resulting from activities proposed in the DOCD, there are potential impacts to coastal wildlife refuges. High Island Area Block 20 is located approximately 11 miles south of the Texas Point National Wildlife Refuge, the nearest coastal wildlife refuge. Due to the available oil spill response capabilities, no adverse impacts to coastal wildlife refuges are anticipated as a result of the proposed activities. Activities proposed in the DOCD will be covered by Unocal's Oil Spill Response Plan (OSRP).

**5. Wilderness Areas**

After a review of impact-producing factors (including accidental oil spills) resulting from activities proposed in the DOCD, there are potential impacts to wilderness areas. High Island Area Block 20 is located approximately 11 miles from Jefferson County, Texas. Due to the available oil spill response capabilities, no adverse impacts to wilderness areas are anticipated as a result of the proposed activities. Activities proposed in the DOCD will be covered by Unocal's Oil Spill Response Plan (OSRP).

## D. Other Environmental Resources Identified

None

# IV. Impacts on Proposed Activities

A Geophysical Survey Report (submitted in accordance with NTL 2002-G08, Appendix C, and NTL 98-20) was prepared for High Island Area Block 20 by KC Offshore LLC. Shallow Hazards Reports were prepared for the proposed surface locations. The proposed surface locations were evaluated for any seafloor and subsurface geological and manmade features and conditions that may adversely affect operations. No impacts are expected on the proposed activities from site-specific environmental conditions.

# V. Alternatives

No alternatives to the proposed activities were considered to reduce environmental impacts.

# VI. Mitigation Measures

No mitigation measures other than those required by regulation will be employed to avoid, diminish, or eliminate potential impacts on environmental resources.

# VII. Consultation

No agencies or persons were consulted regarding potential impacts associated with the proposes activities. Therefore, a list of such entities has not been provided.

# VIII. References

*Geracie, J. R. and D. J. St. Aubin*

1980 Offshore petroleum resource development and marine mammals: a review and research recommendations. Marine Fisheries Review. 42:1-12.

*KC Offshore, LLC*

2001 Geophysical Survey Report, Block 20, OCS-G-22228, High Island Area, Offshore Texas.

*Laist, D. W., A. R. Knowlton, J. G. Mead, A. S. Collet, and M. Podesta*

2001 Collisions between ships and whales. Marine Mammal Science. 17:35-75.

*U. S. Department of the Interior, Fish and Wildlife Service*

1976 Endangered and threatened species of the southeastern United States. Region IV, Atlanta, Georgia (periodically updated).

*U. S. Department of the Interior, Minerals Management Service*

2002 Final Environmental Impact Statement, Gulf of Mexico OCS Oil and Gas Lease Sales: 2003-2007, Central Planning Area Sales 185, 190, 194, 198, and 2001: Western Planning Area Sales 187, 192, 196, and 200, Volume I. Prepared by Minerals Management Service, Gulf of Mexico, OCS Region, New Orleans, Louisiana.

# ATTACHMENT F

# WASTE DISPOSAL SITES

## FIGURE 16.4
## WASTE DISPOSAL SITES

September 1999

| STATE | WASTE SITE | TYPE OF OPERATION | WASTES ACCEPTED | SITE LOCATION | PHONE NUMBER |
|---|---|---|---|---|---|
| | | | | | |
| AL | ETT | Waste Treatment | Drilling muds/cuttings | Mobile, AL | (334) 443-6324 |
| AL | Mitchell Steel Drum Company | Drum Recycler | Empty, drip dried drums | Saraland, AL | (334) 675-3786 |
| AL | Timberlands (BFI, Inc.) | Landfill | Industrial wastes | Brewton, AL | (334) 665-7246 |
| | | | | | |
| LA | Allwaste Crude Oil Reclamation | Reclaimer/SWDW | Waste crude oil, E&P waste fluids | Jeanerette, LA | (337) 276-5163 |
| LA | Chemical Waste Management | Landfill | Hazardous waste | Carlyss, LA | (800) 673-5541 |
| LA | Coastal Chemical | Glycol Recycler | Gycols, amines | Abbeville, LA | (337) 898-0001 |
| LA | Guillory Tank | Salt Water Disposal | E&P waste fluids | Richard, LA | (800) 252-5563 |
| LA | Haller Ent. | Injection Wells | E&P waste & non-hazardous fluids | Pierre Part, LA | (985) 252-9840 |
| LA | Houma SWD | Salt Water Disposal | E&P waste fluids | Houma, LA | (985) 851-0643 |
| LA | Int. Petroleum Co. | Reclaimer | Waste refined and crude oil | New Orleans, LA | (504) 254-9021 |
| LA | Louisiana Tank | Salt Water Disposal | E&P waste fluids | Bell City, LA | (337) 436-1000 |
| LA | U. S. Liquids | Land Treatment/SWDW | All E&P waste | Mermentau, LA | (337) 824-8588 |
| LA | Woodside Landfill | Landfill | Industrial waste | Walker, LA | (800) 673-5541 |
| | | | | | |
| TX | Chemical Waste Management | Incinerator | Hazardous waste | Port Arthur, TX | (800) 673-5541 |
| TX | Newpark Environmental Servs. | Waste Treatment | All | Port Arthur, TX | (409) 963-3509 |
| TX | Procycle | Industrial Cleaning | Oily rags, gloves, filters, booms & pads | Springtown, TX | (800) 628-1445 |
| TX | Safety Kleen | Fuels Blending | Hazardous waste | Denton, TX | (940) 483-5200 |
| TX | Sinton Land Fill (BFI) | Land fill | Industrial wastes | Sinton, TX | (800) 274-0649 |

NOTES:
- RCRA - Resource Conservation and Recovery Act ("listed" or "characteristic" hazardous waste)
- E&P waste - exploration and production waste, exempt from RCRA